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State Juvenile Justice Spending Decisions: The Effects of Federal Aid, Race, Politics, and Other Socioeconomic Factors

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STATE JUVENILE JUSTICE SPENDING DECISIONS: THE EFFECTS OF
FEDERAL AID, RACE, POLITICS, AND OTHER
SOCIOECONOMIC FACTORS

By

Willie B. Coleman Smith

A doctoral dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Philosophy in Public Affairs

School of Environmental and Public Affairs
Greenspun College of Urban Affairs
The Graduate College

University of Nevada, Las Vegas
May 2012

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THE GRADUATE COLLEGE

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Willie B. Coleman Smith

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ABSTRACT

State Juvenile Justice Spending Decisions: The Effects of Federal Aid, Race, Politics, and Other Socioeconomic Factors

by

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Historically, juvenile justice in the United States has been the responsibility of state governments with limited federal support. There is a notable gap in the empirical literature on factors that affect funding policies for state juvenile justice programs. In this dissertation research, I used two theoretical perspectives to examine determinants of juvenile justice spending: economic theory on intergovernmental aid and tenets of the *Politics of Social Order Framework* developed by Stucky, Heimer, and Lang (2007) to investigate corrections spending. Two research questions were considered: 1) What impact does federal aid have on state spending on juvenile justice programs? and 2) Can specific tenants of the Politics of Social Order Framework be extended to juvenile justice funding?

The research sample included 30 states for which spending for juvenile justice was analyzed over an eleven-year period from 1996 – 2006. I used a pooled time-series cross-sectional design to examine the determinants of state spending on juvenile justice programs. A multiple regression analysis was conducted using ordinary least squares with panel corrected standard errors and a lagged dependent variable included as an independent variable as a correction for autocorrelation. The research model was derived from the theory that state spending on juvenile justice is a function of the following types

of independent variables: economic, social threat, fiscal health, alternative policy priority, juvenile crime, partisan politics, ideology, and structural and demographic control variables.

Results of the analysis show that spending on juvenile justice represents less than one percent (1%) of total state spending per capita for the nation on average. Further, the data show that federal aid is a statistically significant factor in juvenile justice spending decisions; however, its fiscal impact is minimal with evidence of substitution of federal aid for state own source spending. Finally, results indicate that the theoretical basis for the Politics of Social Order Framework model does not hold true consistently in explaining determinants of juvenile justice spending.

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Special thanks are extended to state juvenile justice agency administrators and budget directors, governors' budget staff, and legislative fiscal staff who provided essential budget appropriation data for juvenile justice agencies in states throughout the nation. I wish to thank Chaz Puzzanchera, Senior Research Associate, National Center for

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CHAPTER 1

INTRODUCTION

Overview

Historically, juvenile justice in the United States has been the responsibility of state and local governments, even in light of the fact that juveniles in crisis—from serious, violent, and chronic offenders to victims of abuse and neglect—pose a challenge to the nation. State agencies designated to administer juvenile justice programs manage budgets that support a variety of services including activities related to juvenile delinquency prevention, control, diversion, treatment, rehabilitation, planning, education, training, and research. It was not until the late 1960s that the federal government assumed a significant role in the juvenile justice policy arena through direct and indirect funding for juvenile justice agencies prompted by increasing juvenile crime rates. In the 1960s, federal policymakers began to exercise their authority to influence juvenile justice policy relative to legislation affecting treatment of juveniles, responses to juvenile crime, and standards for juvenile arrests, prosecution, and incarceration. Since the 1960s, federal funding has varied with periods of stability, increase, and sharp decline. Nevertheless, the states have remained the primary funders of juvenile justice programs. As shown in data collected and analyzed for 1996 through 2006 for the 30 states included in this study, the average federal aid was approximately 10.47% of total per capita appropriations for juvenile justice¹.

Spending on juvenile justice services represents important policy choices impacted by factors related to socio-economic issues, politics, crime, regional and cultural influences in the states and localities, and intergovernmental grants to states (Nunez-Neto, 2007a;

¹ See Chapter 6, Table 5, Descriptive Statistics.

Fisher, 1996). In fact, a state's budget document may reflect its policy stance more comprehensively than any other document (Calderia & Cowart, 1980; Stucky, Heimer, & Lang 2007). Given the current budget problems faced by most states due to recessions, unemployment, and declining tax revenue, policymakers are confronted with important choices about how to pay for important government services and programs. Instability in state own source funding and in federal aid will likely be reflected in juvenile justice policy as states struggle to address ongoing problems with youth in the juvenile justice system in an environment of declining federal support.

Insufficient funding for adequate staffing, training, and programming tends to be a systemic issue in the juvenile justice policy arena (Nelson, 2008). Declines in federal aid to states for juvenile justice of approximately 38% (approximately \$547 million to \$339 million) between 2002 and 2006 occurred at a time when states were already struggling to meet their balanced budget requirements. Moreover, the 2011 federal aid appropriation for juvenile justice of approximately \$276 million is 50% less than the 2002 appropriation (Coalition for Juvenile Justice, 2011a). Declines in the federal investment in programs that prevent and reduce delinquency at a time when the economy is weak and states are struggling to provide services to their residents are reflected in state budgets, which reflect state policy concerning juvenile justice.

Accordingly, an examination of federal and individual state level spending behavior in a policy arena is a strong indicator of the relative importance of an issue at a given point in time. Further, as economic literature has shown, the availability of revenue sources affects spending decisions (Fisher 1996). Considering these factors, I seek to

investigate the influence of federal aid and other social, economic, and political factors on state spending decisions for juvenile justice in this dissertation study.

Magnitude of the Problem

In addition to state and federal funding concerns, a number of seemingly intractable challenges plague the American juvenile justice system. Included among these challenges are statistics that show a large number of juvenile arrests; issues related to racial disparity, gender, and drug related offenses; zero tolerance policies; and youth with disabilities. These issues are important to the public that is affected by juvenile crime and to policymakers who must develop and fund effective programs for the children and families involved in the juvenile justice system.

Arrests Statistics

FBI Uniform Crime in the United States reports for 1994 through 2006 showed 249,000 arrests for simple assaults² and 196,000 arrests for drug violations for persons under age 18, an increase of 17.8% and 24.0% respectively from 1994 (Snyder & Sickmund, 2006, pp. 125-128, 157).³ Overall arrests reported by law enforcement for persons under age 18 during this period were approximately 2.2 million in 2006, a decline of approximately 18.2% from 1994 (Snyder & Sickmund, 2006).⁴

The literature does not offer specific explanations for the causes for the decline in overall arrests. However, given the nature of delinquency, one can surmise that different

² Simple assaults are crimes against persons where no weapon is used and that do not result in serious or aggravated injury to the victim.

³ Much of the statistical data for this section are drawn from *Juvenile Offenders and Victims: 2006 National Report* (Snyder & Sickmund, 2006), the most current source of comprehensive information on the nature of juvenile crime and victimization across the nation.

⁴ See also – Puzzanchera, C., Adams, B., & Kang, W. (2008). FBI Arrest Statistics for Persons under 18 in the United States 1994-2006. Retrieved from http://www.ojjdp.gov/ojstatbb/ezaucr/asp/ucr_display.asp

developmental, social, and economic factors influenced the volume and nature of delinquent offenses by juveniles during this period. Furthermore, differential responses by law enforcement in the various states to delinquent acts committed by juvenile offenders and the impact of laws that transfer juveniles to the adult system for more serious and violent offenses are likely to have contributed to the declining arrest statistics.

Unequal Justice

In 2003, Black youth accounted for 27% of total juvenile arrests; although they comprised only 16% of the United States juvenile population ages 10 – 17. FBI *Crime in the United States 2003* statistics showed that in 2003, these youth were disproportionately represented in juvenile arrests for robbery (63%), murder (48%), motor vehicle theft (40%), and aggravated assault (38%). These statistics illuminate the apparent racial inequities in juvenile arrests, which improved only modestly over the past two decades. Comparing the Black juvenile violent crime arrest rate in 1988, which was six times the white rate, to the rate in 2003, which fell to four times the white rate, is a reflection of this modest improvement and the historic nature of the problem of racial disparity in the juvenile justice system (Snyder & Sickmund, 2006, pp. 125, 132).

Gender Concerns

Various sources show the rising need for gender specific and drug related programs in the juvenile justice system. Snyder and Sickmund (2006) found an increase in the female proportion of youth entering the juvenile justice system for law violations from 20% in 1980 to 29% by 2003 (p. 128). Females also accounted for the majority of arrests for running away from home (59%) and prostitution and commercialized vice (69%) (p. 125).

Drug Related Cases

Stahl's (2008) analysis of juvenile court statistics revealed that juvenile courts in the United States handled approximately 193,700 delinquency cases in 2004 in which a drug offense was the most serious charge. This represents a 159% increase in drug offense cases handled by the juvenile courts in 2004 compared to 1985, and 192% increase compared to 1991 (p. 1).

Zero Tolerance Policies

Moreover, zero tolerance policies proposed by our nation's schools have contributed to more youth being entangled in the formal justice system (Nelson, 2008). Typically, such policies are enforced by school-based police officers resulting in an increase in delinquency cases originating in schools. This propensity to rely on the juvenile court to address relatively minor misbehavior in schools has implications for capacity and funding problems in the juvenile justice system. It is also a source of concern because many youth who enter the juvenile justice system for minor violations can easily wind up on probation, in juvenile detention, or in a juvenile correctional facility.

Youth with Disabilities

In addition to the education system, other public systems inappropriately abandon youth to the juvenile justice system. Nelson (2008) argued that "youth with mental health problems and learning disabilities, as well as those in foster care or with child welfare case histories, are increasingly being steered into the juvenile justice system, including its secure institutions" (p. 13). Furthermore, Skowrya and Coccozza (2007) concluded that court involved teens were two to three times as likely to suffer mental health conditions as youth in the general population. Similarly, Rosado (2000) argued

that schools frequently rely on court intervention to manage behavior problems of students with special needs. Consequently, a disproportionate share of public school students referred to the juvenile justice system under zero tolerance policies are youth with educational disabilities and related problems, which are not within the primary scope of responsibility of the juvenile justice system.

Why Should We Care?

Why should we care about state and federal spending on juvenile justice? We should care because the public has a right to safe and secure communities; juvenile offenders should be held accountable for their behavior; and the juvenile justice system should be held accountable for providing effective services. Most importantly, among all of the policy areas affecting vulnerable children and families, juvenile justice probably serves the most unpopular and powerless population of behaviorally troubled, poor, mostly minority teenagers who need our support (Nelson, 2008). Moreover, over the years juvenile justice has become a dumping ground for youth who should be served by other public systems (Nelson, 2008). Consequently, the juvenile justice system needs adequate funding to meet these challenges. Considering the magnitude of the problems faced by the juvenile justice system, it is critical that states and the federal government invest in it to secure the safety of America's youth, families, and communities (Coalition for Juvenile Justice, 2011a). However, prior research has shown that the level of funding is affected by many factors other than, or in addition to, a rational analysis of the amount needed to address the problem. Those factors are the topic of this dissertation.

Moving from this discussion of why we should be concerned about spending on juvenile justice, I focus specifically on the research problem central to my study and the overall purpose of the study.

Research Problem and Purpose of Study

In this study, I examine the factors that influence state spending decisions on juvenile justice programs with particular attention to the impact of federal aid. I employed economic theory on intergovernmental aid and tenets of the Politics of Social Order Framework (POSOF), developed by Stucky, Heimer, and Lang (2007) to examine determinants of juvenile justice spending. I addressed two research questions. 1) What impact does federal aid have on state spending on juvenile justice programs? and 2) Can specific tenets of the Politics of Social Order Framework be extended to juvenile justice funding?

Federal Aid and Economic Theory

Many empirical studies have shown that federal grants-in-aid have a statistically significant impact on state level spending in both domestic and infrastructure maintenance and development policy arenas (Benton, 1992; U. S. GAO, 1996b; Keiser, 1999; Montreal, 1999; Gordon, 2003; and Sandfort, Selden, & Sowa, 2007). However, few studies have addressed federal aid and juvenile justice spending.⁵ My review of the relevant literature did not reveal much empirical evidence that directly addressed the

⁵ Flores, Douglas, and Ellwood (1998); National Association of State Budget Officers (1999); and Ross (2001) provide descriptive information on state and federal spending for juvenile justice programs. These studies are discussed in Chapter 3.

impact of federal aid along with other social and economic factors on state legislative spending decisions concerning their juvenile justice agencies.

In light of my review of the literature, the first objective of this study is to respond to the literature void by addressing the important relationship between federal aid and state level juvenile justice spending. Reductions in the federal role, marked by a precipitous drop in federal funding, occurred following the decline in youth violent crime beginning in the mid 1990s (Nelson, 2008; Snyder & Sickmund 2006). Overall appropriations for juvenile justice within the Department of Justice (DOJ) decreased from approximately \$500 million annually in FY1998 to about \$349 million in FY2006, a 30.2% reduction (Nunez-Neto, 2008). When one considers these funding changes, the impact of federal aid on state spending on juvenile justice programs emerges as a legitimate research question.

Economic theory. I used three basic arguments from economic theoretical perspectives on consumer demand for public services and intergovernmental grants to conceptualize the analytical model for addressing the impact of federal aid on state juvenile justice spending (Fisher, 1996; Gruber, 2007). First, consumer demand theory holds that a government's purchase of aided and non-aided services is constrained by its budget limitations in accordance with taxpayers' collective preferences. The assumption is that grants are likely to lead to changes in a state's spending behavior. Second, economic theory holds that federal grants-in-aid either stimulate state spending or increase substitution depending on grant design features. Substitution occurs when states use federal grant dollars to reduce their own spending for the aided program either initially or over time. Third, according to economic theory, matching grants tend to encourage more

state spending on the aided service than non-matching grants, other factors being equal. However, if demand for the service is price inelastic, a matching grant will increase total spending, but not stimulate increases in state spending. Thus, due to the fungible nature of federal grant dollars, recipient states are likely to engage in substitution.

Other Social and Economic Determinants of Juvenile Justice Spending

In addition to the gap in the empirical literature on the impact of federal aid on state spending on juvenile justice programs and documented changes in the amount of available federal aid over the past decade, a number of issues and challenges face the juvenile justice system as described above. When linked with these issues, an investigation of federal aid and other social and economic factors that affect state legislative spending decisions in the juvenile justice policy arena becomes even more significant as a research endeavor. Thus, the second objective of this study is to examine other factors that may influence state spending decisions on juvenile justice using the theoretical arguments posited in the Politics of Social Order Framework (POSOF).

Politics of Social Order Framework. Generally, POSOF holds that legislators respond to environmental cues involving the dual concerns for maintaining social order and reelection when making spending decisions regarding corrections. As formulated by Stucky and colleagues, the POSOF model does not include intergovernmental aid; therefore, I expanded the model by including federal aid as a key covariate predicting state juvenile justice spending decisions. The POSOF examines annual variation in state level corrections expenditures. The model embraces the notion that punishment and corrections spending are inherently an exercise of state power. Punishment is believed to be driven by the state's responsibility for maintenance of social order and the need for

state officials to maintain office through popular elections. The POSOF model is used to clarify the role of partisan politics and potential links between partisan politics and economic and racial threat measured by the proportion of the population that is racial or ethnic minority. A key assumption of the approach is that the state is relatively autonomous and state managers are expected to respond to environmental cues involving the dual concerns for maintaining social order and reelection, but they are not entirely motivated by them. As a result, public action by legislators is considered through the lens of electoral politics. Thus, variations in criminal punishment specifically and state policies generally are expected to be related to partisan politics, citizen ideology, economic and racial threat, alternative policy priorities, fiscal factors, and crime control, all factors that influence the maintenance of social order and/or electoral politics (Stucky, Heimer, & Lang, 2007, p. 95).

Economic theory and POSOF: Complementary views. Both POSOF and economic theory recognize the significant role of politics in the policy process. The two approaches appear complementary and applicable to the reality of governmental and administrative policymaking for juvenile justice. Each focuses on the social and economic problems and politics that characterize state jurisdictions and resulting policies that may influence spending decisions. POSOF attempts to link partisan politics and other social and economic factors that predict state spending on corrections. Economic theory helps to explain how intergovernmental aid may affect spending decisions when the POSOF model is extended to juvenile justice. I used these theoretical views to provide a broader understanding of factors influencing state level spending in the juvenile justice policy arena.

Research Procedures

I used a variety of secondary variable data sources to gather data for state juvenile justice budget appropriations, partisan politics, citizen ideology, juvenile crime, fiscal, and demographic data relevant to the study. Next, I collected data for each of the 50 states and the District of Columbia over an eleven-year period between 1996 and 2006. The 30 states for which state appropriation and federal aid data were available for each year were included in the statistical analysis. Finally, I used a pooled time-series cross-sectional (TSCS) design to examine the determinants of state spending on juvenile justice programs and specified a multiple regression model for the statistical analysis using ordinary least squares (OLS) with panel-corrected standard errors.

Contributions of the Study

This study contributes to academic knowledge in several ways. First, it seeks to address a gap in the academic literature on the influence of federal aid and other social and economic factors on state spending for juvenile justice programs. Second, this dissertation contributes to the literature by addressing two gaps in the POSOF perspective: 1) by including federal aid in the model to show that states are not completely autonomous, because the federal government influences their behavior through federal grants-in-aid; and 2) by extending the model to the study of juvenile justice. Third, as explained in Chapter 5 - Methodology, this study resulted in the creation of a data base including state level appropriations and federal aid for juvenile justice for 30 of the 50 states, including all of the western states, for an eleven-year period from 1996 – 2006. Furthermore, this dissertation is important because it will offer state and federal public

administrators and legislators additional insight on how they assess and prioritize juvenile justice as reflected in their funding policies.

Organization of the Study

In Chapter 2, I present a discussion of the history of the juvenile justice system in the United States and the evolution of federal aid in this policy arena. In Chapter 3, I continue with a review of the literature on federal grants-in-aid as an intergovernmental relations tool, economic and public finance theory on the impact of federal aid on states, and state spending on corrections and juvenile justice. In Chapter 4, I formulate the theoretical concepts, research questions and hypotheses, and key variables underlying the study. Chapter 5 outlines the methods and procedures I employed to conduct the study. Chapter 6 presents my findings and discussion of the results of the research analyses. Finally, in Chapter 7, I present my conclusions and offer recommendations for future study.

CHAPTER 2

BACKGROUND: HISTORY OF JUVENILE JUSTICE IN THE UNITED STATES

Policy debates dealing with state or federal funding of juvenile justice have traditionally been marked by tension between the moral responsibility to safeguard children and the civic responsibility to protect society (McCord, Widom, & Crowell, 2001). This chapter provides the framework for understanding the historical context of the juvenile justice system in the United States and the evolution of federal involvement in juvenile justice. By reviewing the history of juvenile justice interwoven with the evolution of federal involvement, one can observe the impact of intergovernmental relations and fiscal federalism in public policy, as well as present background information for the juvenile justice policy area. The chapter is divided into four sections: 1) history of juvenile justice in the United States; 2) structure of the current juvenile justice system; 3) current federal role and funding concerns; and 4) summary.

Historical Overview of Juvenile Justice in the United States

Numerous scholars have written about the origin of the juvenile justice system in the United States. I rely primarily on the concise historical summaries developed by Nunez-Neto (2007a), Snyder and Sickmund (2006), and Eddy and Gribskov (1999) to develop the historical context for juvenile justice for this study. The dominant theme in the creation of the juvenile justice system is the concept of rehabilitation through individualized justice. Out of a desire to achieve real results based on these ideals, the system has undergone numerous efforts to improve policies and practices over the past 200 years. Essentially, the juvenile justice system has evolved through four phases over

the years. Phase one represents the early history, covers 18th and 19th century developments, and focuses on juvenile crime and separate juvenile facilities. Phase two covers creation of the juvenile court and focuses on the offender and rehabilitation. Phase three focuses on the evolution of federal involvement and introduction of due process. Finally, phase four introduces the punitive model of juvenile justice and get tough on crime legislation. Each phase established distinct strategies to deal with juvenile delinquency.

Phase One: Early History (18th and 19th Century)

During the later part of the 18th century, children under the age of seven were traditionally considered to be below the age of reason, and therefore, presumed to be incapable of criminal intent. These children were exempt from prosecution and punishment. Children seven and older who broke the law could be subject to trial in criminal court and sentenced to prison, or death sentence, if found guilty (Snyder & Sickmund, 2006, p. 94). These practices, inherited by the American colonists from England, were grounded in Common Law doctrine, which held that a juvenile age seven or older could receive the same punishment as an adult. Consequently, juveniles were housed in facilities with adults; however, evidence shows that the most severe punishments were seldom given to juveniles (Taylor, Fritsch, & Caeti, 2002). These colonial practices had three fundamental features: they established local control of the justice system, gave families the responsibility and legal liability for their children's actions, and discriminated between deserving and undeserving poor people (Nunez-Neto, 2007a).

The 19th century introduced industrialization, the early American juvenile institutions, and a group of progressive reformers who were the catalyst to the modern day juvenile justice system. During the Industrial Revolution period (approximately 1820 – 1870) in America, the country experienced a shift in population from rural areas to urban centers. As industries and factories arose, people moved from farms to the cities leading to dramatic increases in city populations. This led to other issues, particularly for the poor who were more vulnerable in the new urban areas. Overcrowding was a serious problem and traditional family structures and extended family networks that previously provided support, socialization, and supervision for lower class children were disrupted. Consequently, the numbers of impoverished, unsupervised, homeless children on city streets increased as did stealing and juvenile property crimes (Bernard, 1993).

Focus on juvenile crime and separate juvenile facilities. As juvenile crime and delinquency began to emerge as a significant social problem, the 19th century reform movement that ultimately led to the establishment of the juvenile court in the United States was born. The early reformers sought to change the perception of children as small adults to one of persons whose moral and cognitive abilities were not fully developed. They argued for separate treatment of juveniles based on three key assumptions: juveniles are less mature than adults; they are incapable of the same level of intent as adults; and they are more easily rehabilitated than adults (Taylor et al., 2002).

By 1825, the Society for the Reformation of Juvenile Delinquents was organized in New York. Their advocacy led to the opening of the first House of Refuge in the United States in New York in 1825 as the official reformatory for juveniles. Soon after, the House of Refuge model of privately operated facilities exclusively for juveniles was

established in most major cities. Once committed, youth remained at a house of refuge until adulthood, typically age 21. By mid-century, Massachusetts opened the first totally state supported and operated reform schools for boys and girls. Other states followed and took on the responsibility of operating juvenile facilities as a means of addressing the problems of delinquency. By the turn of the 20th century, refuge houses had been renamed industrial, trade, or training schools.

Phase Two: Creation of the Juvenile Court - Focus on the Offender and Rehabilitation (First Half of the 20th Century)

The next phase in the development of the juvenile justice system began to shift focus away from establishing institutions specifically for juvenile punishment to the juvenile offender and rehabilitation. The Illinois state legislature led the way in this transition and passed the Juvenile Court Act of 1899, which established the nation's first juvenile court in Cook County, Chicago, Illinois. The new juvenile court was based on the British doctrine of *parens patriae*, which held that the state has inherent power and authority to protect persons who are legally unable to act on their own behalf. This doctrine was used as rationale to explain the state's interest in distinguishing between adults and children in its dispensation of justice (Nunez-Neto, 2007a). Because children do not possess fully developed cognitive or legal capacity, the doctrine was interpreted to grant state government inherent power and responsibility to provide protection and treatment for children whose parents were unable or unwilling to provide adequate care and supervision. The key element in this new phase of development for juvenile justice in the United States was the focus on the welfare of the child and using the juvenile courts to intervene where needed.

Early juvenile courts. Key features of the Chicago juvenile court model were:

- the definition of juvenile as a child under the age of 16;⁶
- the separation of children and adults in correctional institutions;
- the establishment of special, informal procedural rules, which eliminated indictments, pleadings, and jury trials as a result of the court's benevolent mission to protect and provide for the welfare of the child;
- a broad range of dispositions for judges tailored to the best interest of the child, which became part of the treatment plan for the juvenile; and
- the provision of probation officers to monitor juveniles released into the community; and prohibition of the detention of children below the age of 12 in a jail or police station (Nunez-Neto, 2007a).

The Chicago juvenile court became the model for other states establishing juvenile justice systems throughout the first half of the 20th century. By 1914, the practice of diversion was instituted as a key element of the emerging juvenile justice system. This practice involved stopping the official criminal proceedings against a juvenile with the goal of providing treatment outside of the formal juvenile justice system to turn delinquents into productive citizens. By 1925, the majority of state legislatures had enacted similar laws giving juvenile courts the broad undefined task of serving the best interests of the child. Over the next 50 years, the juvenile court had exclusive original jurisdiction over all youth under 18 who were charged with violating criminal laws (Snyder & Sickmund, 2006). As one might expect, problems arose with the broad interpretation of the meaning of best interest of the child as evidenced in the use of intrusive practices by the juvenile

⁶ Currently, age guidelines for juveniles subject to the jurisdiction of the juvenile court may vary by state.

courts involving placement of children committed for relatively minor offenses into reform schools for long period of time (Eddy & Gribskov, 1999).

Phase Three: Evolution of Federal Involvement and Introduction of Due Process (1950s through 1970s)

This section highlights some of the milestones of congressional and Supreme Court involvement in juvenile justice.

Congressional role. By 1951, Congress had begun to focus its efforts on enacting legislation specifically directed toward juvenile delinquents. This was a departure from earlier federal government efforts to address delinquency, which were integrated with initiatives to address child welfare concerns. The earliest federal government attempt to address these dual concerns occurred in 1909 at the White House Conference on the Care of Dependent Children. This conference led to the creation of the United States Children's Bureau in 1912, which administered the first federal aid program that provided grants for child welfare and juvenile delinquents (Nunez-Neto, 2007a).

In 1951, however, Congress began formally to separate the administration of juvenile justice programming with the creation of the Juvenile Delinquency Bureau within the Department of Health, Education, and Welfare (HEW).⁷ The location of this new bureau within HEW was a reflection of the early government focus on the treatment and prevention of juvenile delinquency, rather than on punishment. There were no further congressional reform measures until the 1960s.

Congressional response to juvenile crime. The Congressional response to increasing public awareness and concern about juvenile crime was the enactment of four major federal laws targeting juvenile delinquency. These laws created the foundation for

⁷ This department was renamed Department of Health and Human Services in 1979 when its education functions were transferred to the newly created Department of Education.

the federal government's current role as an active partner with state and local communities to prevent and control delinquency. First, in 1961, passage of the Juvenile Delinquency and Youth Offenses Control Act provided grant funds totaling \$10 million annually for three years to states, localities, and private nonprofit agencies. These funds were provided to support the development of demonstration and evaluation projects for community programs to increase opportunities for youth to succeed in mainstream society.⁸

In 1968, Congress enacted two major pieces of legislation to provide federal funding for juvenile justice. The Juvenile Delinquency Prevention and Control Act of 1968 was aimed at providing funding assistance to state and local governments and training justice personnel. The second 1968 initiative was the Omnibus Crime Control and Safe Streets Act. This Act authorized the distribution of grant funds through the Department of Justice, Law Enforcement Assistance Administration, to state and local enforcement agencies as an incentive to establish planning agencies and develop programs for education, research, and local crime control initiatives.

An enormous increase of approximately 216% in juvenile arrests for violent crimes between 1960 and 1974 led to the eventual passage of the fourth of the initial Congressional initiatives aimed at providing funding to prevent juvenile delinquency, the Juvenile Justice and Delinquency Prevention (JJDP) Act of 1974 (Public Law 93-415) (Nunez-Neto, 2007a, p. 2). This 1974 legislation was the first comprehensive piece of juvenile justice legislation. It featured three major components: 1) it established grant programs to assist states with setting up and running their juvenile justice systems; 2) it created a set of institutions within the federal government that were dedicated to

⁸ See 42 United States Code, Chapter 29, Sections 254 to 2548.
<http://uscode.house.gov/download/pls/42C29.txt>.

coordinating and administering federal juvenile justice efforts; and 3) it established core mandates for handling juvenile offenders in custody that states had to adhere to in order to be eligible to receive grant funding (Nunez-Neto, 2007a, p. 7). (See Exhibit 1 for a description of the core mandates.)

Most notably, the JJDP Act of 1974 created the Office of Juvenile Justice and Delinquency Prevention (OJJDP) within the Department of Justice as the coordinating agency for juvenile justice on the national level. Currently, OJJDP is responsible for administering the primary grant programs for delinquency prevention authorized by Congress to assist states with improving services available to juveniles. Exhibit 2 describes the six major grant programs that were available to states through the JJDP Act and/or administered by OJJDP between 1996 and 2006, the period for this study. The programs included the following: State Formula Grants Program, Juvenile Justice and Delinquency Prevention Special Emphasis Program, Title V – Incentive Grants for Local Delinquency Prevention Programs, Challenge Grants, Juvenile Accountability Block Grants, and Enforcing Underage Drinking Laws Program.

The administrator of OJJDP has broad authority to coordinate the federal government's activities related to the treatment of juvenile offenders, including programs that focus on prevention, diversion, training, treatment, rehabilitation, evaluation, research, and efforts to influence and improve the states' juvenile justice systems. Early in the history of the JJDP Act, most federal aid was focused on preventing juvenile delinquency and rehabilitating juvenile offenders. After undergoing several amendments over the past 37 years, today, the JJDP Act now places more emphasis on influencing states to expand sanctions and other measures to hold juvenile offenders accountable for their behavior.

In spite of philosophical changes in approach to delinquency prevention, the three primary features of the JJDP Act as noted above have remained the same over the years.

Impact of the United States Supreme Court. Throughout the 1950s and 1960s, increasing juvenile crime rates and growing numbers of juveniles institutionalized for treatment purposes caused lawmakers, academics, and citizens to question the efficacy of the juvenile court's ability to rehabilitate delinquents (Nunez-Neto, 2007a). The concerns resulted in greater Congressional involvement and a series of landmark Supreme Court rulings between 1966 and 1975, which dramatically changed the character and procedures of the juvenile justice system. The Supreme Court rulings rejected the doctrine of *parens patriae* referring to the concept as "murky and of dubious historical relevance" (Snyder & Sickmund, 2006, p. 100). Instead, it embraced the notion that the role of the state is to act in the best interest of the child while providing fundamental fairness and due process. In sum, while the juvenile court may be benevolently motivated, it is not a substitute for principle and procedure as required in the 14th Amendment to the United States Constitution.

Table 1 provides a summary of the Supreme Court rulings, which signaled an important highlight of the third phase of development of juvenile justice in the United States, the due process model.

Table 1

United States Supreme Court Juvenile Justice Due Process Cases, 1966 – 1975

Case	Citation	Ruling
<i>Kent v. United States</i>	383 U. S. 541, 86 S. Ct. 1045 (1966)	Courts must provide the essentials of due process when transferring juveniles to the adult system.
<i>In re Gault</i>	387 U. S. 1, 87 S. Ct. 1428 (1967)	In hearings that could result in commitment to an institution, juveniles have four basic constitutional rights. a) Notice of charges b) Right to counsel c) Right to question witnesses d) Protection against self-incrimination
<i>In re Winship</i>	397 U. S. 358, 90 S. Ct. 1068 (1970)	In delinquency matters, the state must prove its case beyond a reasonable doubt.
<i>McKeiver v. Pennsylvania</i>	403 U. S. 528, 91 S. Ct. 1976 (1971)	Jury trials are not constitutionally required in juvenile court hearings.
<i>Breed v. Jones</i>	421 U. S. 519, 95 S. Ct. 1779 (1975)	Waiver of a juvenile to criminal court following adjudication in juvenile court constitutes double jeopardy.

Source: Snyder and Sickmund, 2006, pp. 100 – 102.

Phase Four: Punitive Model – Get Tough on Crime Legislation (1980s to Present)

In the decades of the 1980s and 1990s, the juvenile justice pendulum began to swing toward a law and order, “get tough” approach with the passage of state legislation to crack down on juvenile crime (Snyder & Sickmund, 2006; Taylor et al., 2002). This punitive legislative reaction was the response to the public’s perception that serious juvenile crime was increasing and that the system was too lenient with offenders. The evidence shows that between 1980 and 1988, the violent crime index rate per 100,000 juveniles ages 10 - 17 was effectively constant, rising only slightly above 300 per 100,000. The rate began to increase in 1989 and by 1994 had increased to 525 per 100,000, approximately 61% higher than the 1988 level (Snyder & Sickmund, 2006, p. 130 - 136)⁹. Although the juvenile

⁹ Violent crime index offenses include murder, nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. Property crime index offenses include burglary, larceny, motor vehicle theft, and arson.

violent crime index arrest rate reached a historic low in 2004, down 49% from its 1994 peak (Puzzanchera, 2009), the 1990s were marked by unprecedented change as state legislatures responded with more punitive juvenile laws to calm public concern over juvenile crime. Five areas of change in state laws resulted: 1) transfer provisions making it easier to transfer juvenile offenders from the juvenile justice system to the adult criminal justice system; 2) expanded sentencing authority; 3) modification of traditional juvenile court confidentiality provisions making records and proceedings more open; 4) expanded involvement of victims of juvenile crime in the juvenile justice process; and 5) changes in correctional programming as a result of new transfer and sentencing laws (Snyder & Sickmund, 2006). These changes diminished the differences between the criminal and juvenile justice systems in recent years. I use this aspect of the historical development of juvenile justice in the United States as background for the theoretical relevance of the Politics of Social Order Framework (POSOF), used in the analysis of spending on adult corrections, in my analysis of state spending on juvenile justice. This factor and other characteristics of the juvenile justice policy area that support theoretical relevance of POSOF are discussed in detail in Chapter 3.

Summary

States and the federal government, in its funding initiatives, adjusted to philosophical and rhetorical shifts and changes concerning juvenile crime in their approach to handling juvenile delinquency during the years since the establishment of the first juvenile court in 1899. Even in light of more punitive laws being enacted in the 1980s and 1990s, it is remarkable that the purpose clause in most state juvenile justice statutes includes elements of the Balanced and Restorative Justice (BARJ) Model for dealing with juvenile

delinquency (Snyder & Sickmund, 2006).¹⁰ Unlike the punitive model in which crime is viewed as an act against the state where the goal is to prevent future delinquency through punishment, BARJ views crime as an act against another person or the community. The BARJ approach gives balanced attention to public safety, individual accountability to victims and the community, and development of skills and personal competencies to help juvenile offenders live more productive lives (Bazemore & Umbreit, 1997; Maloney, Romig, & Armstrong, 1988; Snyder & Sickmund, 2006).

Structure of the Current Juvenile Justice System

There is no national or centralized juvenile justice system in the United States. Instead, there are at least 51 different juvenile justice systems represented by the 50 states and the District of Columbia. Each has its own set of laws and within each state operation of the juvenile courts may differ. Additionally, the federal government has established laws governing juveniles who commit crimes in areas under its jurisdiction, such as on Indian reservations or in national parks. The juvenile court remains as the focal point of juvenile justice in the country operating under procedural due process with the goal of holding juveniles accountable, developing youth competencies, and providing safe communities.

State agencies responsible for administering juvenile justice services and institutions fall into one of four categories in state government: 1) a separate agency in the executive branch; 2) a division or bureau under a human services umbrella; 3) a division within a child welfare or social services system; or 4) a division of a corrections department

¹⁰ See also OJJDP (n.d.). *Balanced and restorative justice: Program summary* (NCJ 149727). Retrieved from <http://www.ncjrs.gov/pdffiles/bal.pdf>

housing both adult and juvenile services (Loughran, Godfrey, et al., 2007). Further complicating the structure of the system, there is considerable variation within states in terms of the provision of juvenile justice services at the state versus the county level of government. Three basic models explain how services are provided in the states:

- Centralized States (12 states) - A state executive agency has across-the-board state control of delinquency services, including state-run juvenile probation services, institutional commitments, and aftercare.
- Decentralized States (18 states) - The organization of basic delinquency services is characterized, at a minimum, by local control of ordinary probation services. Often, local authorities run detention centers as well. Some also share responsibility for the provision of aftercare services with state agencies.
- Combination States (21 states) - The organization of basic delinquency services features a mix of state-controlled and locally operated delinquency services. For instance, they may have largely state-run systems, but with significant local control in the more populous, urban areas. Another possible scenario is that, although the state operates most delinquency services for youth, responsibility is divided between the executive and judicial branches.

Figure 1 shows the geographic distribution of states categorized by the different service models.¹¹

¹¹ Citation for Figure 1 and description of juvenile delinquency service models: Griffin, Patrick and King, Melanie. 2006. "National Overviews." *State Juvenile Justice Profiles*. Pittsburgh, PA: National Center for Juvenile Justice. Online. Available: <http://www.ncjj.org/stateprofiles/>.

Organization of Juvenile Delinquency Services

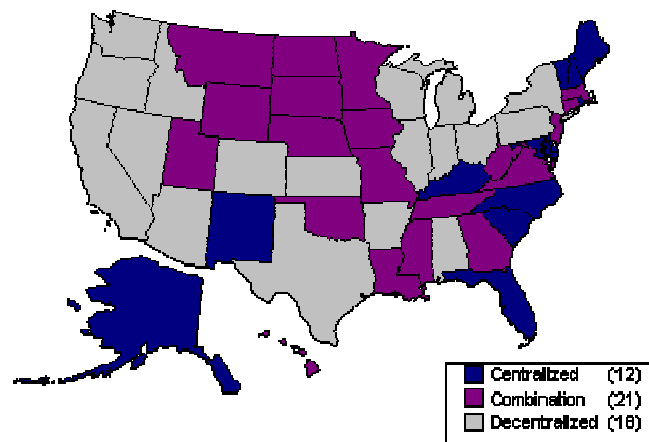


Figure 1. Organization of Juvenile Delinquency Services

This matrix of institutions creates a complex, dynamic, and sometimes overlapping system. This unique characteristic of the juvenile justice system is exemplified by the interaction of the system with other public and private forms of control, including schools, mental health, public health, and other governmental agencies and the evolution of theories, policies, and practices since the late 18th century.

Current Federal Role and Funding Concerns

The federal government has continued to play a limited, nonetheless essential, role in preventing juvenile delinquency and improving the effectiveness of juvenile justice systems within the states since the enactment of the JJDPA of 1974. Federal involvement has expanded to include a wide variety of delinquency prevention strategies, research, and development of evidence-based programs and practices in response to changes in the philosophical focus of juvenile justice over the decades (Coalition for Juvenile Justice, 2009a). In spite of advances in federal support, insufficient funding for adequate staffing, training, and programming tends to be a systemic issue.

According to the February 27, 2008, Congressional Research Service (CRS) Report for Congress, overall appropriations for juvenile justice within the Department of Justice (DOJ) remained comparatively stable from FY1999 to FY2002 ranging from \$499 to \$565 million for an average of approximately \$550 million annually (Nunez-Neto, 2008).¹² Between FY2002 and FY2007, funding for juvenile justice programs within the DOJ declined by 38% to \$339 million, then increased to \$384 million in FY2008 (Nunez-Neto, 2008). Appropriations were cut by approximately \$9 million in FY2009 to \$375, increased to \$424 million in FY2010 before experiencing a 35% decrease to \$276 million in FY2011 (Coalition for Juvenile Justice, 2011a).

Given this scenario of increases and reductions in federal aid to states, it is appropriate to address the question of the impact of federal aid as a factor influencing state spending decisions for juvenile justice programs. Eddy & Gribskov (1999), Nelson (2008), Snyder & Sickmund (2006), and others argue that federal support is critical to help maintain delinquency prevention as a function of government and to help states embrace needed reforms and maintain quality programs. Similar to other policy areas in the American federal system, states and localities rely on the federal government for financial support and guidance on how best to tackle juvenile justice challenges (Nelson, 2008, p. 34).

Summary

The juvenile justice system in the United States has evolved through four phases of development, each with a unique focus and distinct strategies to address juvenile

¹² These funds were appropriated for programs administered by the Department of Justices' Office of Juvenile Justice and Delinquency Prevention.

delinquency. Congressional and Supreme Court involvement in juvenile justice led to major milestones in funding and legislative initiatives aimed at delinquency prevention, system improvement, and implementation of due process in juvenile court proceedings. Today, the juvenile justice system is a complex, dynamic system with the juvenile court as the focal point. Juvenile justice continues to be primarily a state responsibility with limited, yet essential federal support. The juvenile justice system remains unique, guided by its own legislation, and implemented by its own designated agencies within each state.

CHAPTER 3

REVIEW OF THE LITERATURE

Juvenile justice in the United States receives a relatively small share of a state's budget pie, but this policy area is dynamic and critical as indicated by its structural complexity and responsibility for services dealing with juvenile offenders. A wide array of literature is available on prevention of delinquency, juvenile program evaluations, comparison of crime rates and offenses based on gender and race; education and delinquency, substance abuse and delinquency, and other topics related to juvenile justice. However, unlike other policy areas, such as education, welfare, Medicare and Medicaid, highways and other infrastructure programs, which are distinguished by their much larger share of a state's budget (Center on Budget and Policy Priorities, 2009), my literature review revealed an inexplicable gap in empirical literature on factors that influence juvenile justice spending decisions. As a result, I examined three fields of academic literature as a foundation for analyzing the impact of federal aid and other demographic, social, economic, and political factors on state spending policies for juvenile justice programs. The three strands of literature include juvenile justice and corrections literature, economic literature on the development of federal grants-in-aid as an intergovernmental relations tool, and public finance literature on state spending decisions and the influence of federal grants-in-aid. I used scholarly work from other policy areas and on related topics in these fields as a framework for explaining state spending on juvenile justice programs.

This chapter includes six sections: 1) state spending on juvenile justice: what we know from the literature, 2) federal grants-in-aid as a tool of government, 3) economic

theory on the impact of federal aid on state spending decisions and the results of empirical research, 4) discussion of the Politics of Social Order Framework (POSOF) theory and related empirical research, 5) applicability POSOF to juvenile justice, and 6) summary of the review of the literature.

State Spending on Juvenile Justice: What We Know From the Literature

There are numerous reports, studies, and evaluations of juvenile justice programs supported in part by federal grant funding and reports prepared by the United States General Accounting Office for Congress on federal juvenile justice funding trends. These reports typically seek to gather information on the status and types of programs receiving federal aid (GAO, 1996a; GAO, 1996b).

My review of the literature revealed three studies which indirectly relate to my dissertation topic: *The Children's Budget Report: A Detailed Analysis of Spending on Low-Income Children's Programs in 13 States*, developed by Flores, Douglas, & Ellwood (1998); *State Juvenile Justice Expenditures and Innovations*, published by the National Association of State Budget Officers (NASBO) in 1999; and a 2001 dissertation study entitled, *The Implications of State-Developed Funding Formulas: A New Look at Distributive Politics*, by Nancy Helen Ross. The common factor among the studies is that each highlights the fact that historically juvenile justice has been primarily funded by the states with only modest federal support.

The Children's Budget Report

The Children's Budget Report examined state and federal spending on six categories of spending on low-income children's programs in 13 states for state fiscal year 1994-

1995: 1) cash assistance and training, 2) food and nutrition, 3) child care and early childhood development, 4) child protection and family services, 5) juvenile justice and youth services, and 6) health. Juvenile justice spending received only minimal analysis; however, the report is worthy of note since the academic literature is scant in this policy area. Prior to this report, there had been no detailed state-by-state research on what is actually spent on children (Flores, Douglas, & Ellwood, 1998). The researchers collected actual expenditure data from state sources including state own source spending in addition to federal aid and state matching funds. *The Children's Budget Report* broke new ground because it presented fiscal data collected at the state level from state budget officers, state departments, and state documents. Such data provided a more complete picture of state spending on children's programs.

The 13 states selected for the study were chosen to represent economic, geographic, and political diversity; and because they were heavily populated states representing about half of the nation's population. The states included Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin.

Findings from the report showed that federal funding played a significant role in expanding the ability of individual states to provide services and expanding the state's fiscal capacity. Additionally, *The Children's Budget Report* found that states spent the majority of their funds on health (37%), cash assistance (30%), child protection (15%), and juvenile justice and youth services (10%) respectively (p. 22). State level funding distribution tended to be greater for programs that support health (i.e., Medicaid) and less for other programs. Overall, most spending on low-income children in the 13 states was

from federal sources. For example, state and local spending averages \$3,153 per poor child, but tripled to \$10,111 with the addition of federal aid (Flores et al., 1998, p. 46).

In regards to juvenile justice, the report analyzed spending relative to all children in the targeted states, not just poor children, because states serve all children through the juvenile justice system regardless of income status. The juvenile justice and youth services category represented 10 percent of low-income children's spending from state and local funds, but only 3 percent of spending from total funds, including federal aid (Flores et al., 1998, p. 43). States provided more than 90 percent of the funding for juvenile justice and youth services programs reflecting the historical fact that states fund juvenile justice programs primarily from state revenues (p. 46). Total and state juvenile justice expenditures were similar averaging \$59 and \$55 per child respectively (pp. 43-44). Moreover, results showed that New York spent the most state dollars on the juvenile justice category, with an expenditure level of \$102 per child, with Florida and Wisconsin following with slightly lower expenditure levels of \$101 and \$95 per child respectively. The lowest state level expenditures were found in Mississippi and New Jersey, spending \$17 and \$28 per child respectively (pp. 44 and 57).

In summary, *The Children's Budget Report* is unique because it is the first study that offered a detailed state-by-state examination on what was actually spent on children. Among the conclusions drawn from the report about federal and state spending priorities, two have significance for this dissertation study:

- 1) The states provided the majority of funds for child protection and family services and juvenile justice and youth services.
- 2) States had strong funding preferences that reflected the many differences among the states, but especially

their priorities and their particular cultural and political histories. (Flores et al., 1998, p. 45)

Additionally, Flores et al. (1998) surmised that state spending priorities are the result of a number of factors, including incentives inherent in the federal funding structure, the cost of providing different services, need for services, and the relative importance placed on services. Moreover, they concluded that some of the variation among states was explained by different populations, different methods of service delivery, costs of providing services, eligibility requirements, and need for services. The examination of six categories of service illustrated in monetary terms the priorities of a particular state (Flores et al., 1998, p. 47). *The Children's Budget Report* broke new ground and provided a detailed descriptive analysis of spending on low-income children's programs, including some information on juvenile justice spending.

State Juvenile Justice Expenditures and Innovations

The report on *State Juvenile Justice Expenditures and Innovations* was based on surveys conducted by NASBO in 1994 and 1998. Forty-seven states and the Commonwealth of Puerto Rico participated in the study, which provided the basis for analyzing overall changes in state juvenile justice spending over the four-year period from 1994 to 1998. Expenditure data were collected in four specific categories: residential settings, community settings, delinquency prevention, and post-residential care. However, survey results were limited because not all states responded and it was not possible to control for strict reporting of available data (NASBO, 1999).

The report showed that states spent \$4.22 billion in 1998 for juvenile justice related programs in response to national concerns about violent crime and incarceration rates

among juveniles ages 10 – 17. This represented a 65.4 percent increase from the 1994 expenditures of \$2.55 billion, a large portion, but not a complete accounting of juvenile justice expenditures (NASBO, 1999, p. 1).

NASBO allocated state, local, and federal expenditures among the four expenditure categories for each of the fiscal years. Total expenditures for each category in 1994 and 1998 are presented in Table 2 below.

Table 2

Total State Expenditures by Category and Percent Federal Funds, Fiscal Years 1994 and 1998

Expenditure Category	FY 1994 Total	Percent Federal	FY 1998 Total	Percent Federal	Percent Change in Total Expenditures FY94-FY98
Residential Setting	1,750,966,785	7.74	2,809,627,323	9.01	60.46
Community Setting	591,371,447	14.98	904,533,022	20.04	52.96
Delinquency Prevention	211,205,636	7.04	354,884,044	8.31	68.03
Post-Residential Care	88,584,866	1.31	154,055,565	4.36	73.91
Total	2,642,128,734		4,223,099,954		

Note: Source: National Association of State Budget Officers. (1999). *State juvenile justice expenditures and innovations*. Washington, D. C.: National Association of State Budget Officers. Retrieved from http://www.nasbo.org/Publications/information_briefs/juvenile_expend_1999.html

A comparison of state spending with fund sources revealed that states spending accounted for the largest percentage of funds spent on juvenile programs. As identified in *The Children's Budget Report*, this finding also reflects the fact that states have historically been primarily responsible for funding juvenile justice programs.

Furthermore, Table 2 shows that residential placements accounted for the largest share of state juvenile justice expenditures in 1994 and 1998. Residential placements included any state operated or state funded residential facility, such as training schools, detention

centers, halfway houses and group homes (NASBO, 1999). Delinquency prevention and post-residential care accounted for the smallest share of state juvenile justice expenditures for 1998, 8.40 and 3.60 percent, respectively. These services included substance abuse, mental health, family services, and similar social services; whereas, post-residential services include supervision and case management in addition to delinquency prevention services. Federal funds were allocated as a greater share of the expenditures for the community-setting category (14.98 and 20.04 percent for 1994 and 1998, respectively) in comparison to the other three categories. Community setting programs are typically used in lieu of more expensive residential placement and included foster homes, electronic monitoring, and day treatment (NASBO, 1999).

The NASBO (1999) report provided the basis for analyzing overall changes in state juvenile justice spending between 1994 and 1998 and a synopsis of the programs the appropriations created. The report indicated that state spending increases from 1994 to 1998 might have been a response to concerns over the juvenile violent crime index arrest rate and the fact that over 100,000 youth were being held in residential facilities in 1997. Overall, NASBO concluded that states reported a variety of programs that confronted juvenile justice issues creatively, including intensive case management, early intervention programs to reduce the number of youth entering the juvenile justice system, and programs for development of comprehensive juvenile crime and delinquency plans. There has been no survey updating the NASBO report on state juvenile justice expenditures and innovations since the 1999 report.

The Implications of State-Developed Funding Formulas

The Ross study explored the relationship between the degree of professionalism in state legislatures and reliance on state developed funding formulas as a financial distribution approach through examination of juvenile justice and child welfare funding in twelve states from 1996 – 2000. Ross (2001) found that the higher a state's legislative professionalism score, the greater its reliance on funding formulas in shaping policy through the budget process for the two policy areas. Furthermore, Ross (2001) found that states scoring high on the professionalism index tended to use formulas more often in both child welfare and juvenile justice budget decisions than other states. As was expected, the relationship between low professionalism scores was strongest in states where limited use of funding formulas in budget development was evident (p. 140).

Additionally, the Ross study showed that the federal government plays a much greater funding role in child welfare in contrast to juvenile justice and that juvenile justice remains largely a state initiative. During the five years analyzed, approximately 82% of funding allocated for juvenile justice programs came from state revenues as compared to 18% from federal aid (Ross, 2001, p. 86). Moreover, reliance on formulas as a disbursement approach was found in juvenile justice programming at a rate of approximately two to one over child welfare services (p. 141). This finding suggests that due to limited federal involvement, the states under investigation may have exercised greater latitude in developing funding goals and methods (Ross, 2001, p.141). Finally, Ross (2001) surmised that that traditional determinants of distributive politics (process by which budgetary decisions are made), such as legislative influence and seniority, have less power in states where there is a greater reliance on funding formulas as a

disbursement approach (pp. 142-143). In these states, Ross (2001) found a subtle shift of influence from senior elected officials to technical legislative staff that were integral in the state level budget policy process.

Summary

The Children's Budget Report (Flores et al., 1998), the NASBO (1999) survey, and the Ross (2001) study all identified the fact that juvenile justice is primarily funded by state and local jurisdictions and federal aid is limited in this policy area. Beyond that, these studies provided limited information about the affect of federal aid or other factors that may determine state juvenile justice spending decisions. At best, these works are descriptive accounts of state spending policies involving juvenile justice. My dissertation study is an effort to fill this void in the empirical literature on juvenile justice spending by providing an analysis of whether, and to what extent, federal aid and other socioeconomic and political factors, affect state spending decisions concerning juvenile justice programs.

Federal Grants-in-Aid: An Intergovernmental Relations Tool

Recall, in Chapter 2, I provided historical background for including federal aid as a covariate in my model of per capita state spending on juvenile justice. Hence, this chapter further defines grants-in-aid and provides information on federal aid as an intergovernmental relations tool. Grants-in-aid are transfers of money between governments, usually from a higher level to a lower level of government in the American federal system. The federal grant-in-aid system uses a fiscal relationship as a basis for

policymaking and programmatic cooperation and serves as an instrument of federal influence (Shafritz et al., 2007).

Federal aid to state and local governments has a long history as a major instrument in American intergovernmental relations existing prior to the adoption of the United States Constitution in 1789.¹³ The grant-in-aid system in the United States has evolved from a few grants to hundreds with award allocations totaling hundreds of billions of dollars since its beginning in the 18th and 19th centuries when land grants were the principal form of federal aid. Today, grants are among the most used policy tools of the American federal government (Beam & Conlan, 2002). When viewed fiscally, only a few programs, such as Medicaid, which totaled approximately 46% of the federal total aid to state and local governments in 2005 (U. S. Census Bureau), seem to matter. However, when viewed administratively or politically, each grant program merits separate recognition and consideration, which is the case with grant funding for juvenile justice programs. In comparison to other funded programs, juvenile justice programs receive minimal federal aid, averaging approximately 0.10% of total federal aid to states in 2006 (U. S. Census Bureau, *Federal Aid to States for Fiscal Year 2006*).¹⁴

¹³ Some of the most prominent contributors to the literature on the historical perspective of the significance of federal aid include Maxwell (1952); Reagan (1972); Reischauer (1977); Hale and Palley (1981); Brown, Fossett, and Palmer (1984); Peterson, Bovbjerg, Davis, Davis, Durman, and Gallo (1986); Montreal, 1999; Walker (2000); Beam and Conlan (2002); Monypenny (2007); O'Toole (2007); Shafritz, Russell, & Borick (2007); and Stephens and Wikstrom (2007).

¹⁴ Total federal aid to states in 2006 was \$428,153,867,000; total federal aid for juvenile justice programs was \$434,653,000.

Economic Theory and Empirical Research Findings

Economic Theory: Impact of Federal Aid on State Spending Decisions

Economists use the general consumer demand model to predict how a state's expenditure patterns are likely to change in response to a grant. The model theorizes that consumers (states) maximize their individual welfare subject to their preferences for the goods and services available to them, the prices they must pay for the goods, and the resources they have to spend (GAO, 1996b; Gruber, 2007). For example, the model predicts that a government using grants may purchase goods in one of three ways: 1) goods aided by grants, 2) unsubsidized public and private goods, and 3) some combination of grant aided and unaided goods. The government's purchasing power is constrained by its budget consisting of its own revenues plus additional revenue from federal aid. Moreover, the consumer demand theory holds that a government will purchase as much of aided and non-aided goods as it can afford, within its budget constraint in accordance with the taxpayers' collective preferences.

According to economic theory, federal grants-in-aid work to stimulate state spending or increase substitution depending on the individual grant design features (Fisher, 1996; GAO, 1996b; Gruber, 2007). There are three basic types of grants, categorical, block, and general purpose, organized along three dimensions: restrictions on use, required state contribution, and limits on federal contribution. Economic theory holds that grant design features can be used as incentives to encourage grant recipients to increase total spending in a policy area. The incentives work by restricting the use of funds to a specific purpose, requiring recipients to provide matching funds to obtain grant funds, and providing unrestricted federal matching of state dollars.

There is considerable research on the types of intergovernmental grants and economic price effects of the different types. However, my interest here is matching and nonmatching block grants, which are the primary types of federal aid included in the budgets for juvenile justice agencies in the states included in this study. I limit the discussion below to the characteristics of matching and nonmatching block grants.¹⁵ Exhibit 3 provides definitions of the different grant types and control mechanisms.

Block grants authorize funds to be used for a wide range of activities within a broadly defined functional area, such as juvenile justice, education, or social services. Both categorical and block grants are considered to be restricted or conditional grants. Economic theory holds that restricted grants encourage more total spending on grant activities than unrestricted grants and that unrestricted grants are likely to be used for tax relief (GAO, 1996b, p. 46). For instance, consider the different spending responses of recipients to a gift certificate from a bookstore compared to an equivalent amount of cash. If the gift certificate exceeds the amount recipients normally would spend on books, it will tend to increase their total spending on books. With unrestricted cash, the recipients will likely spend each additional dollar of income according to their preferences for all goods. Thus, spending on books may be a small share of each additional dollar, such as ten cents. Economists recognize that federal grant dollars are fungible, or interchangeable, with other resources of recipient states and other local entities. As a result, there will likely be a degree of substitution in every grant as recipients find ways to replace their own funds with federal funds, freeing up local resources for other purposes (Gruber, 2007, pp. 272-277). This means that \$1 in

¹⁵ For a detailed discussion of the various grant types and design features, see the works of Beam and Conlan (2002), Fisher (1996), GAO (1996b), Gruber (2007), Hale and Palley (1981), Peterson et al. (1986), and Stephens & Wikstrom (2007).

conditional grants will not necessarily result in an additional \$1 of state spending on the aided program.

Matching provisions are federal control mechanisms that require states to share a designated percentage of the cost of providing the aided service with the federal government. A match requirement may be in kind or cash. Non-matching grants provide funds to recipients without any requirement for state cost sharing. Matching and non-matching grants may be allocated to states by formula (e.g., based on population) or project basis.

According to economic theory, matching grants tend to encourage more state spending on the aided service than non-matching grants, other factors being equal (GAO, 1996b; Fisher, 1996). Fisher (1996) and Gruber (2007) provide extensive analyses of the effects of matching and non-matching grants. They concluded that both provide additional income to recipient governments; however, matching grants, in addition to providing additional income, also lower the price to the recipient government of the aided service relative to the other services it could purchase with the funds (price effect). In sum, the economic view holds that a non-matching categorical or general purpose grant will have an income effect on the recipient governments' spending decisions by increasing resources available for government services. Thus, their stimulative effect depends on the income elasticity of demand for the public goods and is difficult to predict. On the other hand, a matching grant will have a price effect, in addition to providing additional income for the aided service. If demand is price inelastic,¹⁶ a

¹⁶ In economics, elasticity refers to the degree to which a demand or supply curve reacts to change in price. A good or service is considered to be highly elastic if a slight change in price leads to a sharp change in the quantity demanded or supplied. Demand is price inelastic when quantity of service does not change, or changes minimally with sharp changes in price. (Fisher, 1996, pp. 80-102; Gruber 2007)

matching grant will stimulate increases in total expenditures, but not stimulate increases in state money spent on the service, thus an element of substitution is involved in the recipient's managing of grant funds (Fisher, 1996). Demand for most government services, such as juvenile justice, tends to be price inelastic (Fisher, 1996).

While the consumer demand model is used here as the economic theoretical perspective for determining the impact of federal grants-in-aid on state spending, I am cognizant of alternative views. Fisher (1996) argued that jurisdictions are seldom homogenous in income and since subnational governments determine how grant funds are to be spent, the effect of this type of income may not be clear. He concluded that it is difficult to make generalizations about estimated effects of intergovernmental grants for two primary reasons: 1) there seems to be substantial variation in how different governments respond to different grants, and 2) the results of different economic studies often vary greatly even for the same grant program. Considering these cautions, I extended my analytical model for state spending on juvenile justice to include other social, economic, and political variables, which research has shown to be contributing factors in state/government spending decisions.

In the next section, I present the findings of empirical research on the impact of federal-grants-in-aid in various public policy areas. As stated previously, there is a void in the academic literature on the impact of federal aid on state spending on juvenile justice programs; therefore, I used representative studies in other policy areas to show evidence of the response of policymakers to federal aid and other factors that may affect their spending decisions.

Empirical Research Findings

This dissertation study examines the impact of federal aid on state spending for juvenile justice programs. As previously stated, there is no shortage of empirical research on federal aid to states in specific policy areas. Results of my review of the empirical literature supporting federal aid as an influential variable for examining state spending decisions in various policy arenas are presented below. Topics addressed include: 1) the stimulative effect of federal aid on government spending, 2) the influence of federal aid and economic and political phenomena as predictors of government spending, 3) the effects of cut backs in federal aid, 4) a synthesis of economic literature on federal aid, and 5) some issues related to state dependence on federal.

Federal aid: Stimulative effect. In general, federal aid has a stimulative effect. Several early studies support the notion that federal aid is a powerful predictor of total levels of state spending in different policy areas. Most of these studies were conducted by economists and were mainly seeking to explain variation without a great deal of consideration of any theory that may have influenced variations in expenditures (Montreal, 1999). In 1952, Fabricant (as cited in Bahl & Saunders, 1966) found that population density, urbanization, and income were key variables accounting for 72 percent of variation in state and local expenditures. Fabricant was the first to use these three basic variables (per capita income, population density, and urbanization) to analyze comprehensively the expenditure data of state and local governments of 48 states. Fisher (1961) used the same three independent variables to explain state and local per capita expenditures in 1957. His study revealed that 53 percent of state variation in expenditures could be explained by these factors. Sacks and Harris (1964) expanded early research

models by introducing federal aid into the equations for their analysis of highway, welfare, and health and hospital expenditures for 1960. The introduction of federal aid increased the explained variance for welfare and highway expenditures significantly; however, the increase for health and hospitals was minimal. Sacks and Harris (1964) observed that the federal government had taken a direct interest in funding support for welfare and highway expenditures in comparison to health and hospitals, which saw a large increase in explanatory power after introducing state aid to the analysis. On the other hand, the inclusion of state aid added little to the explanatory power of the other two functional categories. Overall, these researchers found that limiting the analysis to use of population density, income, and percent urban as the only independent variables in regard to total direct general expenditures for welfare and highways yielded an R^2 of .532. When federal aid was added to the equation, the explanatory power increased yielding an R^2 of .813. These early research findings suggest that federal aid is an important variable in analysis of public policy expenditure decisions, particularly in areas where it is a substantial component of total spending, and that failure to consider it may neglect a major determinant of state expenditure levels.

Osman (1966) and O'Brien (1971) contributed to the early research in their studies of the potential stimulative and/or substitutive effect of federal aid on state and local expenditure decisions. Both analyzed five major policy areas in their studies: education, highways, welfare, health and hospitals, and other general and administrative expenditures. Osman (1966) found that per capita expenditures for a function rose with increases in per capita federal aid to that function and with increases in per capita aid to all other functions. In general, he found that total federal aid per capita stimulated total

general expenditures. Furthermore, increases in federal aid to other functions were associated with increases in state and local own source educational expenditures. The implication was that states were engaging in substitution, using own source money made available by federal grants in other functional areas to spend on education; a similar impact of federal aid to other functions was not evident in highway or welfare expenditures. O'Brien (1971), on the other hand, included the effects of individual state characteristics (e.g., per capita income, population density, percent urbanization, and education) on empirical estimates. In contrast to Osman's (1966) findings, he concluded that grants and expenditures are not simultaneously determined; that grants serve as explanatory variables in the determination of expenditures. Moreover, his analysis showed that: 1) federal grants had a stimulative effect on state and local government expenditures from own source funds on aided categories and caused a reallocation of expenditures on other categories; and 2) individual state characteristics played a highly significant (.005 level of significance) role in determining how much individual states spend on a particular expenditure category.

Influence of other factors. Other scholars investigated the impact of changes in the level of federal aid on changes in the level of state and local expenditures. For instance, Bahl and Saunders (1965) found that per capita federal aid to states was the only factor, which significantly affected changes in state and local per capita spending. They analyzed data from 48 states in a five variable correlation model including per capita federal grants and four expenditure variables (total current expenditures; total current expenditures less federal aid; total general expenditures, including capital outlays; and total general expenditures less federal aid). Their research further revealed that the impact

of federal aid was almost non-existent in the fifteen states with the highest income and population density. This finding suggested that expenditures in wealthier states are driven more by their economic well-being than by other factors. Dye (1966, p. 293) supported this finding in his argument that socioeconomic factors have greater explanatory power than political factors in determining state policy spending decisions. In contrast, Sharkansky (1967) determined that political phenomena were more powerful than economic variables with respect to state government expenditures. He concluded that: 1) political factors, such as previous expenditures, federal aid, tax effort, and state and local centralization seemed to affect current government spending more than the economic phenomena of per capita personal income or population; 2) the rate of change in state expenditures varied from one era to the next, with stability or decline alternating with increases; and 3) causes of expenditures change appeared to be situational with no apparent pattern (pp. 173, 191). In a later study, Sharkansky and Hofferbert (1969) concluded that the politics-policy relationship, such as electoral and institutional circumstances do not explain much of the variation in policy. In spite of high correlations between individual measures of voter turnout, party competitiveness, or the character of state legislatures and some aspects of governmental spending, these correlations disappeared when the effect of socioeconomic development was controlled.

Research conducted by Bartle (1995) confirmed the stimulative effects of federal aid on state and local expenditures. Specifically, he examined the effect of categorical federal and state grants-in-aid on local government expenditures and found small but important stimulative effects on spending. He attributed this result to the design characteristics of the grant program, which would suggest that that grant design could influence the fiscal

response of the recipient governmental agency.¹⁷ Overall, Bartle's (1995) work showed that the level of stimulation depends on a host of factors, such as type of grant, type of government, economic conditions, or the policy area of the expenditure.

Federal aid: Cutback effects. There is considerable research supporting the position that federal aid is an important variable affecting expenditures in state budgets and that changes in levels of aid should cause changes in patterns of state expenditures (Jones, 1974; Strouse & Jones, 1974). Strouse and Jones (1974) found convincing evidence of this impact in their examination of highway and welfare expenditures. Moreover, the GAO (1996b) analysis of the fiscal impact of grants found evidence that states may be more likely to replace cuts in federal funds used to fund ongoing state operations and priorities. The GAO concluded that from a federal perspective, state replacement was a positive event; whereas, from the state perspective, because federal funds have been integrated into the structure of the state budget, replacing cuts in federal aid would require cutting funds in other programs, raising taxes, or both.

Further, Stotsky (1991) studied periods of decline in intergovernmental grants and the effect of cutbacks. She found that grant cutbacks led to reductions in state expenditures in all key programs, but that the level of reductions varied depending on where cuts were made and various state government financial conditions. Volden (1999) used Aid for Dependent Children (AFDC)¹⁸ data to test the theory that policymakers respond differently to grant decreases than to grant increases because they face political and bureaucratic pressures to expand programs. He found that grant recipients were more

¹⁷ See Exhibit 3 for an explanation of grant types and design or control mechanisms.

¹⁸ AFDC is now the Temporary Assistance to Needy Families (TANF) program, which provides cash assistance to indigent families with children.

responsive to grant increases than grant decreases. This asymmetric finding was more marked in states where elected politicians give policy discretion to state bureaucrats.

In contrast, Benton (1992) considered state and local expenditures in aggregate rather than expenditures in specific policy areas. He investigated the impact of changes in federal grants, income, and population on state spending during four periods between 1960 and 1988 and found that overall for the 28-year period federal aid had a positive statistically significant effect in explaining changes in state and local expenditures. During the 1960s and 1970s, the influence of federal aid on the size of state and local government budgets was greater than for the two subsequent periods included in the study where the influence diminished by as much as two-thirds but still remained positive and significant. As explained below, Benton's (1992) findings for federal aid for each of the four periods showed different results during times of reductions and cutbacks:

- The period from 1960 – 1977 (a period of substantial increase in federal aid to state and local governments) showed that the growth rate in state and local expenditures was positively related to the growth rate of federal aid and statistically significant ($\beta = .50, p < .05$). The analysis showed that 25% of the explained variance in the dependent variable (state-local expenditures) was attributable to federal aid.
- Uncertainty due to inflation and reductions in federal aid marked the period from 1977 – 1981. Federal aid had a statistically insignificant impact on changes in state and local expenditures during this period ($\beta = .03$) and R^2 for federal aid was .00.

- The period from 1982 – 1985 marked a time immediately following reductions in the overall level of federal aid in 1982. For this short-term period after the 1982 reductions, the analysis showed that federal aid had a positive statistically significant ($\beta = .29$) influence on state and local expenditures and accounted for approximately two-thirds of the explained variance when compared to the variance explained by the total model.
- Benton (1992) described the period from 1985 – 1988 as the long-term following reduction in federal aid. The results for this period revealed that the stimulative effect had disappeared. Federal aid had a negative statistically insignificant ($\beta = -.01$) effect; changes in aid had almost no influence on changes in state and local spending. During this period, state and local spending were more responsive to changes in per capita income, which had a positive statistically significant impact ($\beta = .73$).

Synthesis of the economic literature. Tsang and Levin (1983) studied the impact of different types of federal grants on state and local educational expenditure. They analyzed the results of 40 empirical studies published from 1960 to 1980 and found significant effects of federal aid, as well as socioeconomic and demographic factors, such as property wealth, personal income, population density, age distribution, and composition of local tax base on the level of educational spending. Their findings are presented below by type of grant:

- Unrestricted state block grants for education had both a substitutive and stimulative effect on total educational expenditures of a local government.

They found that approximate 50 cents of every unrestricted state block grant dollar resulted in new spending.

- Every dollar of federal categorical grants for education resulted in an additional 70 cents for one dollar of local educational expenditures.
- The impact of a federal matching grant was less stimulative than a state matching grant because states tended to reduce aid to a local government that received aid from the federal government (Tsang & Levin, 1983, pp. 360-361).

A similar study conducted by the United States General Accounting Office (GAO, 1996b) based its conclusions on a synthesis of the body of economic literature, which isolated the statistical fiscal impact of federal grant funds and estimated their impact on total spending to examine for substitution in the 87 largest grant programs. Examples of the grant programs included in the analysis were Medicaid, Highway Planning and Construction, education, health, and welfare. Administration of Justice was included in the review in aggregate; however, no separate analysis of specific grant programs designated for juvenile justice was identified.

Overall, the findings from the GAO study showed that each additional federal grant dollar contributed to increase total spending on aided functions; but due to substitution, total spending increased by less than a dollar (p. 12). More specifically the GAO (1996b) study concluded that:

- About 60 cents of every dollar of federal aid was used to free up state funds that otherwise would have been spent on that activity for other state programs or tax relief.

- Most grants were not designed to reduce substitution or to target funding to states with relatively greater programmatic needs and fewer fiscal resources as economic theory postulates.
- Matching grants typically resulted in less substitution than non-matching grants. For example, approximately 85 cents of every matching dollar represented new spending compared to approximately 42 cents of every non-matching dollar resulting in new spending. The clear implication was that states withdrew a portion of their own source spending to use for other purposes.

Extending the research on the substitution effect of federal aid on state spending decisions, a 2004 GAO study on federal aid to highways from 1982 to 2002 found a preponderance of evidence that suggested that substitution was a significant factor in state utilization of these funds. The statistical model estimated that state and local governments used about half of the increase in federal highway grants between 1982 and 2002 to substitute for funding they would otherwise have spent from their own revenues. Furthermore, the results showed that the rate of grant substitution increased significantly over the study period, increasing from 18 cents on the dollar during the early 1980s to about 60 cents on the dollar during the 1990s.

State dependence on federal aid. Fossett's (Brown et al., 1984) work offered a compelling analysis of the politics of dependence on federal aid to large cities, which has implications for federal aid to states. Fossett contrasted the impact of federal grants in different jurisdictions and hypothesized that how a city uses the aid, which depends on its financial condition, the amount of discretion it has in using federal funds, and the degree

of political organization among the beneficiaries of federal programs helps determine the level of dependence. For instance, cities with major financial problems, substantial discretion in the use of federal dollars, and well-organized political systems were more likely than other cities to have become financially dependent on federal dollars. Except for the most financially stressed cities, the majority of cities avoided using federal aid to support ongoing activities. Cuts in federal aid in these cities were translated into reductions in social and other services deemed secondary or non-essential.

In contrast, financially stressed cities had more complex problems because they tended to use federal funds to support basic services that were harder to discontinue than more politically peripheral activities. Due to political pressure from interest groups and program beneficiaries in these jurisdictions, local officials were motivated to consider alternative funding sources, such as increased taxes, reduction in basic service levels, or both. Fossett concluded that the major consequence of reduction in federal aid in more financially prosperous cities appeared to be a decline in the level of secondary services, while many of the financially stressed cities appeared to reduce the level of basic services as well (p. 158). Based on my review of the literature, my expectation is that the conclusions drawn about the politics of dependence on federal aid in large cities has similar implications for financially prosperous and financially stressed states.

As stated previously, federal aid may be provided to respond to a need or demand of state level constituents or the federal government's desire to exert influence in a particular policy area. Regardless of the purpose, a potential disadvantage of federal aid is that it can foster dependency and even instability in funding if federal aid levels fluctuate. The problem of dependency is addressed in this study to provide a

comprehensive review of the academic literature on the impact of federal aid on state policy spending decisions; however, it is likely to be only a minor issue, if at all, in the juvenile justice policy arena. Historically, the federal government has played a limited role in funding juvenile justice, providing an average of 10.47%¹⁹ of total spending on juvenile justice programs for the 30 states included in this study. Nationally, aid for juvenile justice programs was approximately .10% of the total federal government grants to state and local governments in 2006 (U. S. Census Bureau, *Federal Aid to States for Fiscal Year 2006*). Thus, states are more reliant on their own resources to fund core juvenile justice services, such as secure commitment of delinquents and aftercare parole services. Whereas, the federal role has largely been to provide seed funds and establish standards to support the enhancement of optimal juvenile justice and delinquency prevention services (Snyder & Sickmund, 2006; Nunez-Neto, 2007a). This assessment is not intended to minimize federal aid for juvenile justice programs, which is highly sought after by states, but to place it in proper perspective in terms of the likelihood of fostering dependence among states.

Summary

My review of the literature on economic theory and the impact of federal grants on state spending behavior produced an abundance of empirical evidence from which to draw research questions about the influence of federal aid on state spending in the juvenile justice policy arena. As stated previously, state spending in an environment where federal aid is available typically does not increase the full amount of a grant award due to the effects of substitution; however, there may be exceptions.

¹⁹ See Chapter 6, Table 5, which presents descriptive statistics for this dissertation study.

The empirical evidence has shown that the influence of federal aid on state spending behavior in a given policy area is impacted by the design and type of available federal aid, as well as social, economic, and political characteristics of the state(s). Consequently, federal aid may lead to increases, decreases, or no significant change in spending behavior depending on these factors. My literature review in this section does not include empirical research on the impact of federal aid in the juvenile justice policy arena due to the paucity of literature in this area. The policy categories (e.g., education, highways, welfare, and health and hospital) discussed in the studies included in my review were generally selected by researchers because they are the ones for which consistent data were available over a number of years.

Politics of Social Order Framework (POSOF): Theory and Research on Corrections Spending

In the previous section, I provided evidence from empirical research of the utility of economic theory in explaining the potential impacts that federal aid may have on state juvenile justice spending. In this section, I provide a review of empirical research that shows the value of the Politics of Social Order Framework (POSOF) as a complementary theoretical model for examining the nature of the various political and socioeconomic influences that impact state legislative spending decisions on juvenile justice. The section is organized as follows: discussion of the development of POSOF, basic arguments and assumptions, the basic model, empirical research on corrections spending, and empirical research on the basic tenets of the POSOF theory.

Development

The major arguments of the Politics of Social Order Framework (POSOF) theory were developed by Stucky, Heimer, and Lang and presented in their 2007 study entitled, *A Bigger Piece of the Pie? State Corrections Spending and Politics of Social Order*. The study examined variation in state-level corrections expenditures as a proportion of state expenditures from 1980 through 1998, a period not previously studied and marked by a large influx in the adult prison population. The sample included data on the 49 states with bipartisan political systems for the 19 years included in the study (Nebraska was excluded). The researchers argued that their data and methods for analysis were more appropriate than previous research on correctional spending and that this work was important to academic research because of the paucity of studies that had examined the aspects of corrections most directly under political control, which is correctional spending (Stucky et al., 2007). Many prior studies had, instead, examined the role of partisan politics and imprisonment rates in the United States rather than corrections expenditures. Although this study focused on adult criminal justice programs and populations, I attempt to expand its utility and applicability of the model in this dissertation study by using some of the key tenets in explaining spending on juvenile justice programs and including federal aid as a primary variable.

Basic Arguments

The POSOF view draws insight from theoretical arguments and recent research on criminal punishment conducted by scholars, such as Jacobs and Helms (1996, 1999), Jacobs and Carmichael (2001), and Beckett and Western (2001). The basic arguments of POSOF are: 1) punishment is inherently an exercise of state power, thus theoretical

explanations of spending on criminal punishment must examine the role of the state; and 2) punishment is driven by two factors: a) the state's responsibility for maintenance of social order and b) partisan politics – state officials need to maintain office through popular elections (Stucky et al., 2007). Stucky et al. (2007) employed the POSOF to clarify the role of partisan politics and potential links between partisan politics and economic and racial threats. In contrast to other research on the topic, which treated political and nonpolitical factors as more or less separate influences on punishment outcomes, POSOF attempts to provide fundamental logic linking political and nonpolitical variables.

The Basic Model: Key Factors That Explain Correctional Spending

The POSOF perspective argues that corrections' spending is a function of:

- Partisan politics (gubernatorial and legislative);
- Citizen ideology;
- Social threat (racial threat based on the percentage Black and the percentage Hispanic population; economic threat based on the rate of poverty);
- State fiscal health and alternative policy priorities (gross state product, public welfare expenditures, and education expenditures); and
- Crime (index crime rate).

These variables are included as primary predictors in the model because they affect strategies for maintaining social order, getting votes, and maintaining political office (Stucky et al., 2007).

Empirical Research on Corrections Spending

Most of the early research dealing with corrections and punishment primarily focused on economic explanations for punishment (Chiricos & Delone, 1992). Research since 1992 centered on political explanations with a focus on prison populations rather than corrections expenditures. In contrast, Jacobs and Helms (1999) and Calderia and Cowart (1980) argued that much can be learned from examining a state's spending on corrections. Their positions are supported by the fact that corrections expenditures are under more direct political control than dependent variables, such as admissions and custody rates, typically used in punishment research (Jacobs & Helms (1999). Furthermore, budgets are one the most important tools through which all levels of government seek to achieve policy goals (Calderia & Cowart, 1980).

National studies. A 1999 national study conducted by Jacobs and Helms focused specifically on combined per capita corrections expenditures at the federal, state, and local levels combined from 1954 to 1990. This research found that spending increased with the size of the non-white population, number of riots, crime rates, and previous births out of wedlock lagged 20 years. Moreover, the findings showed that the strength of the Republican Party was associated with increases in corrections expenditures. This study highlighted the influence of partisan politics, racial threat, and crime on corrections spending.

Calderia and Cowart (1980) examined total criminal justice expenditures, rather than just spending designated for corrections. The results of their work also showed that changes in crime rate explained changes in the federal budget dedicated to criminal justice agencies, including corrections, from 1935 to 1975. Their findings further

revealed that expenditure increases were more likely under Republican presidents and that Republican presidents were more likely to respond to increasing crime by increasing expenditures. Although dated, both the Jacobs and Helms (1999) and the Calderia and Cowart (1980) national studies provide insight for this research with respect to the role of partisan politics in corrections spending policy.

In contrast, in an analysis of elections and the politics of crime, Calderia (1983) (as cited in Stucky et al., 2007) hypothesized that presidents facing elections may increase criminal justice expenditures to take advantage of public fear of crime and to get votes. This study showed that presidents were more likely to request higher criminal justice expenditures in election years irrespective of crime rates. Moreover, Oliver and Marion (2006) and Marion and Oliver (2009), in work that replicated and updated the original research conducted by Calderia and Cowart (1980), theorized that in more recent years, criminal justice policy became more symbolic and was often a gesture used by presidents and Congress to gain political and popular support. These more recent studies support one of the basic arguments put forth by Stucky et al. (2007) that partisan politics influence variation in criminal justice spending policy. Both studies found that budgetary allocations were no longer responsive to the rise and fall in official crime rates, thus demonstrating support for the theory of symbolic politics.²⁰ While both studies are important in their contribution to the understanding of the role of politics in criminal justice expenditures, neither addressed other variables that are potentially important in the explanation of spending decisions in this policy arena.

²⁰ The theory of symbolic politics posits that political acts are viewed as symbols conveying a political meaning that are an end unto themselves (Marion & Oliver, 2009).

State level studies. Stucky et al. (2007) cite two published state-level studies that deal with correctional spending. First, Taggart (1989) conducted separate time-series models for the 48 contiguous states for 1945 to 1984. This study showed that correctional spending was explained by a state's total revenue base and overall state expenditures, but did not consider variables to evaluate political or social threat explanations. Taggart & Winn (1991) conducted the second study. These researchers used a cross-sectional design to analyze corrections expenditures in the 48 contiguous states in 1984. In contrast, this research evaluated threat variables and found that higher crime rates and percentages of non-White males were related to increased corrections spending; however, partisan political control was found to be unrelated to spending. While both studies expand the body of knowledge concerning correctional spending, two distinct limitations were noted: 1) 1984 represented the last year of data analyzed in both studies; and 2) both were methodologically limited by current standards (Stucky et al., 2007). For example, Taggart used a time-series, rather than a pooled model in the 1989 study, which could have reduced the efficiency of the estimation. Likewise, the 1991 study is limited by its use of cross-sectional data, raising concerns over causal ordering and statistical power because of the small sample size.

Empirical Research on the Basic Tenets of the Politics of Social Order Framework

Stucky et al. (2007) argued that the primary advantage of the politics of social order approach is that it seeks to make sense of the various disparate explanations offered by recent empirical research on punishment and public policy. Prior explanations address such factors as partisan politics, conservative preferences of citizens, racial and economic threat, crime control, fiscal factors, and alternative policy priorities. The POSOF theory

holds that these variables are significant because they connect strategies for maintaining social order, garnering votes, and maintaining political order. An overview of research in which these variables were analyzed is presented next.

Partisan politics. An increasing body of research suggests that partisan political considerations influence variation in criminal punishment policies and highlight the importance of Republican power in state-level imprisonment trends (Jacob & Carmichael, 2001; and Stucky et al., 2005). Political science researchers have added to the body of knowledge by arguing that partisan politics shape policy and spending through party control or party competition. Specifically, Jacobs and Carmichael (2001) argued that the traditional law and order rhetoric of the Republican Party is intended to increase votes among less affluent voters, who tend to be less likely to vote for conservative candidate, by appealing to their fear of crime. Results of their study showed that Republican strength and minority threat led to higher imprisonment rates and that these relationships became stronger after greater Republican stress on law and order. Their findings confirmed the theoretical expectation that these relationships are historically contingent. Moreover, Browning, Marshall and Tabb's 1984 study (as cited in Stucky et al., 2007) also found that the racial composition of a state poses a potential political influence on corrections spending.

Some studies on partisan influence in policy decision making have focused specifically on the role of governors and the executive branch. In contrast to research that assumed that state executive branches were irrelevant (Erikson, Wright, & McIver, 1989), Barrilleaux (1999) argued that gubernatorial and executive branch characteristics modeled with citizen ideology and party legislative strength were forces that determined

the liberalism of state policies. He further posited that governors have incentives to produce public policies that are more liberal because doing so provides benefits that are more widespread and allows politicians who seek to hold statewide office greater chances for political success. Results of the study showed that bureaucratic professionalism and gubernatorial powers exert statistically and substantively significant influences on policymaking. These findings were not conclusive.

In a later study, Barrilleaux and Berkman (2003) tested a model of gubernatorial influence on public policymaking in which gubernatorial power was defined as the governor's power over the budgetary process relative to that of the state legislature. They argued that "governors with greater control over the budget process use their power to create a higher proportion of policies that confer benefits to statewide versus more localized constituencies" (p. 409). The study concluded that the political parties of governors and legislators showed no meaningful effects in the model. However, empirical results showed that as a governor's electoral security increased, their influence on localized spending was statistically significant. On the other hand, increased electoral competition had the expected negative effect on the ratio of developmental to redistributive spending²¹. These findings suggested that the nature of gubernatorial influence in public policies in the United States remains open to question.

Citizen ideology. Research supporting citizen ideology as an explanatory variable for correctional spending is based on the hypothesis that politicians tend to support public policies that reflect the preferences of their constituents (Stucky et al., 2007). Consistent

²¹ Developmental (distributive) spending is considered a concentrated benefit structured by geography and provides physical and social infrastructure; redistributive spending is considered a geographically diffuse benefit structured by social class that reallocates resources from the "haves" to the "have nots" (Peterson, 1995, pp. 17, 41, 43).

with the notion that citizen ideology has an effect on criminal punishment independent of the effects of partisan politics, Jacobs and Helms (2001) found that, on average, states with more conservative citizens had higher incarceration rates. Moreover, Yates and Fording's (2005) work strongly supported the claim that law and order policymaking has been employed by the Republican Party to provide an ideological bridge between its wealthy fiscal conservative constituents and blue collar and middle class social conservatives, hence breaking up the traditional Democratic coalition. Operating under this assumption, they found a strong, positive statistically significant relationship between imprisonment and conservative political strength in all branches of government.

Racial and economic threats. Racial and economic threat variables have also been investigated and revealed results, which offer more insight into understanding the factors that influence correctional spending.

Racial threat. Behrens, Uggen, and Manza (2003) and Liska (1992) put forth arguments suggesting that formal social control varies with the relative proportion of the population that is a racial or ethnic minority (as cited in Stucky et al., 2007, p. 99). Such findings strengthen the validity of racial variables as an explanatory factor in the politics of social order perspective. Furthermore, Jacobs and Carmichael's (2001) concluded that imprisonment rates are significantly and positively related to the percent of Black and Hispanic population in a jurisdiction. In other words, one can expect incarceration rates to be higher in jurisdictions with substantial Black and Hispanic populations.²² Yates and Fording (2005) expanded upon these findings in their study of imprisonment rates in 45 states for the years 1977 – 1995. They theorized that the political environment of a state

²² The racial threat hypothesis suggests that incarceration rates will be greatest in jurisdictions with the most Blacks and Hispanics (Carmichael, 2004; Jacobs & Carmichael, 2001).

influences the degree to which it incarcerates its citizens and the political determinants of state punitiveness may be conditional upon the racial subpopulation being incarcerated. The results showed that increases in state political conservatism contributed to growth in Black imprisonment rates and Black imprisonment disparity relative to whites. Further, Yates and Fording (2005) also found that the poverty rate for both whites and Blacks was a positive, statistically significant determinant of imprisonment rates.

Economic threat. In addition to analyzing the effect of Republican party strength on minority imprisonment rates, Jacobs and Carmichael (2001) argued that rates of punishment are “shaped by the menace of an economic rather than a racial or ethnic underclass” (p. 67). They hypothesized that the more economically stratified a society becomes, the more dominate groups will enforce social norms of conduct by using methods, such as incarceration. If the economic threat hypothesis is true, one would expect enhanced economic inequality to lead to increased incarceration rates. However, results of this study were mixed. The relationship between economic inequality and imprisonment rates was positive or negative based on whether state fixed effects or random effects were modeled. In either case, results were statistically insignificant. Worthy of note, Stucky et al. (2007) found a positive, statistically insignificant relationship between poverty rate and corrections spending.

Crime. A rational choice view of crime holds that an increase in correctional spending is a result of increases in crime. In the POSOF perspective, state officials would consider rising crime rates an indication of deteriorating social order and respond with proposals for increases in correctional spending as a measure for maintaining social order. This relationship was supported by national level studies as noted previously.

However, state-level research on imprisonment highlights an inconsistent association between crime rates and incarceration rates (Beckett & Western, 2001; Stucky et al., 2005). Additionally, Stucky et al. (2007) argued that other models of crime causation focus less on individual choice and suggested that social conditions, such as poverty or unemployment drive crime rates. This view conflicts with “the intuitive appeal of thinking that corrections expenditures naturally increase in response to increases in crime” (Stucky et al., 2007, p. 100). Thus, because a government that supports this view might increase spending on social welfare programs, job development, or education to address social problems and prevent crime, there may not be a direct positive relationship between crime rate and correctional spending. Nevertheless, a study designed to analyze correctional spending policies would logically consider crime rate as an important variable for substantive, if not statistical, insight.

Additional views on the inconsistent relationship between crime rate and correctional spending were substantiated by McGarrell and Duffee (2007) and in a 1984 study conducted by Krisberg, Litsky, and Schwartz for the National Council on Crime and Delinquency (NCCD) (as cited in McGarrell & Duffee, 2007). McGarrell and Duffee (2007) examined the causes of correctional spending in the United States by analyzing expenditures from the 1980s, a period when crime was stable or dropping for much of the time. They noted substantial increases in corrections expenditures during the period of study and concluded that variations in factors other than crime were needed to explain the increase in expenditures since crime was stable or dropping during much of the time under study (p.260). They considered variations in the task and institutional environments (e.g., size, crime rate, urbanization, racial heterogeneity, professionalism,

and unionization) of correctional systems in the 50 states as predictors of correctional spending. The McGarrell and Duffee (2007) study supported the logic of the politics of social order argument, which recognized the importance of other variables and linked factors, such as partisan politics, citizen ideology, economic and racial threats, policy priorities, fiscal considerations, and crime to explain corrections spending. McGarrell and Duffee (2007) noted that this same logic is applicable when explaining the association between crime and juvenile justice spending in an environment where differences in expenditures cannot be explained on the basis of crime rates or arrest data (p. 260).

Fiscal health and alternative policy priorities. Fiscal health issues and alternative policy priorities influence a state's ability to pursue any public policy, thus these factors are important variables in any analysis of state level spending in the variety of policy areas that each state must address, including juvenile justice. Greenberg and West (2001) who found that better funded state governments are better able to address a broader variety of public policy demands, including spending on corrections, substantiated the significance of fiscal factors. Similarly, research conducted by Jacobs and Helms (1999) and Taggart and Winn (1991) concluded that fiscal factors influence corrections spending decisions. The Stucky et al. (2007) study confirmed the results of this earlier research in its finding that a 10 percent increase in gross state product was associated with a 5 percent increase in corrections spending (pp. 109 and 111).

Stucky et al. (2007) argued that a state's decisions about spending on social policies overall is related to spending on corrections programs. For example, when states increase funding of corrections or juvenile justice programs, they typically have fewer funds to

spend on other programs. Conversely, the same would be true when states spend more on other social programs, such as welfare and education, they would have fewer funds available to spend on corrections and/or juvenile justice. It is important to note that spending on alternative policy priorities may be seen as a way to garner votes or maintain social control by state officials; therefore, Stucky et al. (2007) considered spending on welfare and education in their investigation of spending on corrections. This stance is supported in research studies, which showed a trend toward corrections spending and away from education, reflecting more conservative approaches to crime control in an effort to respond to a more conservative electorate (Lawrence, 1995). Further supporting this position, Garland (1985) and Beckett & Western (2001) (as cited in Stucky et al., 2007, p. 101) argued that social control of marginal populations (minorities and poor people) is accomplished formally by the corrections system and informally by the welfare system. Both arguments are consistent with the politics of social order perspective, which holds that a primary responsibility of government is to maintain social order. In contrast, in a study of party control and per capita state welfare spending, Dye (1984) found that party control of state government had policy relevance in only 20 of 50 states, fewer than half. He further concluded that increased per capita welfare spending was associated with more liberal Democratic Party control of government, which is consistent with views espoused in POSOF for informal management and control of marginal populations.

Summary

In sum, the politics of social order perspective provides a framework for linking previous insights on criminal punishment and partisan politics, racial and economic

threats, state fiscal concerns and alternative policy priorities. Stucky et al. (2007) used this framework to analyze annual state-level data on corrections expenditures from 1980 – 1998 and found that legislative partisan politics, a state's gross spending and spending on education and welfare, and the proportion of minorities in a state influence corrections expenditures. Specifically, these researchers concluded that: 1) As the proportion of Republicans in the state legislature increased, so did the percentages of a state's budget spent on corrections; 2) They found no evidence that citizen ideology affected corrections spending; 3) States with larger gross state products allocated larger shares of their budgets to corrections; 4) Richer states had higher relative corrections expenditures with the exception of states that spent more on their citizens for education and public welfare that had lower corrections expenditures; and 5) The proportion of African Americans in a state was associated significantly with corrections spending (p. 114-115). These findings are consistent with other research in the field as cited above.

Overall, POSOF provides a well-researched model to use as a guide for analysis of state spending on juvenile justice programs. In the next section, I discuss some of the characteristics of juvenile justice that are suitable for analysis using the POSOF model.

Juvenile Justice Spending: Does the Politics of Social Order Framework Apply?

Can the tenets of the Politics of Social Order Framework (POSOF) be extended to state juvenile justice spending? This is the second research question addressed in this dissertation study. Although my review of the relevant research literature did not reveal specific empirical research that dealt with political and socioeconomic determinants of state juvenile justice spending decisions, historical evidence of the development of

juvenile justice in the United States shows the influence of these factors. As discussed in Chapter 2, issues and concerns about the treatment of children in the juvenile justice system and juvenile crime led to citizen, state, judicial, and federal action affecting juvenile justice spending. I present this information to highlight variables that show that some of the social, economic, and political arguments used in the POSOF theory may also be appropriate for explaining juvenile justice spending decisions.

Juvenile justice history shows evidence of the response of state and federal policymakers, citizen reformers, academics, and the courts to the problems of juvenile delinquents (Eddy & Gribskov, 1999; Nunez-Neto, 2007b; Snyder & Sickmund, 2006). The driving forces behind the call to action that led to increased attention to and funding for juvenile justice were related to four key factors: 1) poverty among delinquent youth and their families, 2) citizen outcry concerning rising crime rates, 3) racial disparity in arrest and confinement of juveniles, and 4) the desire by state legislatures to create more aggressive policies to address public concern over juvenile crime (Snyder & Sickmund, 2006). These concerns resulted in unprecedented changes in the 1990s toward creation of more punitive juvenile laws and the development of new programs and system changes that required increased funding by states and assistance from the federal government in the form of grants-in-aid. As discussed in Chapter 2, these changes in juvenile justice policy diminished the differences between the criminal and juvenile justice systems in recent years, thus providing background for relevance of POSOF theory to juvenile justice.

Similar to the emphasis in POSOF theory on the significance of racial and economic threat and politics in corrections policy, previous research has shown that these factors

are key determinants of statistical and/or substantive importance in the juvenile justice policy area (Snyder, 1997 and 2008). I provide statistics on these variables below for juveniles in the United States, which offer additional support for use of the POSOF model in my analysis of state juvenile justice spending policy.

In spite of positive trends in the juvenile violent crime index rate, which showed a decade long decline of 49% (525.2 to 269.4 arrests per 100,000 persons ages 10 – 17 in the United States) from 1994 to 2004, racial disparity continues to merit attention (Puzzanchera, 2009). For example, in 1996 (the earliest year included in this dissertation study), the composition of juveniles ages 10 – 17 in the population was approximately 80% white, including youth of Hispanic ethnicity; 15% Black, and 5% other races (Snyder, 1997). FBI arrest statistics for this age group showed approximately equal numbers of arrests for violent crimes involving white and Black youth (Snyder, 1997). This was in contrast to the proportion of each group in the population. Snyder (2008) also found that in 2006 the Black juvenile population was about 17% while Black juveniles were involved in 51% of the juvenile violent crime index arrests and 31% of juvenile property crime index arrests. For these reasons, I include race as an important variable in my analysis of state juvenile justice spending policy.

Moreover, historical racial disparity is evident in the minority proportion of delinquent juvenile offenders, ages 10 – 17, incarcerated. For example, the minority proportion of these offenders in 1997, 1999, 2001, and 2003 was 64%, 63%, 61%, and 62% respectively (Snyder & Sickmund, 2006). In 2003, Black juveniles accounted for approximately 38% of all juvenile offenders in custody (Snyder & Sickmund, 2006).

Further, Snyder and Sickmund (2006) examined 2002 poverty rates for juveniles between the ages of 5 and 18 and found that poverty rates for white and Asian juveniles living below the poverty level were 9.4% and 11.7% respectively. In contrast, the poverty rates for Black and Hispanic juveniles living below the poverty level were about 32.3% and 28.6% respectively. These statistics provide evidence of economic disparity and justification for including economic threat as a determinant in my state juvenile justice spending model.

Finally, Feld (2003) provided an argument in support of the political influence in state juvenile justice policy. Using qualitative methods, he analyzed the sociological, criminological, and racial factors; media coverage; and political dynamics of the 1970s and 1980s that contributed to more punitive changes in juvenile justice policies in the 1990s. He concluded that during this period, conservative Republican politicians practiced a “southern strategy” by using crime as a code word for race for electoral advantage, and advocated “get tough” policies, which resulted in punitive changes in juvenile laws and practices, which have had a disproportionate effect on racial minorities (Feld, 2003, p. 766).

In summary, I believe that the POSOF theory offers an appropriate model for explaining juvenile justice spending decisions. Absent empirical research specific to state spending on juvenile justice and based on the evidence of similar key variables in both juvenile justice and corrections, use of this model in my dissertation study is a catalyst to begin filling the void in the literature on factors that influence state spending decisions on juvenile justice. The results of this study will determine whether the POSOF argument holds up empirically relative to state juvenile justice spending.

Summary of Review of the Literature

My review of the literature indicates that federal aid plays a limited, yet important role in justice juvenile policy. Additionally, while federal aid in various policy areas was shown to have a stimulative effect, the practice of substitution by state policy makers resulted in spending increases less than a hundred percent of the grant amount. Previous research on corrections spending and related factors showed that legislative spending decisions are affected by partisan politics, racial and economic threats, state fiscal factors, and alternative policy priorities. Statistics from juvenile justice reports confirmed that key explanatory variables in the POSOF model also merit attention in an analysis of juvenile justice spending.

In Chapter 4, I use my findings from the literature to formulate research questions and hypotheses, which determine the research methods and type of analytic procedures needed to accomplish the objectives of the study.

CHAPTER 4

RESEARCH QUESTIONS, VARIABLES, AND HYPOTHESES

This research study departs from the typical approaches to examining spending in public policy areas. The study seeks to examine the determinants of state juvenile justice spending by using two theoretical lenses: 1) specific principles of economic theory on public choice, demand, and intergovernmental grants (Fisher, 1996; GAO, 1996b; Gruber, 2007) and 2) the Politics of Social Order Framework (POSOF) (Stucky, Heimer, & Lang, 2007). This approach offers a model for understanding spending in the juvenile justice policy arena based on assumptions about politics, economics, and punishment. In this Chapter, I present the research questions and theoretical model, variables, and hypotheses derived from my review of the relevant literature and theory on intergovernmental aid and POSOF assumptions presented in Chapter 3. I conclude the chapter with a brief summary.

Research Questions

Two research questions are drawn from my review of the relevant literature and the theoretical frameworks described Chapter 3. One question addressed in my research is: What impact does federal aid have on state spending on juvenile justice programs? It is important to note that federal grants are designed to achieve national objectives; however, they are implemented by individual states with unique cultural, social, political, and economic characteristics that shape the state's history. To the degree that the pursuit of national goals is filtered through a state context, other factors emerge as potential influences on state juvenile justice spending. Some of these factors are necessarily

included as control variables in the economic model. The Politics of Social Order Framework, complemented by economic theory, provides a more sophisticated model for understanding the influences of these factors. This leads to the second research question: Can specific tenets of the Politics of Social Order Framework be extended to juvenile justice funding?

Study Model

Figure 2 illustrates the theoretical model for this dissertation study, which includes a broad category of variables related to empirical research on federal grants-in-aid and the theoretical arguments presented in the Politics of Social Order Framework.²³

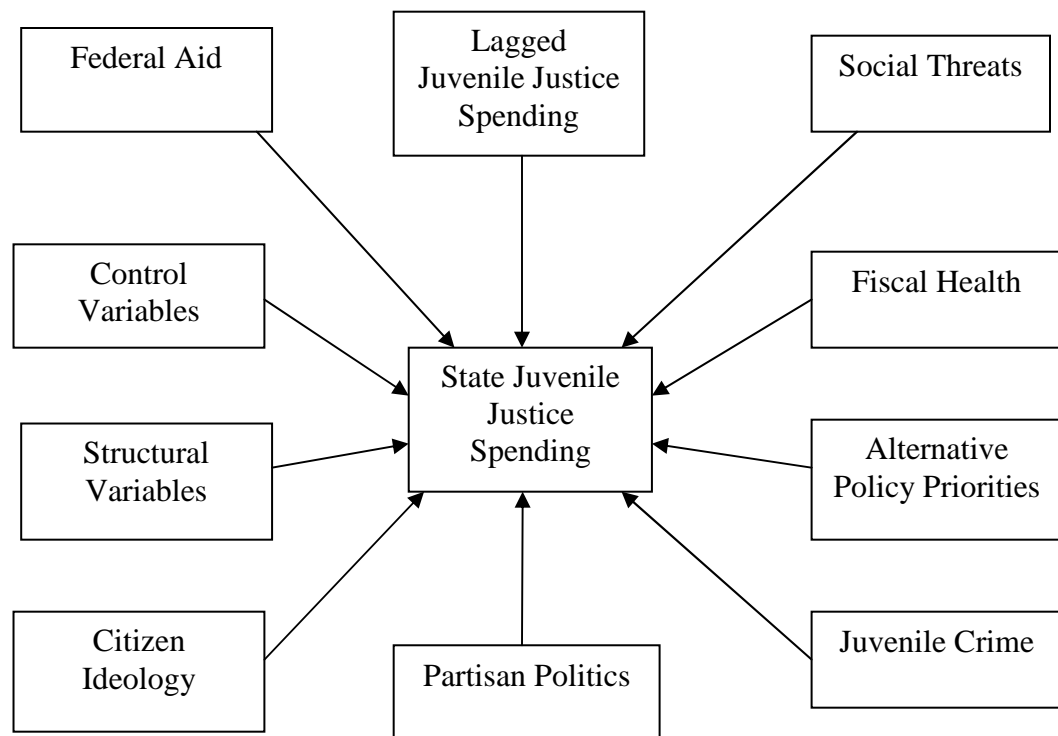


Figure 2. Model of Determinants of State Juvenile Justice Spending

²³ See Chapter 5, Table3, for the description of the specific variables identified for each category and operational definitions.

Variables

The dependent variable (DV) under investigation is state general fund spending for juvenile justice. A primary independent variable (IV) is federal aid. Other covariates drawn from the politics of social order approach and economic theory to develop the research model include: partisan politics (measured as Republican legislative percentage and Republican governor), citizen ideology, social threat (economic and racial), fiscal factors (gross state product and median income), alternative policy priorities, crime (juvenile index crime rate and juvenile incarceration rate), and structural, demographic, and geographic control variables. Multiple studies described in the review of the relevant literature support the use of such variables in explanatory analysis of state spending in various policy areas, including corrections. This dissertation will provide insight on their applicability in an explanatory analysis of state spending on juvenile justice, a topic on which there has been limited empirical research.

Hypotheses

The research hypotheses are grouped in two categories: 1) hypothesis based on economics theory on intergovernmental grants and 2) hypotheses based on the Politics of Social Order Framework. Each hypothesis is stated below following a brief explanation of its relationship and origin in theory.

Economics Theory

As noted above, economic theory recognizes the role of federal grants in state spending and holds that matching grants are expected to induce and increase spending on the aided service. This theoretical framework is the basis for my first hypothesis:

Hypothesis 1: Federal aid will have a positive relationship with state own source spending on juvenile justice per capita.

Politics of Social Order Framework

Social threat is a composite of both economic and racial threats. The concept of economic threat suggests that the degree of economic stratification has a positive relationship with enforcement of social norms of conduct through incarceration (Garland, 1990, as cited in Stucky et al., 2007; Jacobs & Carmichael, 2001). Similarly, the concept of racial threat holds that incarceration and resulting corrections spending is positively related to the proportion of the population that is racial or ethnic minority (Behrens, Uggen, & Manza (2003), Blalock (1967), and Liska (1992), as cited in Stucky, et al., 2007; McGarrell & Duffee, 2007). Further, as the minority population gains significant numerical strength, or becomes a significant voting block, increases in their numbers have less impact on corrections spending and more impact on policy spending that is important to them, such as education, job training, and delinquency prevention programs. In the politics of social order view, when the minority population becomes a voting bloc with the potential to influence elections, legislators are less inclined to increase corrections, thus spending would be expected to decrease or flatten (Stuckey et al., 2007). Based on these arguments, I generated a second hypothesis concerning the effect of social threats on state spending on juvenile justice programs:

Hypothesis 2: A state's poverty rate and percentage of minority population will have a significant positive relationship with juvenile justice spending per capita. When the adult or voting age minority population reaches a significant numerical strength, there will be a curvilinear (quadratic) relationship with juvenile justice spending per capita.

Note that the threat hypothesis is relevant for both youth and adult populations, but the curvilinear aspect applies only to the adult voting age population.

In addition to the arguments noted above, partisan politics and citizen ideology form the basis of key arguments posited in the Politics of Social Order Framework. POSOF, supported by other empirical research, holds that partisan politics shapes policy and spending through party control. Further, the empirical literature supports the notion that elected officials of both parties wish to be perceived as tough on crime by appealing to the sentiments of conservatives. Hence, citizen ideology may have an effect on criminal punishment independent of the effects of partisan politics. These theoretical arguments led to my third hypothesis:

Hypothesis 3: (a) Partisan politics (Republican legislative percentage and Party of Governor) is expected to be positively related to juvenile justice spending per capita, while (b) citizen ideology (most conservative versus most liberal) is expected to be negatively related to juvenile justice spending per capita and the effects should be statistically significant.

Summary

The objective of this study is to fill a gap in knowledge by developing a quantitative analysis of determinants of state spending on juvenile justice programs using principles of economic theory in conjunction with tenets of the Politics of Social Order Framework. The two approaches are complementary and applicable to the reality of governmental and administrative policymaking for juvenile justice. Both theoretical views recognize the significant role of politics in the policy process, as well as social and economic issues that

characterize state jurisdictions and resulting policies that may shape spending decisions. With this in mind, the goal of this study is to provide a broader understanding of factors influencing state level spending in the juvenile justice policy arena while examining the impact of federal aid.

CHAPTER 5

METHODOLOGY

The research questions under investigation require an analysis of the influence of federal aid and other social and economic factors on state spending on juvenile justice programs. The goal of this chapter is to provide a clear and complete description of the specific steps followed to identify variables and data needed for my study, data collection procedures, and steps followed to answer my research questions and test my hypotheses. The chapter includes five subsections: 1) research design and unit of analysis; 2) analytical considerations; 3) data collection procedures; 4) data collection challenges and limitations; and 5) operational definition of variables.

Research Design and Unit of Analysis

I used a pooled time-series cross-sectional (TSCS) design to examine the determinants of state spending on juvenile justice programs for the years 1996-2006. This 11-year period was selected because the majority of states could not provide disaggregated budget information for their juvenile justice agencies prior to 1996, nor was the required information archived on their websites or the U. S. Census Bureau website. Additionally, these years are representative of a period of significant increases in federal aid for juvenile justice followed by a leveling off by 2001 and significant decrease by 2006.

Data were collected for all 50 states and the District of Columbia and used for descriptive purposes. However, juvenile arrest data were unavailable for Florida for all 11 years of the study; and unavailable for Montana and Kansas for one and four years,

respectively. Illinois was the only state that did not provide any budget information for their juvenile justice agency, which was a division of their Adult Department of Corrections until 2006. Furthermore, political party data was not available for Nebraska because its state legislature is nonpartisan and unicameral.

Due to the need for a sufficient number of years of data for a meaningful time-series cross-sectional analysis, the statistical analysis includes only those states where eleven years of state own source, and at least 10 years of federal aid, budget data were available. Thus, the estimation sample consists of 30 states. See Exhibit 4 for a list of the states included in the study sorted by region.

Analytical Considerations

The advantage of modeling a pooled time-series cross-sectional analysis is that it combines observations from multiple cross sections, thus overcoming generalizability issues inherent to cross-sectional designs. It allows for more variation in the variables; and the more cross sections that are combined reduce the influence of a given cross section. Pooling is a critical assumption of time-series cross-section models, indicating that all units are characterized by the same regression equation at all points in time (Beck & Katz, 1995, p. 636).

Key analytical considerations to properly test the hypotheses contained in the study include addressing 1) problems related to regression analysis and TSCS data, 2) selection of statistical software and type of statistical analysis, 3) treatment of missing data, 4) multicollinearity, and 4) model specification. Discussion of the key analytical considerations follows.

Regression Analysis and TSCS Data

In regression analysis, both the temporal and spatial properties of TSCS data make the use of ordinary least squares (OLS) problematic (Beck & Katz, 1995, p. 634). In particular, three violations of the error term assumptions are generally characteristic of this type of data analysis: groupwise heteroskedasticity, contemporaneous correlation, and serial correlation (autocorrelation).

Some researchers, such as Parks and Hicks and Swank (as cited in Beck & Katz, 1995), have specified models for similar time series studies using Feasible Generalized Least Squares (FGLS) with fixed effects. However, Beck and Katz (1995) conducted a series of Monte Carlo analyses that showed that the use of FGLS produces standard errors that led to extreme overconfidence in the error terms, understating variability by 50% or more (p. 634). As a result, they proposed to retain OLS parameter estimates, but replace the OLS standard errors with panel corrected standard errors (PCSE). Their Monte Carlo analysis showed that the use of PCSE as estimates of sampling variability are accurate and perform well, even in the presence of complicated panel error structures (Beck & Katz, 1995, p. 634). Additional research conducted by Beck and Katz (1996 and 2004), Beck (2006), and Keele and Kelly (2006), supports the use of panel corrected standard errors with a lagged dependent variable (LDV). The lagged dependent variable is included on the right hand side of the model as an independent variable as a correction for autocorrelation.

The lagged dependent variable approach versus other methods, such as Prais-Winston used in FGLS, which produces overly optimistic estimates of standard errors, proved to be more appropriate for my study for several reasons. First, the FGLS approach performs

best when the time frame for a study is at least as large as or greater than the number of units (Beck & Katz, 1995). In my study, the number of units is more than two times the time frame. Beck and Katz (1996) argued that the lagged dependent variable approach makes examination of model dynamics easier and allows for natural generalizations in a manner that the serially correlated errors approach does not.

Keele and Kelly (2006) emphasized the logic of LDV models and provided two reasons for estimating such a model: 1) It rids the model of autocorrelation; and 2) it captures, in a statistical model, a type of dynamics that occurs in politics. For example, theory may predict that current state spending in a policy area is influenced by the current state of the economy; however, theory also dictates that the legislatures and the public remember the past; and this implies that the state of the economy in previous periods will matter in spending decisions today. Thus, specification of a LDV model implies, for example, that state spending today is a function of past legislative spending decisions as modified by new information on the performance of the economy and other social and environmental factors. The LDV has a dynamic interpretation as it dictates the timing of the effect of X on Y (Keele & Kelly, 2006, p. 189). The effects of past spending decisions will persist at a rate determined by the autoregressive effect of lagged Y. This view is applicable to my study because one of the goals of my research is to understand the effect of partisan politics on state spending on juvenile justice programs. Additionally, use of a LDV is consistent with theory about the influence of lag in incremental budgeting, e.g., spending in a given year is the product of the previous year's budget decisions influenced by such factors as politics, economics, and demographics.

In addition to prior research support of LDV models, I conducted sensitivity analyses using panel corrected standard errors with a lagged dependent variable, Prais-Winsten regression with common autoregressive 1 (AR1) panel corrected standard errors, and Prais-Winsten regression with panel-specific autoregressive 1 (PSAR1). The results indicated that use of the LDV model is a more conservative approach.

Given the findings of prior research and results of sensitivity analyses, I specified a pooled linear time-series cross-sectional OLS regression model using panel corrected standard errors. The model included the dependent variable, lagged one time period (year), on the right hand side of the model as an independent variable. This model accommodates heteroskedasticity, contemporaneous correlation, and serial autocorrelation. The confidence level was set at 95% (.05 significance level).

Statistical Software Selection and Statistical Analysis

I selected Stata for final model analysis because of its extraordinary performance in regression analysis of time-series, cross-sectional data (Yaffee, 2005; StataCorp LP 2009). Additionally, Stata has a command structure that is simple and consistent. I used Stata 10.1 time series analysis functions with panel corrected standard errors (PCSE) to conduct the regression analysis. In Stata, this model specification calculates panel corrected standard error estimates for linear time-series cross-sectional data where parameters are estimated using OLS. When computing the standard errors and the variance-covariance estimates, the assumption is that the disturbances are, by default, heteroskedastic and contemporaneously correlated across panel. As discussed above, inclusion of a lagged dependent variable helps to rid the model of autocorrelation.

Multicollinearity

Multicollinearity frequently arises in social science research because many socioeconomic variables such as education, political preference, and income are typically interrelated (Schroeder, Sjoquist, & Stephan, 1986, pp. 71-72). Moreover, time series data are likely to exhibit multicollinearity since many economic series tend to move in the same direction.

Multicollinearity, which is usually reflected in high correlations between independent variables of .80, or higher, can be problematic in regression analysis when variables measure identical or highly overlapping concepts (Newton & Rudestam, 1999, p. 264). Although .80 is typically the cutoff level cited in the literature, it is important to note that it is difficult to define a cutoff value that is always appropriate. For example, with a small sample size, such as the one used in my dissertation study, a single bivariate correlation among the independent variables of .70 could have serious consequences for estimation; with a larger sample size, a correlation of .85 might pose fewer difficulties (Berry & Feldman, 1985, p. 43). Thus, in addition to common tests and inspections for multicollinearity, one must also inspect the standard errors of slope coefficient estimates, the width of confidence intervals, and the purpose for which the analysis is being performed to assess how much of a problem multicollinearity poses.

When regression coefficients are estimated with correlated independent variables, they are unbiased; however, they tend to have larger standard errors than they would have in the absence of multicollinearity. This will likely result in smaller values for the probability statistic and coefficients that are not significant. In other words, there is less precision associated with estimated coefficients and consequently, little confidence that

the estimated coefficient accurately reflects the impact of X on Y in the population (Lewis-Beck, 1980, p.58; Schroeder, Sjoquist, & Stephan, 1986, pp. 71-72).

To assess the strength and direction of the relationship of the independent variables with the dependent variable and with each other and to detect overlapping variability or multicollinearity, I performed a bivariate correlation analysis for the study model.

Exhibit 5 presents the results of the bivariate correlation matrix. I used Levin and Fox's (2004, p. 216) table of correlation coefficient ranges to interpret the strength and direction of the linear relationship between any two variables included in the matrix and to assess potential multicollinearity. (See Exhibit 6, Correlation Coefficient Range of Values.)

The assessment for multicollinearity revealed positive statistically significant collinear relationships between the Black racial variables and between the Hispanic racial variables with coefficients higher than .90. Generally, independent variables correlated higher than .80 indicate multicollinearity, which can lead to problems in accurate interpretation of the magnitude of regression coefficients based on theory and incorrect signs for the coefficients (Berry & Feldman, 1985, pp. 42 – 43). Since all data available for 11 years for each variable for each state included in the model were used to conduct the regression analysis, the solution for multicollinearity of obtaining more information was not an option. Adhering to the argument that “consequences of model misspecification, biased coefficient estimators, are more serious than those of multicollinearity” (Berry & Feldman, 1985, p. 47), I decided to conduct the regression, discussed below, including these variables. While multicollinearity may exist, the variables were important to the assumptions and theoretical concepts about the

interaction of racial threats on legislative spending decisions. Moreover, to the extent the individual variable regression coefficients were statistically significant, the presence of multicollinearity was not expected to present interpretation problems (Schroeder, Sjoquist, & Stephan, 1986).

Model Specification

To conduct the regression analysis, I used the model denoted in the equation below:²⁴

$$y_{it} = f(y_{it-1} + x_{1it} + x_{2it} + x_{3it} + \dots x_{26it} + \varepsilon_{it}) \text{ where}$$

y = Juvenile Justice Spending Per Capita

$y - 1$ = Juvenile Justice Spending Per Capita lagged one year

i = Number of units or panels (30 states)

t = Number of periods (11) per unit

x = Independent Variables (26)

ε = Random error term

The model is derived from the theory that state spending on juvenile justice is a function of the following types of independent variables: economic, social threat, fiscal health, alternative policy priority, juvenile crime, partisan politics, ideology, and structural and demographic control variables

Data Collection Procedures

In this section, I describe the types of data collected, types and categories of variables generated from the data, variable sources, and methods employed for data collection.

Additionally, I discuss measures taken to create the research data set from the information collected for the variables.

²⁴ The model is a semilogged specification. See Table 3 for a detailed explanation of how each variable included in the model was measured.

Types of Data and Types and Categories of Variables

The specific types of data collected for the variables identified to construct the panel data set and test my hypotheses included: 1) state general fund appropriations and revenue sources for juvenile justice; 2) federal aid included in juvenile justice budget data; 3) statistics on juvenile arrest rates, violent crime rates, and incarceration rates; population data; and related demographics, such race and poverty rates; 4) total state expenditures and median income, gross state product, and education expenditures; 5) political party affiliations of state legislators and governors; 6) measures of citizen ideology; 7) and types of state level juvenile justice systems, juvenile justice agency responsibility for administration of OJJDP grants; and geographic region.

Primary variables generated from the data collected for inclusion in the research model are described below. The variables are organized by type - dependent, independent, structural, and control. The independent variables are further grouped in seven categories: 1) budget data, 2) social threat, 3) fiscal health, 4) alternative policy priority, 5) juvenile crime, 6) partisan politics, and 7) ideology.²⁵ The variable types and categories are described below:

- Dependent Variable: State Own Source Spending on Juvenile Justice;
- Independent Variables:
 - Budget Data - Federal Aid;
 - Social Threat – Percentage Poverty, Percentage Black Population, Percentage Black Population Squared, Percentage Hispanic Population,

²⁵ The categories for the dependent and independent variables are drawn from the Stucky, et al. (2007) *Politics of Social Order* model.

Percentage Hispanic Population Squared, Percentage Juvenile Population Black, and Percentage Juvenile Population Hispanic;

- Fiscal Health – Gross State Product and Median Income;
- Alternative Policy Priority - Education Expenditures;
- Juvenile Crime – Juvenile Crime Rate;
- Partisan Politics – Republican Legislative Percent, Republican Governor;
- Ideology – Citizen Ideology;
- Structural Variables²⁶ - Juvenile System Type (Centralized, Decentralized, and Combination) and OJJDP Grant Administration Agency; and
- Control Variables – State Population, Urban Population, Juvenile Population, Total State Expenditures, Juvenile Incarceration Rate, and Region (Northeast, Midwest, South, and West).²⁷

Variable Sources and Data Collection Methods

To begin the study, I identified sources of reliable secondary data for all variables, except state spending and federal aid. There are no existing secondary data sources that archive annual spending data (state own source and federal aid) for juvenile justice by state. Therefore, I collected and compiled original budget data from individual states and their respective agencies responsible for implementing juvenile justice programs for these variables. Exhibit 7 presents a description of each variable included in my study and their sources.

²⁶ System Type refers to the organization of juvenile delinquency services in the respective states: Centralized – State Controlled; Decentralized – Local Probation/State Institutions and Aftercare; Combination – State/Local/Judiciary. OJJDP Grant Administration Agency indicates whether the state agency responsible for administering juvenile justice services is also the agency designated to administer the OJJDP grant programs.

²⁷ Region names are U. S. Census Bureau designations.

Dependent variable and federal aid: Budget data sources. Prior to commencing the strategy of state-by-state contact to obtain juvenile justice budget data, including both state own source appropriations and federal aid revenue, I conducted an exhaustive search for the data. I contacted several reliable sources for state juvenile justice data by telephone, internet, or direct face-to-face contact to determine whether juvenile justice spending data were archived by state and revenue source in a single repository.²⁸ All confirmed that such data are not available. There are data for total justice expenditures, but they cannot be subdivided to obtain the juvenile dollars. Consequently, it was necessary to implement the strategy of individual state-by-state contact to obtain budget data required for my study.

Methods for collecting budget data. Using the American Correctional Association's *2007 Directory*, I developed a Directory of State Juvenile Justice Agencies (See Exhibit 9) to organize contact information including names, addresses, phone numbers, and websites for each agency responsible for administering the state's juvenile justice programs. This directory, not only facilitated access to budget data, it also constituted the initial step in laying the foundation for ongoing professional contacts that were critical for completion of this dissertation study.

In addition to this primary directory of juvenile justice state agencies, I created a hardcopy log including the names, phone numbers, and e-mail addresses of the individual agencies' fiscal officers, the Governor's budget staff, and/or the Legislature fiscal analysts responsible for the juvenile justice budget in each state. (Log is available upon request). I also obtained a list of fiscal websites for all state legislatures from the Nevada Legislative Council Bureau (See Exhibit 10). These additional measures were invaluable

²⁸ See Exhibit 8 – Data Sources for State Juvenile Justice Information.

for gaining access to information on the various types of funds appropriated for state operated and funded juvenile justice programs. In general, this contact information was available on the state website or by contacting the agency directly by phone and/or e-mail. I maintained a complete hardcopy telephone log and electronic e-mail log folder of all contacts with state representatives and collateral individuals throughout the extensive budget data collection phase of the project.

Research tools. In addition to identifying existing sources of budget data, I developed a data collection form to collect information on revenue sources and appropriations for juvenile justice from states whose information was not available on their websites or from other printed materials. (See Exhibit 11 - Annual Juvenile Justice Appropriation/Expenditures by Fund Source Form.) This data collection form was distributed among four juvenile justice experts for feedback on design and usefulness for the intended purpose prior to distribution. Exhibit 12 presents the names and contact information for these individuals. Nineteen states used this form to submit their juvenile justice budget information. The other states submitted the required budget information using portable document format (PDF) copies of their budget documents, Excel spreadsheet formats, or by providing instructions via telephone and/or e-mail on how to access and interpret budget documents accessible on their websites.

Sources for other independent, structural variables, and control variables. Exhibit 7 provides the complete list of independent, structural, and control variables and a detailed description of their sources. Except for Federal Aid, as noted above, secondary data sets for the other independent variables were available from a variety of state, federal, and private sources through both direct agency contact to obtain copies of

documents and clarify information, agency and organization websites, and internet and direct library research. The United States Census Bureau was a primary source of this information.

Additionally, the OJJDP *Statistical Briefing Book Online* developed by the National Center for Juvenile Justice was the data source for the juvenile crime and racial threat population variables.²⁹ This source was used because the National Center for Juvenile Justice is the nation's oldest research organization for conducting studies on crime and delinquency and the major contractor for development and maintenance of the OJJDP *Easy Access to FBI Statistics* and the *Census of Juveniles in Residential Placement* web based data analysis tools.

Methods for collecting independent, structural, and control variable data. I created electronic and hardcopy files to save and organize secondary data sets collected for each of the primary independent, structural, and control variables. Variable data files are available upon request.

Creating the Research Data Set

After completing the preliminary data identification and collection methods described above, I designed a panel data structure in long format including variable observations for each state, the District of Columbia, and the United States as a whole for each of the 11 years of the study. Initially, I entered variable data from the original sources into a Microsoft Excel spreadsheet/database, which was subsequently exported to SPSS 18 for variable examination and descriptive statistics and Stata 10.1 for model statistical analysis. I found Excel to be easier to use in the initial design and management of the

²⁹ The OJJDP Statistical Briefing Book Online includes the Easy Access to FBI Statistics and the Census of Juveniles in Residential Placement. It can be accessed at <http://www.ojjdp.gov/ojstatbb/default.asp>

dataset. The SPSS *variable explore* function computes several descriptive tables and graphs by executing one command, thus facilitating an efficient approach to examining multiple variables. Using the information collected, I generated 130 variables, including data for variables in their original matrix and transformations of variable data required for inclusion in trial and final model specifications.

Data Collection Challenges and Limitations

In this section, it is important to highlight three major challenges associated with a study of factors that influence state spending decisions in the juvenile justice policy arena. Identifying these challenges may provide valuable insight concerning the difficulty in collecting reliable juvenile justice spending data, which may be why far less comparative research is directed at the topic and may begin to explain the gap in the literature on this topic.

First, state spending on juvenile justice is not categorized in a similar manner across the fifty states. As explained in Chapter 2, state agencies responsible for administering youth correctional services and institutions may fall into one of four categories (Loughran, Godfrey, et al., 2007). Further complicating the data collection process, there is considerable variation within states in terms of how they divide the provision of juvenile justice services between the state and county levels of government. Griffin and King's (2006) description of three basic models of service delivery: centralized, decentralized, and combination states was presented earlier in Chapter 2.

The second data collection problem is that the United States Census Bureau does not collect separate annual expenditure data for the juvenile justice policy category. Instead,

juvenile justice spending is aggregated with adult corrections or some other spending category, such as the judiciary or human services, or the category that is simply labeled *other*. It is likely that this type of reporting is a consequence of the structural variation that exists among states, as well as the small share of overall state spending dedicated to juvenile justice compared to other more costly policy areas, such as Medicaid and elementary and secondary (K-12) education. For example, in April 2009, the Center on Budget and Policy Priorities reported that Medicaid and K-12 Education accounted for about 14% and 25%, respectively, of state spending in fiscal year 2007. In contrast, juvenile justice was aggregated with Corrections (including prisons, parole and other corrections programs), which accounted for 5% of state budgets.

The third factor contributing to the difficulty in collecting reliable juvenile justice spending data is the variation among states in publishing budget information. Not all state budget offices provide annual appropriation, expenditure, or revenue source data for juvenile justice on their websites or internet based archives. When the data are available, they are not easily discernible, making the task of collecting state spending data for multiple years a significant challenge.

In summary, this section describes the data collection challenges encountered during this study, which one could view as a reason to avoid the study of state spending on the juvenile justice policy area. However, these challenges underscore the importance of this dissertation study, which resulted in the creation of a dataset including state level appropriations for juvenile justice for an eleven-year period. The availability of this dataset and explanation of methodology may encourage future updates of the budget data, as well as continued research in this policy area.

Operational Definition of Variables

Twenty-eight variables (1 dependent variable + 1 lagged dependent variable used as an independent variable + 26 additional independent variables) were included in the final regression analysis for state spending on juvenile justice programs. Prior to model specification and statistical analysis, I conducted an exploratory analysis process to examine each variable, which I describe in Exhibit 13 – Examination of Variables. This section proceeds with a discussion of the operational definitions for the dependent variable and independent variables organized by category. See Table 3 – Model Variable Names, Descriptions, and Operational Definitions, below for a summary of the following discussion.

Dependent Variable

The dependent variable is State Own Source Juvenile Justice Spending Per Capita.³⁰ This variable was measured as the natural logarithm of state spending (appropriations) for juvenile justice per capita. The natural logarithm of the variable was used because the range between low and higher spending amounts create huge discrepancies among the states, which skew the data. Using the natural logarithm transformation helps to pull outlying data points from this positively skewed spending distribution closer to the bulk of the data. Essentially, it helps to create unskewed distributions and multivariate normality.³¹

³⁰ All monetary variables are adjusted to 2005 dollars. See Exhibit 7, Variables and Data Sources, for the price index table used for the respective variables.

³¹ This explanation for use of the natural logarithm of a variable is applicable to the independent variables that are logged for analysis.

Table 3

Model Variable Names, Descriptions, and Operational Definitions

Variable Name	Description	Operational Definition
Dependent Variable: Juvenile Justice Spending	Per capita spending on juvenile justice, state own source only	Natural log of juvenile justice spending per capita
Independent Variables: Lagged Juvenile Justice Spending	Per capita spending on juvenile justice, state own source only, lagged one year	Natural log of juvenile justice spending per capita lagged one year
Federal Aid	Per capita federal aid to states for juvenile justice	Natural log of federal aid in juvenile justice budgets per capita
Percentage Poverty	Percent of population living in poverty	Percent of population living in poverty
Percentage Black	Percentage of Black residents in total population	Natural log of percent of Black residents in total population
Percentage Black Squared	Percentage Black population squared	Natural log of percentage Black residents in population squared
Percentage Hispanic	Percentage of Hispanic residents in total population	Natural log of percent of Hispanic residents in total population
Percentage Hispanic Squared	Percentage Hispanic population squared	Natural log of percentage Hispanic residents in population squared
Percentage Juvenile Population Black	Percentage of Black youth in juvenile population ages 10-17	Natural log of percent of Black youth in juvenile population ages 10-17
Percentage Juvenile Population Hispanic	Percentage of Hispanic youth in juvenile population ages 10-17	Natural log of percent of Hispanic youth in juvenile population ages 10- 17
Gross State Product	Gross state product per capita	Gross state product per capita
Median Income	Median household income	Median household income
Education Expenditures	Education expenditures per capita	Natural log of elementary and secondary education expenditures per capita

Table 3 – (continued)

Model Variable Names, Descriptions, and Operational Definitions – (continued)

Variable Name	Description	Operational Definition
Juvenile Crime Rate	Index crime rate per 100,000 juveniles ages 10 - 17	Natural log of index crime rate per 100,000 juveniles ages 10 - 17
Republican Legislative Percentage	Republican legislative percentage	Republican legislative percentage
Governor's Party	Political party of the governor (1 = Democrat; 2 = Republican; 3 = Independent)	Governor's party is republican
Citizen Ideology	Political ideology (0, most conservative to 100, most liberal)	Citizen ideology index value
Structural Variables: Juvenile System Type 1	Centralized juvenile justice service system	Juvenile justice system type 1 – centralized
Juvenile System Type 3	Combination juvenile justice service system	Juvenile justice system type 2 – combination
OJJDP Grant Administration	OJJDP grant administration agency	OJJDP grant administration agency - yes
Control Variables: State Population	Total state population	Natural log of total state population
Urban Population	Percentage urban of total state population	Percentage of state's population living in urban areas
Juvenile Population	Number of juveniles ages 10 to 17 in population	Number of juveniles ages 10 to 17 in population
Total Expenditures	Total state expenditures per capita	Natural log of total state expenditures per capita adjusted to 2005 dollars
Juvenile Incarceration Rate	Incarceration rate per 100,000 juveniles ages 10 to 17	Natural log of incarceration rate per 100,000 juveniles ages 10 to 17
Region 1	Region 1 - Northeast	Region 1 - Northeast
Region 2	Region 2 - Midwest	Region 2 – Midwest
Region 3	Region 3 - South	Region 3 – South

Note: The statistical model includes 28 variables. All dollar amounts are adjusted to 2005 dollars. See Exhibit 7 for the price index table used for adjustment of respective variables.

I used juvenile justice spending per capita in order to standardize spending for state population size.

Independent Variables

The dependent variable is lagged one year and included as an independent variable. Federal Aid is the primary economic independent variable of interest. Using the *Politics of Social Order* (POSOF) (Stucky, et al., 2007) model, the other 25 independent variables are grouped in seven categories: social threat (economic and racial), fiscal health, alternative policy priority, juvenile crime, partisan politics, ideology, and structural and demographic control variables. It is reasonable to assume that juvenile justice spending decisions vary depending upon the mutually exclusive categories assumed by these variables in a cross section.

Lagged juvenile justice spending. This variable is measured as the natural logarithm of the dependent variable, juvenile justice spending per capita, lagged one year. As explained in the Analytical Considerations section above, the lagged dependent variable is included in the model as a correction for autocorrelation and for its theoretical value in the analysis.

Federal aid. Federal Aid is included in the model to examine its impact on state spending on juvenile justice programs. Federal Aid is defined as the federal aid revenue appropriated in state juvenile justice agency budgets per capita. The variable is measured as the natural logarithm of federal aid per capita.

Social threat variables. Economic and racial threat variables are included in the model to test the POSOF theory that corrections spending decisions should be related to economic and racial threats perceived in a state's environment by legislatures and the

governor when applied to juvenile justice spending. Accordingly, I included the following variables:

- Percentage Poverty (total all ages living in poverty in a state, divided by the total state population, and multiplied by 100) is defined here as the economically marginalized population. Percentage Poverty is measured as the percent of a state's total population living in poverty as determined by the U. S. Census Bureau using a set of money income thresholds that vary by family size and composition;
- Percentage Black (total number of Black residents living in a state, divided by the total state population, and multiplied by 100), measured as the natural log of the percentage of Black residents in the total state population;
- Percentage Black Squared, used to determine the effect of increases in the size of the state's Black population on juvenile justice spending, measured as the natural log of the percentage of Black residents living in a state squared;
- Percentage Hispanic (total number of Hispanic residents living in a state, divided by the total state population, and multiplied by 100), measured as the natural log of percentage Hispanic residents in the total state population;
- Percentage Hispanic Squared, used to determine the effect of increases in the size of the state's Hispanic population on juvenile justice spending, measured as the natural log of the percentage of Hispanic residents living in a state squared.

In addition to the racial threat variables described above, which represent the total Black and Hispanic residents living in a state, I include variables for the Black and Hispanic youth populations in a state. This adaptation was made to the POSOF model

because of the logical relevance to my research questions, which address the issue of spending on programs for youth involved in state juvenile justice systems:

- Percentage Black Youth (total Black juveniles ages 10 - 17 residing in a state, divided by the state population ages 10 – 17, and multiplied by 100), measured as the natural log of the percentage Black youth in the juvenile population ages 10 – 17; and
- Percentage Hispanic Youth (total Hispanic juveniles ages 10 – 17 residing in a state, divided by the state population ages 10 – 17, and multiplied by 100), measured as the natural log of the percentage Hispanic youth in the juvenile population ages 10 – 17.

Fiscal health. As a state's fiscal health improves and more funds are available, spending for juvenile justice and alternative programs, such as education, is expected to increase. I included two variables in the model to test the impact of fiscal health on juvenile justice spending in a state environment of multiple public demands for funds:

- Gross State Product, measured as gross state product per capita adjusted to 2005 dollars; and
- Median Income, measured as the median household income adjusted to 2005 dollars;

Alternative policy priority. As noted above, social control of marginal, minority populations may be accomplished using formal punitive measures or informal measures as a response to potential threats to social order. I include a variable for education expenditures in my analytical model to address the importance of considering spending on alternative social programs in an analysis of spending on juvenile justice.

- Education Expenditures, measured as the natural log of elementary and secondary education expenditures per capita adjusted to 2005 dollars. Using the log of education expenditures, allows one to assess changes in the outcome variable as a function of specified percentage changes in elementary and secondary education expenditures per capita;

Juvenile crime. The rational choice view of crime holds that there is a direct positive relationship between crime and punishment (spending on incarceration); whereas other views hold that the relationship between crime rates and correctional spending is not necessarily a direct positive relationship. I included Juvenile Crime Rate in my research model to determine its influence, if any, on juvenile justice spending.

Juvenile Crime Rate is measured as the natural log of index crime (violent crimes and property crimes) per 100,000 juveniles ages 10 -17. The property crime index includes burglary, larceny-theft, motor vehicle theft, and arson; the violent crime index includes murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault.

Partisan politics. To determine the effects of partisan politics and citizen ideology on juvenile justice spending, I used data from the legislative and executive branches of government to create two variables to measure party power because both influence state budgets.

- Republican Legislative Percentage is the percentage of state legislators in both houses of the legislature who are Republican in each state for each year of the study; and
- Governor's Party is a binary variable with a value of 1 in years when the Governor was Republican and 0 otherwise.

Ideology. Following Stucky, et al. (2007), my model includes a measure of Citizen Political Ideology developed by Berry et al. (1998), updated in August 2007 to include data for 1960 - 2006. Berry et al. (1998) constructed annual dynamic measures of the ideology of a state's citizens and political leaders using the roll call voting scores of state congressional delegations, the outcomes of congressional elections, the partisan division of state legislatures, the party of the governor, and various assumptions about voters and state political elites (pp. 336-340). Measures of citizen ideology range from 0, in the most conservative states, to 100, in the most liberal states.

I selected the Berry et al. (1998) measure of citizen political ideology for three important reasons. First, the researchers established the utility of their indicators by using sound research procedures. They tested the assumptions on which the measures were based, assessed their reliability, assessed their convergent validity by correlating them with other ideology indicators, and evaluated their construct validity by analyzing their predictive power within multivariate models from some of the best research available in the state politics field (Berry et al., 1998, p. 327). Second, the measure reflects the conceptualization of the phenomenon in a manner that is consistent with my perspective. Third, this measure has also been used in other academic research seeking to determine the influence of citizen ideology on spending decisions by legislatures (Yates & Fording, 2005).

Structural Variables

To control for structural variation among states based on the type of juvenile justice service delivery system and designated agency responsibility for OJJDP grant administration, I include:

- Juvenile System Type, as defined by the National Center for Juvenile Justice, as a binary variable with three categories included to measure the difference in the value of the dependent variable between centralized and combination juvenile systems and a decentralized juvenile system, which is the reference group for the analysis. The categories are defined as centralized – 1, decentralized – 2; and combination – 3. The value of the variable is 1 for a given category and 0 otherwise; and
- OJJDP Grant Administration as a binary variable with a value of 1 when the state agency responsible for administering its juvenile justice programs is also the agency designated by the Governor to administer OJJDP grant programs and 0 otherwise.

Control Variables

One would reasonably expect the size of a state's total population, size of urban population, size of juvenile population, total state expenditures, juvenile incarceration rate, and geographic region to be related to spending on juvenile justice. Thus, to control for variation in juvenile justice spending, I included:

- Total State Population measured as the natural log of the number of state residents and Urban Population measured as percentage of the state's population living in urban areas as defined by the United States Census Bureau;
- Juvenile Population is measured as the number of juveniles ages 10 – 17 in the state's population;
- State Expenditures measured as the natural log of total state expenditures per capita adjusted to 2005 dollars. It seems reasonable that a state's average

spending on its citizens might be related to the per capita (average) spending on juvenile justice (Stucky et al., 2007). Hence, the state expenditure variable provides a measure of the relative impact of juvenile justice spending per capita in the in a state's overall per capita expenditures.

- Juvenile Incarceration Rate is measured as the natural log of the juvenile incarceration rate. The incarceration or custody rate is the number of juvenile offenders in residential placement on the designated date annually per 100,000, ages 10 through the upper age of original juvenile court jurisdiction in each state.³² The data on juvenile incarceration are published every two to three years and were available for 1997, 1998, 1999, 2001, 2003, and 2006. Because data were not available for several years of the study, I used mean imputation to compute values for missing data (Newton & Rudestam, 1999, p. 160).³³
- Region is a binary variable included to measure the difference in the value of the dependent variable between the Northeast, Midwest, and South regions and the West region, which is the reference group for the analysis. Region, as defined by the United States Census Bureau, is coded as follows: Northeast – 1, Midwest – 2, South – 3, and West – 4. The value of the variable is 1 for a given region and 0 otherwise.

A discussion of the key findings and results of the various analyses conducted on the sample data is contained in the Chapter 6.

³² The United States Bureau of the Census collects juvenile incarceration data for the federal Office of Juvenile Justice and Delinquency Prevention biennially and designates the reference date for the census.

³³ Of the various methods for handling missing data, Newton and Rudestam (1999) recommend mean imputation as the most straightforward and commonly used method of imputation. This method consists of entering the mean value of a variable for any subject with missing data on that variable.

CHAPTER 6

RESULTS AND DISCUSSION OF FINDINGS

This chapter is divided into two sections: 1) findings related to descriptive data including frequency calculations for categorical variables; trend analysis of juvenile justice spending and key variables; and measures of central tendency and variability and 2) results of regression analysis.

Descriptive Statistics

Descriptive statistics help organize and describe the distribution of and relationship among variables in any research study. They provide a clearer view of raw data.

Frequency Distributions

Table 4 summarizes the frequency distributions for Region and the two structural binary variables, Juvenile Justice System Type and OJJDP Grant Administration. Values for frequencies were calculated for each variable for all states included in the research sample and for the United States, including all 50 states and the District of Columbia. Calculations include observations for each year of the study, 1996-2006.

Table 4 shows the number and percentage of states from each census region included in the study sample. As shown, the sample is dominated by a majority of states (13) in the West Region, approximately (43%). In comparison, the number and percentage of states in the sample from the other three regions are 10 (33%), 4 (13%), and 3 (10%) for the South, Midwest, and Northeast census regions, respectively. The sample includes 30 states, representing approximately 59% of the states. All of the states from the West

Region are included in the analysis, approximately 59% of states in the South Region, and 33% of states in the Northeast and Midwest Regions, respectively.

Table 4

*Distribution of Categorical Variables: United States (U.S.) and Study Sample
Frequency Observations for Number of States in Each Category, 1996 - 2006*

Variables	Category		Frequency		Percentage	
Region			U.S.	Sample	U.S.	Sample
	Northeast		9	3	17.7	10.0
	Midwest		12	4	23.5	13.3
	South		17	10	33.3	33.3
	West		13	13	25.5	43.3
		Total	51	30	100.0	100.0
Juvenile System Type	Centralized		12	7	23.5	23.3
	Decentralized		18	12	35.3	40.0
	Combination		21	11	41.2	36.7
		Total	51	30	100.0	100.0
OJJDP Grant Administration	No		33	16	64.7	53.3
	Yes		18	14	35.3	46.7
		Total	51	30	100.0	100.0

Note: Percentages are rounded to the nearest decimal place. Washington, D. C. is included in all U. S. totals.

Considering the Juvenile System Type category, Table 4 shows that there is considerable variation within states in terms of the provision of juvenile justice services. The three basic service models, which describe the types of services provided at the state versus county level of government, are centralized, decentralized, and combination.³⁴ Table 4 presents the amount of variability among states by percentage of states included in each service delivery model. As shown, a plurality of states (12, totaling 40%) included in the sample use the decentralized juvenile justice service model. These states are characterized by local control of probation and detention centers and state control of

³⁴ See Chapter 2 for a description of the three basic juvenile justice service delivery system types.

juvenile institutions and aftercare services. Eleven (36.7%) and 7 (23.3%) states in the sample use the combination and centralized models, respectively.

Less than half (35.3%) of the state agencies in the United States responsible for administering their juvenile justice programs are also designated by their Governors to administer the OJJDP grant programs. The percentage (46.7%) was slightly higher for the sample, but still less than half. This means that federal aid from OJJDP is not directly awarded to state agencies responsible for juvenile justice programs in the majority of states. Consequently, OJJDP funds may not be allocated through juvenile justice agency budgets unless transferred by the recipient agency to the juvenile justice agency. Another result of this administrative structure is that not all OJJDP resources may be captured in the budget data collected from the states along with other available federal resources. Data are not available on how OJJDP funds are allocated by recipient state agencies that are not responsible for administering the state's juvenile justice agency. However, it does not necessarily follow that youth under the jurisdiction of these agencies do not benefit from programs developed with these federal funds in their respective communities.

Summary. In summary, Table 4 shows that for the period 1996 - 2006 the majority of states included in the study sample were located in the West Region, used the decentralized approach to delinquency service delivery, and were not designated by their Governors to administer the OJJDP grant programs. Not shown in the table are frequency distributions for Governor's Party, which showed that Republican governors were predominate with a 58.7% and 57.9% majority for the United States and the sample, respectively. Comparing the sample to the United States during the years under investigation, the majority of states were in the South Region, used the combination

approach to juvenile delinquency service delivery, were not responsible for administering the OJJDP grant programs; and were represented by a Republican governor. It is important to emphasize that the sample cannot be considered a probability sample. Only those states where eleven years of state own source and at least ten years of federal aid budget data were available were included in the study in order to obtain a valid analysis. Therefore, while one must be cautious in making inferences to the total population of states, these data present important information from a robust sample of states in an area where none otherwise existed.

Trend Analyses of Juvenile Justice Spending and Key Independent Variables

Figure 3 presents a comparison of average state own source spending on juvenile justice and federal aid per capita for the study sample.

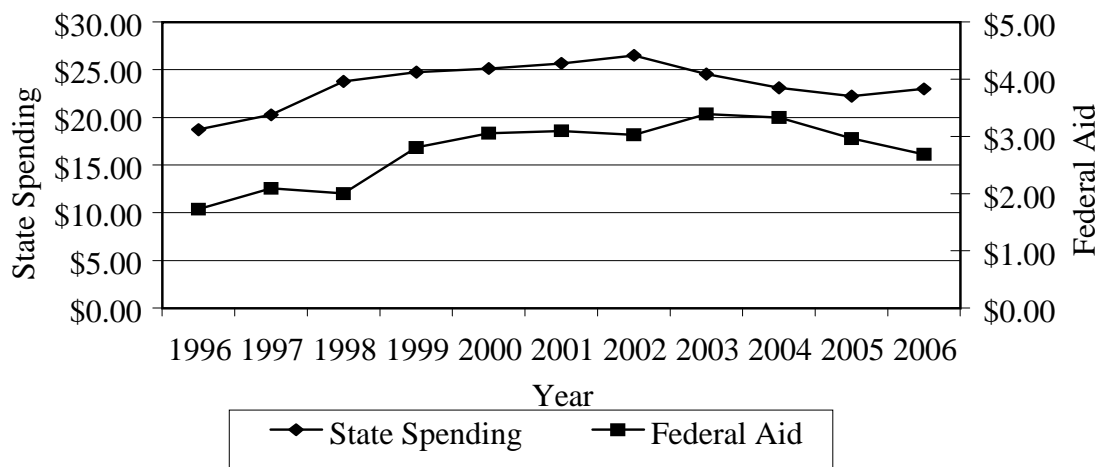


Figure 3. Comparison of Average State Spending on Juvenile Justice and Federal Aid Per Capita for 30 State Sample, 1996 – 2006

I determined the average spending per capita for each year by calculating the mean per capita spending across the states in the sample for each year of the study. As shown, the average state spending on juvenile justice per capita increased from approximately

\$18.70 in 1996 to a high of about \$26.50 (about 41.7% increase) in 2002, and then declined to about \$23.00 (about 13.2%) by 2006. This represents an overall increase in spending on juvenile justice of about 23% from 1996 to 2006.

Figure 3 also shows that the average federal aid per capita included in state juvenile justice agency budgets was minimal, ranging from about \$1.73 per capita in 1996, to approximately \$3.40 in 2003, and then declined to approximately \$2.70 in 2006. This represents an overall percent change of about 56% increase in federal aid per capita from 1996 to 2006.

Although state budgets for own source and federal aid spending for juvenile justice represent a relatively small portion of overall state expenditures per capita, Exhibit 5 (Bivariate Correlation Matrix) shows that the correlation between state own source spending for juvenile justice and federal aid was moderately positive and statistically significant at $p < .05$, $r = .32$. Thus, one would expect state own source spending for juvenile justice to increase or decrease moderately as federal aid for juvenile justice increases or decreases overtime. However, while the overall trend for the correlation between federal aid and state own source spending showed an increase in spending, there were periods of increase and decline that differed for each of the funding sources. For example: 1) both funding sources increased from 1996 to 1997; 2) there were declines in federal aid in 1998, 2002, and 2004 through 2006; and 3) state spending continued to rise from 1996 through 2002 before experiencing a decline from 2003 through 2005, followed by an increase in 2006. These results suggest that in general, federal aid may have a stimulative effect on levels of state spending on juvenile justice; but other factors may also influence state spending decisions. As noted previously, these factors might include

a state's response to instability and cutbacks in federal aid by replacing federal funds used to support ongoing essential services, such as juvenile justice. Additionally, spending decisions may be influenced by social, economic, and political characteristics of the state, as well.

Figure 4 shows per capita spending on juvenile justice for the United States and a subset of five states randomly selected from the study sample to assess the variability in spending on juvenile justice programs among states for 1996 - 2006.³⁵ As shown, per capita spending for juvenile justice for the United States ranged from approximately \$11.50 in 1996 to a high of approximately \$19.38 in 2002, and then gradually declined to approximately \$16.31 by 2006. Utah showed a similar pattern of spending increase and decline; however, the rate of spending in Utah ranged from approximately \$24.43 in 1996 to approximately \$45.00 in 2001 and 2002, and then declined to approximately \$36.00 in 2006. Per capita spending for juvenile justice in Utah was more than twice the level of spending for juvenile justice in the United State per year. Of the five states, Utah spent the most, while Hawaii and Missouri spent the lowest amounts per capita on juvenile justice. Montana showed a spike in spending for juvenile justice in 2002 following two years of decline (approximately 28 % decline between 1999 and 2001). Each state, except Arizona, showed a pattern of increased spending in 2002 followed by declining expenditures each year until 2006. Arizona and Hawaii showed less marked variation in spending for juvenile justice over time.

³⁵ States included in the study sample were organized alphabetically and numbered from 1 to 30. The Random Integer Generator, retrieved from <http://www.random.org/integers/>, was used to select the five states for Figures 4 and 5.

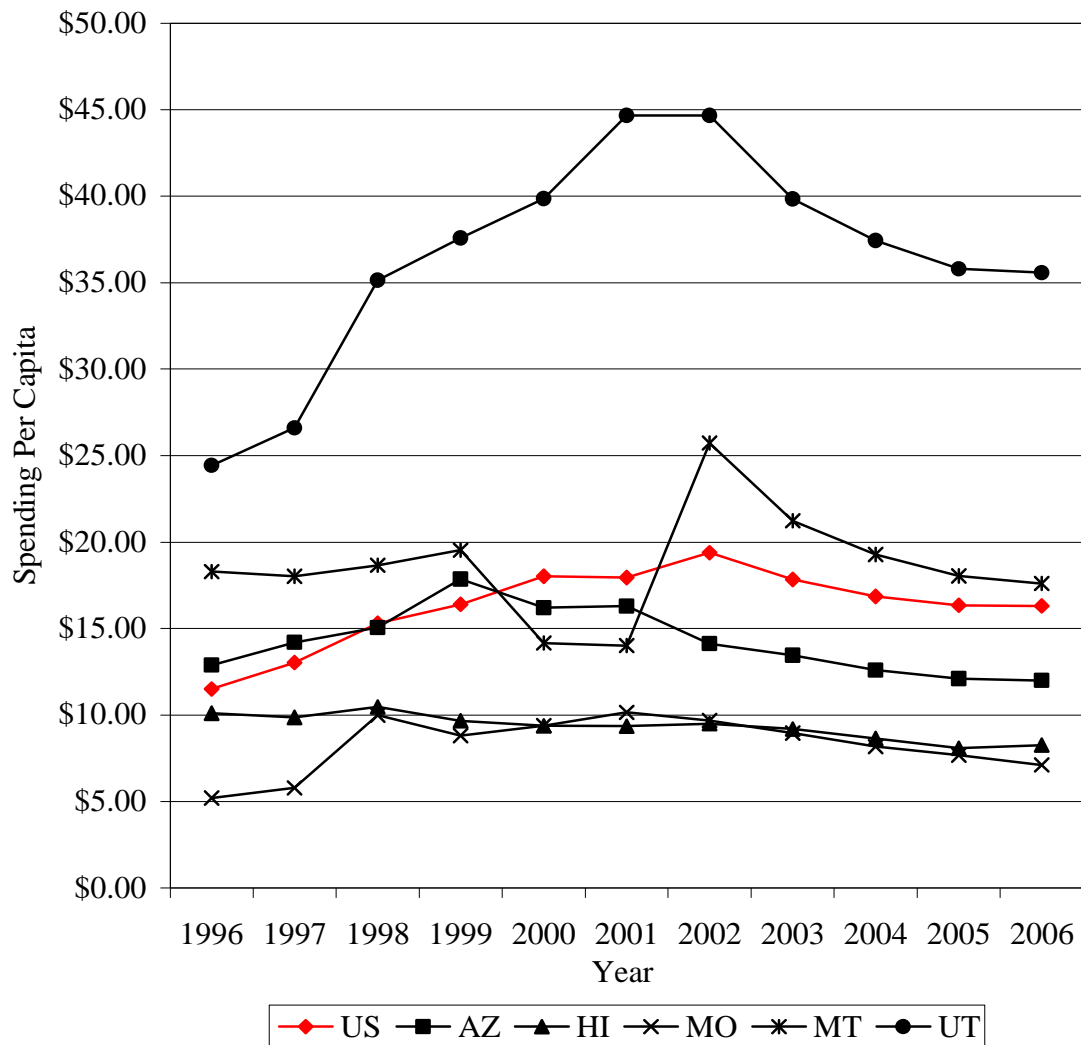


Figure 4. Per Capita Spending for Juvenile Justice, Selected States, 1996 – 2006

Juvenile justice spending as a percentage of all state spending for the selected states and the nation is illustrated in Figure 5 below. Figure 5 shows that spending on juvenile justice is less than 1% of all state expenditures for the selected states and the nation from 1996 – 2006. Only two states (Florida and South Carolina), not included in the illustration, exceeded 1% of expenditures. These states spent 1.24% and 1.19% of their total state expenditures on juvenile justice, respectively. As expected, the timing and pattern of increases, and in some cases decreases, varied across states, as did the actual

expenditures among the states.

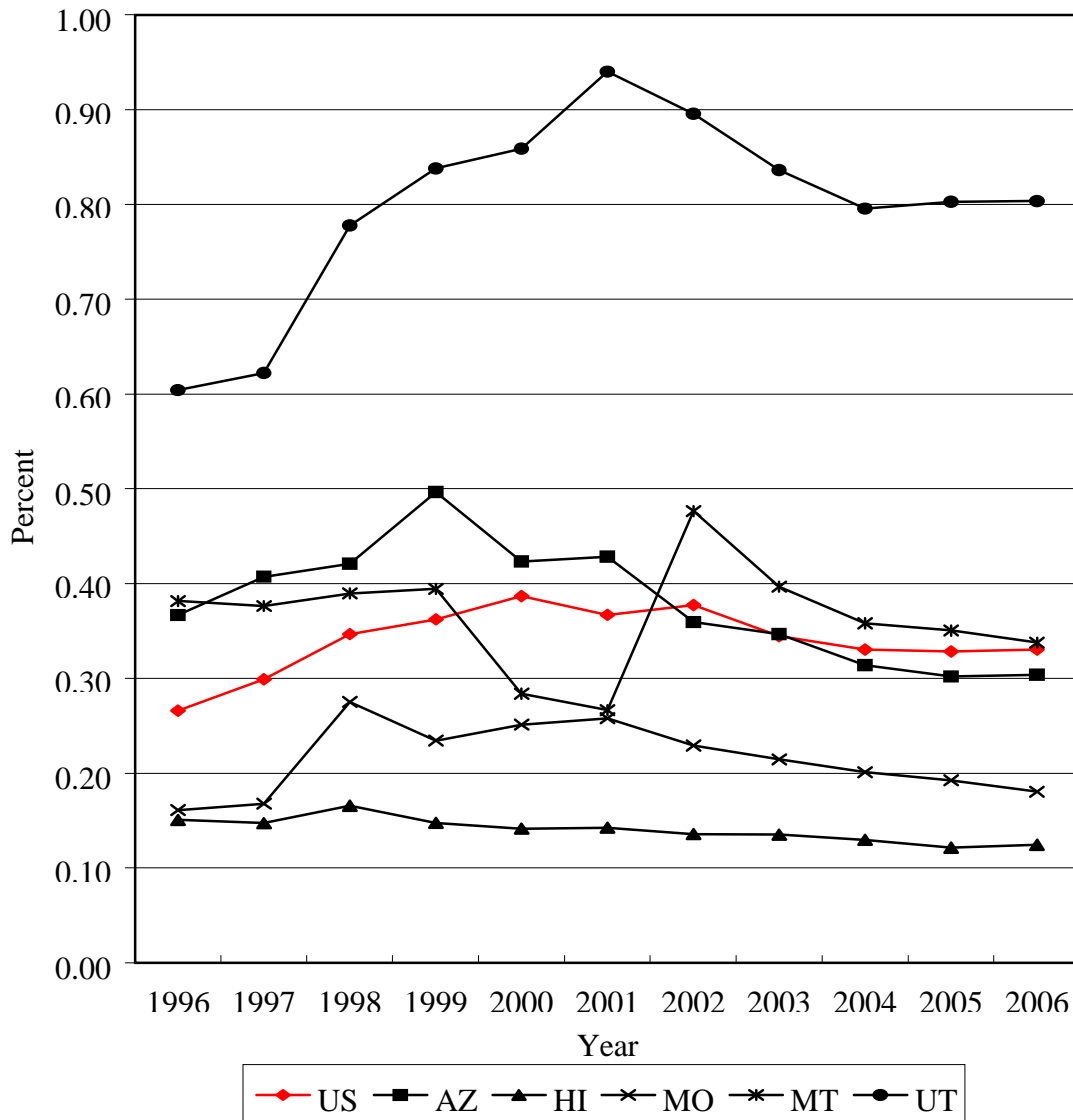


Figure 5. Percentage of State Spending for Juvenile Justice, Selected States, 1996 – 2006

The other results are percentage illustrations of the per capita amounts shown in Figure 4. Relative to the other states examined, Utah spent a higher percentage of its overall state expenditures on juvenile justice. Hawaii spent the lowest percentages and showed the least amount of variation in spending across time.

As shown in Figures 4 and 5, spending on juvenile justice showed variation within and among states and over time. This variation is consistent with what is known about state spending decisions, which are affected by characteristics of individual states as noted above. (Fisher, 1996; Gruber, 2007). Furthermore, it is additional justification for including variables that measure state characteristics in my research model to determine the extent of their influence on state spending for juvenile justice.

Next, Figure 6 is an illustration of the relationship between average state own source and federal aid spending on juvenile justice and juvenile crime per year between 1996 and 2006. As shown, per capita spending on juvenile justice steadily increased from about \$20.45 in 1996 to about \$29.54 in 2002 before beginning a gradual decline to about \$25.69 in 2006. During the same period, the juvenile crime rate for indexed crimes (violent crimes and property crimes) per 100,000 juveniles ages 10 - 17 decreased sharply from about 3150 to about 1836 in 2002, and then experienced a continuous gradual decrease to 1500 by 2006. This trend suggests that spending on juvenile justice does not have a direct positive relationship to the index crime rate and/or that spending decisions lag behind crime rate causing what appears to be a negative relationship. The correlation between juvenile justice spending and juvenile crime rate as shown in Exhibit 5 was positive, statistically insignificant, and negligible with an approximate r value of .03.

Figure 6 suggests that other factors besides juvenile crime may influence legislative spending decisions. The period covered by this study occurred during the punitive phase in the evolution of juvenile justice in the United States.³⁶ Although the index crime rate for juveniles declined sharply during this period, legislatures enacted more punitive laws

³⁶ See Chapter 2 for a description of the historical overview of juvenile justice in the United States, including the four phases of development.

as a response to the public's concerns about juvenile crime. These legislative changes undoubtedly resulted in increased spending for programs designed to curb juvenile crime. Logically, legislatures would seek to continue to support spending on successful programs with a goal of continued reductions, or at least stabilizing, the juvenile crime rate. Thus, spending on juvenile justice shows an overall increase while the index juvenile crime rate declined. In sum, juvenile crime rate is not necessarily a predictor of juvenile justice spending for the sample states.

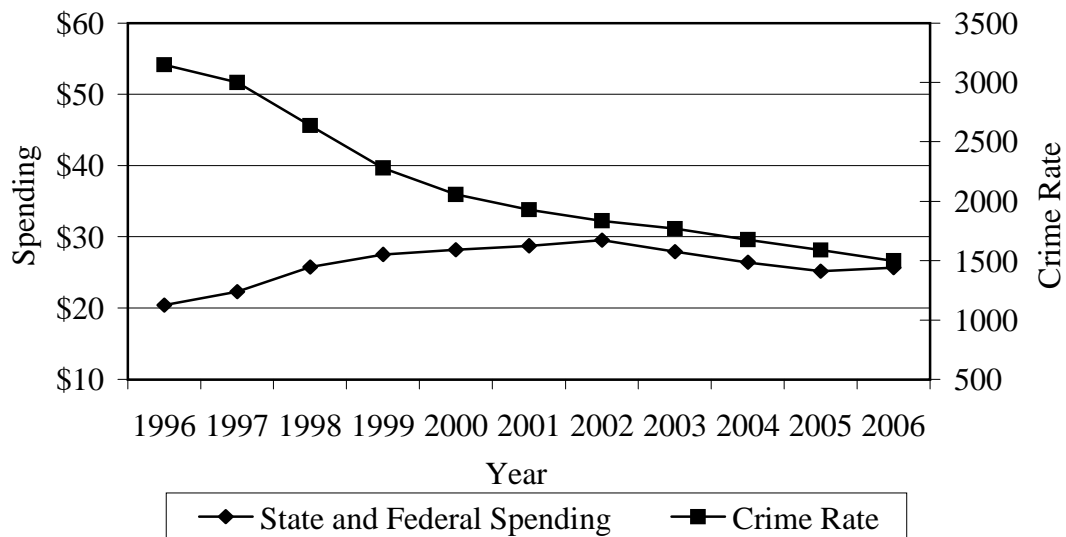


Figure 6. Comparison of Average Per Capita Spending on Juvenile Justice and Index Crime Rate Per 100,000 Juveniles Ages 10 – 17, for 30 State Sample, 1996 – 2006

Summary. In general, the results of the trend analyses of juvenile justice spending as a percentage of total state spending per capita for selected states and the nation showed less than one percent (1%) of spending being allocated to juvenile justice program operations during 1996 - 2006. Moreover, the data showed variability in per capita spending within and across states over time. The correlation between state spending on

juvenile justice and federal aid was positive and statistically significant. One would logically assume that the juvenile crime rate is a key factor in juvenile justice spending decisions; however, the data showed the correlation between the two variables was statistically insignificant.

Measures of Central Tendency

Table 5 below presents the descriptive statistics for measures of the mean, standard deviation, and range, including the state and year for minimum and maximum amounts for variables included in the study model, except binary variables.³⁷ The variables are grouped by type and category as defined in Chapter 5. I discuss some of the highlights of the results below.

First, the mean state expenditure for juvenile justice was \$23.44 per capita with a range of \$61.04 per capita for South Carolina, the state with the highest spending, compared to \$5.11 per capita for Pennsylvania, the lowest spending state. Likewise, the spread of the distribution for federal aid contributions for juvenile justice ranged from \$14.98 per capita in Wyoming to zero with a mean federal aid allocation of \$2.74. California and Texas had the lowest federal aid allocations for juvenile justice per capita, spending zero to .02 cents per capita. On average, federal aid was approximately 10.5% of state spending on juvenile justice. Based on the results of prior research, one would expect per capita allocation of federal aid to be highest for less populous states, such as Wyoming and South Dakota and lowest for larger states, such as Texas and California (GAO, 1996b, pp. 27 – 28). In sum, the average per capita spending for juvenile justice, including state and federal revenue (\$26.13), was relatively small (approximately .53%) in comparison to average total state expenditures per capita (\$4,953).

³⁷ States representing the extremes of some distributions are discussed in the text.

Table 5

*Descriptive Statistics for Model of Factors Affecting State Juvenile Justice Spending
Per Capita, 1996 - 2006*

Variables	Variable Description	Mean	Std. dev	Min State/Year	Max State/Year
Dependent Variable: Juvenile Justice Spending	Per capita spending on juvenile justice, state own source only (dollars)	23.44	11.49	5.11 PA/ 2006	61.04 SC/ 2006
Lagged Juvenile Justice Spending	Per capita spending on juvenile justice, state own source only lagged one year (dollars)	23.39	11.48	5.11	61.04
Federal Aid	Per capita federal aid to states for juvenile justice (dollars)	2.74	2.60	.00 ^a TX/1996	14.98 WY/1999
Social Threat: Percentage Poverty	Percent of population living in poverty	12.20	2.63	7.60 MD/2000	20.31 NM/1996
Percentage Black	Percentage of Black residents in total population	9.52	9.06	.33 MT/1996	30.35 SC/1996
Percentage Hispanic	Percentage of Hispanic residents in total population	10.26	10.57	.63 ME/1996	44.00 NM/2006
Percentage Juvenile Population Black	Percentage of Black youth in juvenile population ages 10-17	11.92	11.20	.40 MT/1996	38.68 SC/1996
Percentage Juvenile Population Hispanic	Percentage of Hispanic youth in juvenile population ages 10-17	12.43	12.86	.82 ME/1997	52.10 NM/2006
Fiscal Health: Gross State Product	Gross state product per capita (dollars) ^b	36,596	6,124	24,441 MT/1996	61,860 AK/2006
Median Income	Median household income (dollars) ^b	45,272	6,939	30,516 NM/1996	65,567 NJ/2006
Alternative Policy Priority: Education Expenditures	Education expenditures per capita (dollars) ^b	1,348	273	967 AZ/1996	2,333 AK/1996
Juvenile Crime: Juvenile Crime Rate	Index crime rate per 100,000 juveniles ages 10 to 17 ^c	2,119	7623	581 SD/2006	4,547 WA/1996

Table 5 – (continued)

*Descriptive Statistics for Model of Factors Affecting State Juvenile Justice Spending
Per Capita, 1996 - 2006*

Variable	Variable Description	Mean	Std. dev	Min State/Year	Max State/Year
Partisan Politics/ Ideology: Republican Legislative Percent	Republican legislative percentage	51.71	14.92	11.84 HI/1996	88.46 ID/2001
Governor's Party	1 = political party of governor Republican	.58	NA	NA	NA
Citizen Ideology	Political ideology index (0, most conservative to 100, most liberal)	44.81	13.90	8.45 KY/2002	82.41 HI/1999
Structural: Juvenile System Type 1	1 = Centralize juvenile justice service system	.23	NA	NA	NA
Juvenile System Type 3	1 = Combination juvenile justice service system	.37	NA	NA	NA
OJJDP Grant Administration	1 = OJJDP grant administration agency	.47	NA	NA	NA
Control: State Population	Total state population	5,818,435	7,061,563	488,167 WY/1996	35,979,208 CA/2006
Urban Population	Percentage urban of total state population	73.15	14.45	38.80 ME/2006	94.90 CA/2006
Juvenile Population	Number of juveniles ages 10 to 17 in population	673,410	833,584	56,355 WY/2006	4,331,396 CA/2005
Total Expenditures	Total state expenditures per capita (dollars) ^b	4,953	1,695.81	3,264 TX/1996	13,860 AK/2003
Juvenile Incarceration Rate	Incarceration rate per 100,000 juveniles ages 10 to 17	226	87	61 HI/2001	534 SD/2006
Region 1	1 = Northeast	.10	NA	NA	NA
Region 2	1 = Midwest	.13	NA	NA	NA
Region 3	1 = South	.33	NA	NA	NA

Note: Valid N = 303; missing observations = 27; total N = 330. All dollar amounts are adjusted to 2005 dollars. NA indicates not applicable. ^aCalculated to three decimal places, the minimum value for Federal Aid is .003. ^bAmounts rounded to nearest dollar. ^cIndex crimes as defined by the FBI include burglary, larceny-theft, motor vehicle theft, arson, murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault; amounts are rounded to nearest rate.

Second, results for the social threat variables also showed the average poverty rate among sample states was about 12%. The poverty rate for the nation during the same period as the study (1996 – 2006) was approximately 12%, as well.³⁸ This finding suggested that the sample, while not random, was representative of the nation in terms of the poverty rate variable. New Mexico had the highest poverty rate of 20.31% compared to Maryland, which had the lowest rate of 7.60%.

Furthermore, on average for the sample, the percentage of Hispanics (10.26%) in the sample population and the percentage of Hispanic youth in the juvenile population (12.43%) slightly exceeded that of Blacks in the sample population (9.52%) and Black youth in the juvenile population (11.92%). The opposite finding was true for the nation, where on average, the percentage of Blacks overall (13.01 %) and Black youth (16.12%) during the period of the study slightly exceeded that of total Hispanics (12.91%) and Hispanic youth (15.84%). The District of Columbia (60.86%), Mississippi (36.74%), and Louisiana (32.70%) had the highest average population of Black residents between 1996 – 2006; however, they were not included in the study. This could account for the slight difference in findings for minority population percentage between the sample and the nation. The findings also showed that South Carolina and Montana had the highest and lowest percentage of Black residents while New Mexico and Maine had the highest and lowest percentage of Hispanic residents for the sample, respectively.

As an example of an alternative policy priority, education expenditures far exceeded spending for juvenile justice as expected. On average, states spent approximately \$1,348 per capita for education, which was \$1,322 (5148%) more per capita or 51.5 times the

³⁸ See U. S. Census Bureau, Small Area Income and Poverty Estimates, State and County Interactive Tables. <http://www.census.gov/did/www/saipe/county.html>

average per capita spending on juvenile justice (\$26.18) including state and federal sources. The disparity among sample states in terms of gross state product per capita was relatively large at approximately 60.49%.

Another key issue for consideration in describing the characteristics of the sample is juvenile crime rate. The results in Table 5 show that the average index crime rate per 100,000 juveniles ages 10 to 17 was approximately 2,119 for the 30 states included in the sample. Washington and South Dakota had the highest (4,547) and lowest (581) index juvenile crime rates, respectively.

In general, during the study period, state legislatures were on average about 52% republican; and the political ideology index score for citizens was moderately conservative at about 44.81 on average. Hawaii was the most liberal state, with a score of 82.41, and Kentucky, at 8.45, was most conservative. Additionally, an average of 73% of the total state populations were residents of urban areas, while an average of 11.57% were juveniles between ages 10 and 17 during the period under investigation.

Summary. As expected, the results in Table 5 show that the standard deviations for the measures included in the study had a wide dispersion of values around their respective means. As discussed in Chapter 5, several variables were transformed to help normalize the distribution of data values, which is important in achieving precise results in statistical analysis (Newton, & Rudestam, 1999, p. 56).

Results of the Regression Analysis

This section begins with an assessment of the overall fit of the statistical model specified in Chapter 5. Next, I present the results of the regression analysis for the

hypothesized relationships and the other covariates included in the analytical model.

Table 6 shows the coefficient estimates, standard errors, *z scores*, and the accompanying *p* values for the model variables, which are presented by type and category. See Exhibit 14 for guidelines for interpreting log transformed variables and the lagged dependent variable. Table 7 presents a summary of the study hypotheses explained in detail in Chapter 4.

General Model Fit

As shown in Table 6, the model predicts the effect of federal aid and other social, political, and fiscal factors on the observed outcome of per capita state spending devoted to juvenile justice reasonably well. The overall regression model, computed on 302 observations, confirmed the absence of autocorrelation. The model is statistically significant with Wald Chi Square (27 degrees of freedom) = 114,416, *p* (0.000) < .05, yielding a relatively large effect size ($R^2 = .869$). These results suggest that approximately 87% of the variance in the dependent variable (Juvenile Justice Spending Per Capita) can be explained by the independent variables. This large R^2 , however, should be viewed with caution and considered as additional information, not as a summary indicator of the quality of results (Schroeder, Sjoquist, & Stephan, 1986).³⁹

³⁹ Aggregate data from many units, such as states, hide certain differences in behavior among the units since “high” and “low” values cancel each other. Such averaging means that there is less variability in the dependent variable to be explained by the independent variables and often results in higher R^2 values for the aggregate information than for comparable micro data (Schroeder et al., 1986, p. 55).

Table 6

*Regression Analysis for Model of Factors Predicting State Juvenile Justice
Spending Per Capita, 1996 - 2006*

Independent Variables	Coefficient Estimate ^a	SE ^b	z	p
Lagged Juvenile Justice Spending Per Capita	.410	.048	8.61	.000
Federal Aid	-.036	.012	-2.95	.003
Social Threat:				
Percentage Poverty	-.043	.008	-5.57	.000
Percentage Black	-.834	.199	-4.18	.000
Percent Black Squared	.016	.011	1.45	.146
Percentage Hispanic	1.813	.143	12.68	.000
Per Hispanic Squared	-.094	.014	-6.85	.000
Percentage Juvenile Population Black	.599	.192	3.12	.002
Percentage Juvenile Population Hispanic	-1.21	.147	-8.27	.000
Fiscal Health:				
Gross State Product	<-.001	<.001	-4.85	.000
Median Income	<.001	<.001	2.77	.006
Alternative Policy Priority:				
Education Expenditures	.411	.139	2.95	.003
Juvenile Crime:				
Index Juvenile Crime Rate	.022	.042	0.54	.589
Partisan Politics/ Ideology:				
Republican Legislative Percent	-.004	.001	-3.21	.001
Republican Governor	.011	.020	.55	.582
Citizen Ideology	-.002	.001	-1.74	.082
Structural:				
Juvenile System Type 1	.231	.051	4.55	.000
Juvenile System Type 3	.067	.029	2.34	.019
OJJDP Grant Administration	.088	.014	6.33	.000
Control:				
State Population	.165	.038	4.38	.000
Urban Population Percentage	-.013	.002	-5.21	.000
Juvenile Population, ages 10-17	<-.001	<.001	-6.32	.000
Total Expenditures Per Capita	.155	.126	1.23	.219
Juvenile Incarceration Rate	.263	.037	7.12	.000
Region 1 – Northeast	-.204	.067	-3.04	.002
Region 2 – Midwest	.031	.071	.44	.662
Region 3 - South	.253	.060	4.21	.000

Note: N = 302. $R^2 = .869$, Wald $\chi^2(27) = 114,416$. ^a Values are rounded to the nearest thousandth. ^b Values are rounded to the nearest thousandth. $p < .05$.

Table 7

Summary of Hypotheses

Federal Aid:

Hypothesis 1: Federal Aid will have a positive relationship with state own source spending on juvenile justice per capita.

Social Threat:

Hypothesis 2: A state's poverty rate and percentage of minority population will have a significant positive relationship with juvenile justice spending per capita. When the minority population reaches a significant numerical strength, there will be a curvilinear (negative) relationship with juvenile justice spending per capita.

Partisan Politics and Citizen Ideology:

Hypothesis 3: (a) Partisan politics (measured as Republican legislative percentage and Republican Governor) is expected to be positively related to juvenile justice spending per capita, while (b) citizen ideology (measured as index values for most conservative to most liberal) is expected to be negatively related to juvenile justice spending per capita and the effects should be statistically significant.

Examination of Research Questions and Hypotheses

This dissertation study is focused on answering two research questions: 1) What impact does federal aid have on state spending on juvenile justice programs? and 2) Can specific tenets of the Politics of Social Order Framework (POSOF) be extended to juvenile justice funding? Examination of the related hypotheses, as shown in Table 7, developed to examine the research questions follows. The findings for Research Question 1 and Hypothesis 1 are presented first. Next, I discuss the results for Hypotheses 2 and 3, which were drawn from Research Question 2. Finally, I present a summary of additional findings from the regression analysis for state fiscal health and alternative policy priority variables, juvenile crime, structural variables, and control variables, which further inform the outcome of the analysis. Where applicable, I compare

my findings for juvenile justice spending with the results for similar measures from the POSOF model (Stucky et al., 2007).⁴⁰ As noted above, Table 6 shows the statistical results for the regression analysis with statistical significance at the $p < .05$ level.

Research Question 1. What impact does federal aid have on state spending on juvenile justice programs?

Hypothesis 1: Federal Aid will have a positive relationship with state own source spending on juvenile justice.

This hypothesis predicts that as federal aid increases one can expect an increase in state spending on juvenile justice. The regression results were statistically significant; however, the association was negative. The results revealed that federal aid had a substitution, rather than a stimulative, effect on juvenile justice spending. As shown in Table 6, a 1% increase in federal aid results in a decrease, or approximately -.04% change, in juvenile justice spending per capita, holding all other variables constant. This finding means that total state spending for juvenile justice per capita increased upon receipt of federal aid, but by less than the full amount of the grant because states reduced their own spending on juvenile justice by approximately .04% on average.⁴¹ This finding supports the notion that federal aid is a determinate in a state's decision on how to allocate state funds in an environment where federal aid is available. In this study, the change in spending is relatively small; however, the result is a significant indicator of state behavior previously documented in the empirical literature (GAO, 1996b; GAO 2004; Tsang & Levin, 1983).

⁴⁰ The POSOF model was based on adult corrections; therefore, did not analyze information for juveniles. The POSOF model did not include comparable variables for median income, structural variables, or geographic region.

⁴¹ See Gruber, J. (2007) and GAO (1996b, p. 2 - 6) for a detailed explanation of the substitution effect and intergovernmental grants.

Research Question 2. Can specific tenets of the Politics of Social Order Framework be extended to juvenile justice funding?

Social Threat. Economic and racial threat variables identified in the POSOF model are defined as social threats, which affect state spending decisions on adult corrections. These variables are also predicted to have an effect on juvenile justice spending. The seven social threat variables shown in Table 6 are included in the model to assess the effect of poverty and race on state spending decisions on juvenile justice. Previous research has shown that states with greater racial and ethnic heterogeneity and economic inequality (poverty) are more punitive and, thus, spend more resources on corrections and social control than states with homogeneous populations (Behrens, Uggen, & Manza, 2003; McGarrell & Duffee, 2007; and Stucky, et al., 2007).

Hypothesis 2: A state's poverty rate and percentage of minority population will have a significant positive relationship with juvenile justice spending per capita. When the minority population reaches a significant numerical strength, there will be a curvilinear (negative) relationship with juvenile justice spending per capita.⁴²

Results for the variables included in the regression model to test Hypothesis 2 were mixed, with most contradicting the predicted relationships.

Percentage Poverty: Based on economic threat theory, one would expect Percentage Poverty to be positively related to juvenile justice spending. However, the results show that the relationship is negative, yet statistically significant. This means that for each 1% increase in poverty rate, per capita juvenile justice spending is expected to decrease 4.3%.

⁴² Percentage Black Squared and Percentage Hispanic Squared are included in the model to estimate mathematically the increase in population of the designated minority groups to assess the effect of the quadratic terms.

In comparison, Stucky et al. (2007) found the relationship between poverty and corrections spending to be positive, but statistically insignificant, $p = .293$. Although there is ample evidence in the empirical literature for including poverty as a social threat measure, the results of my analysis contradict the hypothesized relationship. This is an important finding for juvenile justice spending policy. One possible explanation is that rather than increase spending for formal juvenile justice programs for social control, legislators were more likely to allocate funding for alternative measures (i.e., delinquency prevention programs, such as after school tutoring programs and mentoring programs) to address the needs of poor children involved in the juvenile justice system. There is also evidence of mixed results for testing the relationship between poverty and spending on corrections in the empirical literature (Jacobs & Carmichael, 2001).

Percentage Black Population: The results of the regression analysis revealed a statistically significant negative relationship between Percentage Black Population and Juvenile Justice Spending. For a 1% increase in the percentage of Black residents, per capita juvenile justice spending is expected to decrease .83%. This finding contradicts the predicted outcome based on the racial threat theory that the relationship would be significant and positive. The implication here, albeit counterintuitive with the empirical literature, is that juvenile justice spending is not driven by the threat of the Black population growing significantly in size to represent a threat to majority interests. A primary premise of the racial threat theory is that majority interests influence legislative spending decisions (Stucky et al., 2007). Results from the POSOF model for this measure were consistent with racial threat theory indicating that Percentage Black Population was a statistically significant positive determinate of corrections spending.

Percentage Black Population Squared: The relationship between Percentage Black Population Squared and juvenile justice spending per capita was positive (.02% increase in spending for each 1% increase in Black Population) and statistically insignificant ($p = .146$) for my sample. Recall in Chapter 5, I explained that the quadratic form of the variable measure was expected to yield a curvilinear response or negative relationship between the predictor and outcome variable. This means that it was expected that once the minority population reached a significant size, it would be viewed as a voting bloc that could influence legislators to spend less on punitive measures for crime control and more on alternative programs. Again, the results for this measure contradict the hypothesis, indicating that the racial threat theory does not hold true in juvenile justice spending analysis for my sample. One possible explanation for the contradictory finding is that in spite of increases in the Black population during the period of the study, it was not viewed as a significant voting bloc on juvenile justice issues. In comparison, the POSOF model finding for corrections was negative and statistically significant. Consistent with the racial threat theory, the POSOF model results showed that racial threat played an important role in corrections spending.

Percentage Juvenile Population Black: As predicted, the relationship between Percentage Juvenile Population Black and Per Capita Juvenile Justice Spending is positive and statistically significant. Table 6 shows that a 1% increase in the Black juvenile population is associated with a significant increase of approximately .60% in spending. This finding suggests that the size of the Black juvenile population plays an important role in decisions to increase juvenile justice spending.

Percentage Hispanic Population and Percentage Hispanic Population Squared: The results support the predicted relationships between these two measures and Per Capita Juvenile Justice Spending. A 1% increase in the percentage of Hispanic residents is associated with approximately 1.81% increase in juvenile justice spending, $p = .000$; and a 1% increase in the percentage of Hispanic residents squared is associated with a statistically significant decrease of about .09%. These findings suggest that racial threat posed by the Hispanic population plays an important role in juvenile justice spending and that the growth of the Hispanic population into a voting bloc may influence legislators to spend less on punitive control measures for Hispanic juveniles in the justice system and more on other desired programs to support the juvenile justice system. In the POSOF model, Percentage Hispanic was statistically insignificant and negatively associated with the proportion of a state's budget allocated for corrections, thus the racial threat theory did not hold true. The quadratic term for percentage Hispanic was not associated with corrections, thus it was not included in the POSOF model (Stucky et al., 2007, p. 104).

Percentage Juvenile Population Hispanic: The predicted relationship between Percentage Juvenile Population Hispanic and Per Capita Juvenile Justice spending was not supported by the findings. The results were statistically significant; however, the relationship is negative. This means that there was no racial threat factor related to the size of the Hispanic youth population and juvenile justice spending for my sample.

Social Threat Summary: The regression results for the social threat variables showed differences in their impact on legislative spending decisions for juvenile justice compared to findings by Stucky et al. (2007) for corrections spending. The economic and racial threat variables were all statistically significant in their impact on juvenile justice

spending, except for Percent Black Squared. However, only the predicted associations between Percentage Hispanic, Percentage Hispanic Squared, and Percentage Juvenile Population Black and Per Capita Juvenile Justice Spending, respectively, were supported by the data. Thus, the social threat theory does not hold consistently for juvenile justice spending. These findings showed mixed results for the influence of economic and racial threats in understanding legislative spending decisions for juvenile justice. This suggests that the picture may be more complicated for juvenile justice spending than threat theory alone is able to explain. Nagin, Piquero, Scott, and Steinberg (2006) provided one explanation for such results in their study of public preferences for rehabilitation versus incarceration of juvenile offenders in Pennsylvania. They assessed public support for both incarceration and rehabilitative policy alternatives for serious juvenile crime and concluded that there was less support for punishment (incarceration) than for treatment (rehabilitation) in addition to current punishment levels.

Rather than being solely defined by social threat theory, juvenile justice spending may be more fluid meaning that legislators are just as likely to support punishment, as well as rehabilitative measures, in the interest of community protection. Hence, one would expect two overlapping policy positions when analyzing legislative spending decisions concerning juvenile justice. Additionally, cost-conscious legislators may be more likely to support rehabilitative measures, which are typically less expensive, less harmful, and more effective than punitive measures, such as incarceration, when considering how to allocate limited public funds (Cullen & Gendreau, 2000; Clear, 1994; as cited in Nagin et al., 2006).

Overall, regression results for the social threat variables highlight the differences between legislative spending decisions for juvenile versus adult offenders. The differences in spending may be interpreted as legislators' cognizance of the special needs of young offenders; therefore, different factors are considered when formulating juvenile justice policy.

Partisan Politics and Citizen Ideology.

Hypothesis 3: (a) Partisan politics (measured as Republican legislative percentage and Republican Governor) is expected to be positively related to juvenile justice spending per capita, while (b) citizen ideology (measured as index values for most conservative to most liberal) is expected to be negatively related to juvenile justice spending per capita and the effects should be statistically significant.

As shown in Table 6, the results for Republican Legislative Percentage (Republican Party control) contradict the hypothesized relationship for partisan politics and spending devoted to juvenile justice, holding all other variables constant. The results show that a 1% increase in Republican Legislative Percentage was associated with a statistically significant decrease of .40% in spending devoted to juvenile justice. In comparison to the POSOF model, which showed that an increase in the percentage of Republican legislators was associated with a statistically significant increase in spending on corrections, the results for juvenile justice spending indicated that state Republican legislative party strength mattered, but the relationship was in the opposite direction. Additionally, Table 6 shows that states with a Republican Governor were more likely to increase spending on juvenile justice; however, the finding was statistically insignificant ($p = .582$). This

finding is analogous to the finding by Stucky et al. (2007) for corrections spending. Overall, the regression results for partisan politics are important in light of the fact that the POSOF model, as well as other research on corrections spending characterizes the Republican Party as the more conservative, law and order party using spending to control crime versus social programs that more liberal politicians tend to support (Jacobs & Carmichael, 2001; Yates & Fording, 2005). These studies found a positive, statistically significant relationship between corrections spending and a republican dominated legislature. Thus, if the law and order depiction of the Republican Party were true, one would expect juvenile justice spending to be significantly higher during Republican administrations. As shown, the data do not support this view of the Republican Party in relation to juvenile justice spending decisions.⁴³

Further, the analysis does not support the hypothesis that the relationship between citizen ideology and state juvenile justice spending per capita is expected to be negative and statistically significant. The regression coefficient is $-.002$, $p = .082$. Since the data show that the relationship between citizen ideology and juvenile justice spending per capita is approaching significance; one can reasonably assume that the relationship between the two variables is negative, as shown. The evidence suggests that a more liberal citizenry is associated with decreased spending. In other words, as a state's citizen ideology index value increases, its spending on juvenile justice programs is expected to decrease. Stucky, et al. (2007) found no evidence of an association between citizen ideology and state-level corrections spending.

⁴³ I conducted calculations to examine my dissertation regression model for interaction effects between Governor Party (Republican) and Percent Republican Legislature. The results showed that the interaction terms were statistically insignificant in the model.

In sum, the findings from the Stucky, et al. (2007) study using the POSOF model and my study results indicate that social threats, partisan politics, and citizen ideology influence legislative spending decisions on corrections and juvenile justice in different ways. Explanations for the differences may be related to the perceived threat posed by the adult corrections population versus the juvenile justice population, the size of the respective populations, or the period in which each study was conducted. To illustrate the discussion above, Table 8 shows a comparison of the hypothesized relationships of variables to observed relationships for my regression analysis and results from the POSOF results.

Table 8

Comparison of Hypothesized Relationships of Variables to Observed Relationships for Regression Analysis of State Juvenile Justice Spending Per Capita, 1996 – 2006, and POSOF Results

Variables	Predicted Relationship	Observed Relationship	POSOF Results
Federal Aid	Positive	Negative*	NA
Social Threat:			
Percentage Poverty	Positive*	Negative*	Positive
Percentage Black	Positive*	Negative*	Positive*
Percent Black Squared	Negative*	Positive	Negative*
Percentage Juvenile Population Black	Positive*	Positive*	NA
Percentage Hispanic	Positive*	Positive*	Negative
Percentage Hispanic Population Squared	Negative*	Negative*	NA
Percentage Juvenile Population Hispanic	Positive*	Negative*	NA
Partisan Politics/Citizen Ideology:			
Republican Legislative Percentage	Positive*	Negative*	Positive*
Republican Governor	Positive*	Positive	Positive
Citizen Ideology	Negative*	Negative**	Negative

Notes: NA means not applicable. * = significant at .05. ** = significant at .10

Regression Results for the Remaining Variables in the Model

Fiscal Health and Alternative Policy Priority. The fiscal health variables were derived from theory that holds that a state's fiscal health is consequential for spending decisions in the various policy areas it is responsible for funding (Stucky et al., 2007; Greenberg & West, 2001). Table 6 shows that Gross State Product is statistically significant, but negatively associated with Juvenile Justice Spending Per Capita. Juvenile Justice Spending Per Capita is expected to decrease less than .1% for each 1% increase in Gross State Product. Although, the magnitude of the coefficient is small, it suggests that states spend proportionately less on juvenile justice as they become wealthier. This result is not consistent with the POSOF finding where there was a strong positive association between gross state product and corrections spending, supporting the spirit of the POSOF perspective that wealthier states were more likely to favor punitive responses to crime (Stucky et al., 2007).

Turning to the analysis of the relationship between Median Income and Juvenile Justice Spending Per Capita, the results showed a significant positive increase of less than .1% in the outcome variable for each 1% increase in Median Income of residents. Similar to findings for Gross State Product, the coefficient estimate showed a weak relationship leading to a minimal percentage change in the outcome variable. However, it is in the positive direction for Median Income, suggesting that as residents' incomes increase, they are likely to favor a more punitive response to juvenile crime.

The relationship between Education Expenditure Per Capita and Juvenile Justice Spending Per Capita was positive and statistically significant. Table 6 shows that a 1% increase in education spending results in a .41% increase in per capita juvenile justice

spending. Unlike POSOF findings, which showed evidence of policy trade-offs between education and corrections spending, there is no such evidence for the relationship between education and juvenile justice spending. This means that legislators in sample states showed no propensity to decrease juvenile justice spending as a trade-off for increased education spending.

Overall, the findings for the Fiscal Health and Alternative Priority variables indicated that states do not tend to allocate a higher level of spending for juvenile justice as they become wealthier. This finding may be attributed to a preference for funding less costly prevention programs for juveniles to enhance social control and competency development; unlike corrections where Republican controlled legislatures, in particular, will tend to increase corrections spending for social control through incarceration. However, as the median income of residents increased, there was evidence of minimal increase in juvenile justice spending, an inconsistent finding given the negative results for gross state product. As expected, per capita education expenditure increased at a greater rate than juvenile justice spending; however, there was no evidence of policy trade-off between the two program areas

Juvenile Crime. Logically, juvenile crime is considered a factor, which may affect spending on juvenile justice programs. Research on corrections spending has shown disparate results for the relationship of crime rate to spending (Jacobs & Carmichael, 2001, p. 65; Stucky et al., 2007, p. 100). Table 6 shows that Index Juvenile Crime Rate was positively related to juvenile justice spending, but statistically insignificant, $p = .589$. The implication is that an increase in the index juvenile crime rate will lead to increased juvenile justice spending; however, the null hypothesis cannot be rejected; therefore, one

cannot definitively conclude that the crime rate is a driving force behind changes in juvenile justice spending. This finding is consistent with POSOF and other research (McGarrell & Duffee, 2007), which found that the perception of crime and its use as a political issue is more important than the reality of crime. These researchers argued that other factors including social conditions, partisan politics, economic and racial factors, and fiscal considerations are important in explaining corrections spending.

Conversely, Juvenile Incarceration Rate was significant and positively related to juvenile justice spending. The implication here is that states increase spending to address increases in the juvenile incarceration rate. While this finding conflicts with POSOF results for imprisonment rate, a reasonable explanation for the difference in state behavior relative to juveniles might be a greater emphasis on preventing overcrowding in juvenile correctional facilities, which could lead to ineffective programming, noncompliance with safety standards for juvenile correctional facilities, lawsuits, and loss of federal aid.

Structural Variables. Sample states that used the centralized or combination model to deliver their juvenile justice services spent approximately 23.10% and 6.70% more, respectively, on juvenile justice per capita compared to states that used the decentralized model (the referent category). The respective differences in expenditures were statistically significant. This means that in decentralized states where there is more local control over delinquency services, such as probation, detention centers, and aftercare services the level of spending devoted to juvenile justice is less than in states where there is a greater state overall responsibility. Similarly, when the state's agency responsible for juvenile justice programs was also the designated agency to administer OJJDP grant

allocations for delinquency prevention, spending for juvenile justice was a statistically significant 8.80% more compared to non-OJJDP grant administration agencies. These findings suggest that organizational structure for juvenile justice administration and methods of service delivery affect how states allocation funds for juvenile justice.

Control Variables. Turning to the demographic control variables included in the analysis, I found that total state population size, percentage of urban population, and total juvenile population, ages 10 – 17, were statistically significant predictors of spending on juvenile justice. The findings showed that as total state population increases spending devoted to juvenile justice increased. Urban population percentage and total juvenile population, ages 10 – 17, were both associated with decreased spending devoted to juvenile justice. For both predictors, the effects were very small, resulting in barely 1% decrease in spending associated with urban population percentage and approximately .10% decrease associated with juvenile population, ages 10 – 17. The percentage of state spending devoted to juvenile justice was unrelated to total state expenditures per capita.

In contrast, Stucky et al. (2007) found that spending on corrections was unrelated to state population size, but a unit increase in total state spending per capita was significantly associated with decreased corrections spending. These findings suggest that states that spend more on their residents devote less of the budget to corrections and punitive outcomes, and perhaps, more on addressing social problems. The same logic is applicable to states in my sample that spend less on juvenile justice as urban and juvenile populations increase, and perhaps, more on social programs to address delinquency prevention.

Finally, geographic differences in juvenile justice spending for sample states are represented in the results for the region binary variables shown in Table 6. The West region is the referent category. Differences in spending on juvenile justice were statistically insignificant between the West and Midwest regions; however, substantively, the data show that Midwest states spent 3.10% more than states in the West. Data for the Northeast and South regions yielded significant results with the Northeast spending 20.40% less and the South spending 25.30% more on average than the West on juvenile justice. Clearly, there are geographic differences in spending on juvenile justice among sample states either statistically or from a substantive perspective. The fact that states in the South region spent substantially more on juvenile justice and had the highest African American populations leads one to question the impact of race and other regional differences on juvenile justice spending. Further analysis of regional differences in juvenile justice spending is beyond the scope of this study; however, I include it in my recommendations for future research.

Summary

Overall regression results showed that 20 of 26 model variables, not including the dependent and lagged dependent variables, showed statistically significant results. However, the results were mixed for predicted and observed relationships for the sample and for comparison of sample results with Stucky et al. (2007) results using the POSOF model. The findings suggest that while federal aid was a statistically significant factor in juvenile justice spending decisions, its fiscal impact was minimal leading to more total juvenile justice spending by states, but a decrease in state own source

spending. As stated previously, this is an important finding because it is indicative of the substitution effect on spending policy in an environment where federal aid is available.

Moreover, it is important for theory building on juvenile justice spending policy that the hypothesized relationships were not confirmed for all social threat, partisan politics, and citizen ideology variable relationships with state own source juvenile justice spending. Recall that the hypothesized relationships were primarily drawn from the literature on corrections spending due to the lack of empirical research on juvenile justice spending policy. Juvenile justice history shows evidence of the influence of similar socioeconomic and political variables as those that influence corrections spending. However, the effect of these variables is different in the two policy areas. The results of this dissertation suggest that the POSOF offers an appropriate model for identification of variable types and categories for examination, but results confirm that legislators respond differently when making decisions about juvenile justice and corrections. This is reassuring and as it should be since juvenile justice and corrections policy focus on different populations with distinctly different needs.

The variables examined in the POSOF model seem appropriate for examination of juvenile justice spending; however, the theoretical basis for inclusion of the social threat, partisan politics, and citizen ideology variables does not hold true in all instances for determinants of juvenile justice spending based on sample data. One explanation for this difference is that the level of state spending devoted to juvenile justice (.53% of total state expenditures per capita on average) was small in comparison to other policy areas. Thus, legislators and other state level administrators who are responsible for juvenile justice spending decisions are obligated to maintain state own source spending with

limited funding trade-offs, since states are primarily responsible for funding juvenile justice with limited federal support.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

There are number of studies on juvenile offenders and victims and juvenile justice reform in the United States. However, there has been limited research on state-level juvenile justice spending. In this dissertation study, I address this gap in the academic literature by examining two research questions: 1) What impact does federal aid have on state spending on juvenile justice programs? and 2) Can specific tenets of the Politics of Social Order Framework (POSOF) be extended to juvenile justice funding? This study is a contribution toward building a body of research in which state spending on juvenile justice is analyzed from a policy perspective across 11 years from 1996 – 2006 for 30 states. Drawing from economic theory on federal aid to states and principles of the POSOF, I present a model to examine the relationships between state spending on juvenile justice and federal aid, economic and racial threats, fiscal concerns, alternative policy priorities, juvenile crime, and partisan politics for the 30 states included in the study.

Conclusions

Juvenile justice in the United States has primarily been the responsibility of states and their localities; however, Congress has had a significant influence in the area through funding for grant programs administered by the Department of Justice, Office of Juvenile Justice and Delinquency Prevention. In the absence of a national, centralized juvenile justice system in the United States, the Juvenile Justice and Delinquency Prevention Act (JJDP Act) of 1974 sets forth national priorities for juvenile justice and delinquency prevention, which exemplify the federal government's influence on the distinct juvenile

justice systems in operation across the states and districts of the nation. Although the federal government plays a limited role in funding juvenile justice programs at the state level of government, states welcome federal support to help develop and implement optimal juvenile justice programs and practices. Considerable variation among and within states affects how state and federal governments fund juvenile justice programs and how services are provided.

This research contributes several important findings to advance our understanding of juvenile justice spending policy decisions. First, my research data show that spending on juvenile justice represents less than one percent (1%) of total state spending per capita for the nation. This small amount suggests that there will be minimal likelihood of policy spending trade-offs in the juvenile justice policy arena beyond substitution of grant funds for state resources, which tends to occur in an environment where federal aid helps to support essential government functions. Variability in state own source funding and federal aid marked by different periods of increase and decline during the period of this study indicate that state legislators respond to factors other than federal aid when making spending decisions. Some of these factors are highlighted in the conclusions below for Research Question 2.

Second, in response to Research Question 1, the data show that the relationship between federal aid and juvenile justice spending is negative, but statistically significant. Although federal aid data are not broken down by grant type in the state budget information available for this study, what is known is that matching and nonmatching block grants are the primary type of federal aid available to state juvenile justice agencies. Moreover, economic theory and empirical literature on these types of grants

hold that substitution is an expected outcome for price inelastic public services, such as juvenile justice.⁴⁴ When demand for a service is price inelastic, matching and nonmatching grants may stimulate increases in total expenditures, but not stimulate increases in state money spent on the service, which accounts for the negative relationship between juvenile justice spending and federal aid. When assessing the results for the regression analysis, one must keep in mind that beyond statistical significance, the size of a finding is informative, as well. In this instance, the coefficient estimate of approximately -.04 indicates that a 1% increase in federal aid has a negligible effect on the percentage change in per capita spending on juvenile justice

Third, in response to Research Question 2, this research contributes some initial considerations for theory building for determinants of state juvenile justice spending. The hypothesized relationships between juvenile justice spending and the social threat, partisan politics, and citizen ideology variables are based on theory and the empirical literature, which supports the applicability of the POSOF model as a guide for analysis of state spending on juvenile justice. However, as shown in Table 8, the findings are mixed. The results for the respective hypothesized relationships between juvenile justice spending and percentage poverty, percentage Black, percentage juvenile population Hispanic, and Republican legislative percentage are statistically significant, but in the opposite direction from the predicted relationship. These results contradict the relevant hypotheses and provide useful information to develop preliminary assumptions about how these factors affect juvenile justice spending. Further, only the results for the association between Republican Governor and juvenile justice spending, positive and

⁴⁴ Juvenile justice is an essential service, which states are responsible for maintaining at basic core levels, although services may vary by state.

statistically insignificant, are the same as Stucky et al. (2007) found using the POSOF model.

From the analysis of the other independent variable categories, one is able to conclude that a state's fiscal health, education expenditures per capita, juvenile justice agency structural characteristics, population and urbanization, and juvenile incarceration rate are significant predictors of juvenile justice spending. On the other hand, the index juvenile crime rate and total state expenditures per capita are statistically insignificant as predictors of juvenile justice spending, indicating that one cannot conclude that either variable has an independent effect on juvenile justice spending.

While some of the results did not support my hypotheses, the results are substantively informative in the sense of forwarding knowledge in the juvenile justice policy area. Although my findings for juvenile justice spending are different from Stucky et al. (2007) research findings for corrections spending, the two basic arguments of the POSOF view still seem to be applicable to the study of juvenile justice: 1) Punishment is inherently an exercise of state power, thus theoretical explanations of spending on criminal punishment must examine the role of the state. Logically, this argument is true for examining spending on punishment of juveniles since states are primarily responsible for juvenile justice. 2) Punishment is driven by two factors: a) the state's responsibility for maintenance of social order and b) partisan politics. The state is responsible for maintaining social order by funding measures that control adults, as well as juvenile offenders. However, as explained in Chapter 6, state officials and legislators response to social threats, partisan politics, citizen ideology, and other key predictors included in my regression model differently for youth than the responses found by Stucky et al. (2007)

for adults. As noted previously, one explanation for these findings is that legislators, in their quest to maintain office through public support, are influenced by a public that is at least as willing to pay for rehabilitation and prevention as for incarceration and harsher punishment as policy responses for juvenile offenders (Nagin et al., 2006). This explanation may have particular salience when applied to the results for the social threat and partisan politics variables. It suggests that the POSOF basic arguments may need to be expanded to capture the complexity of public influence on legislators' decisions about juvenile justice policy.

Finally, one must use caution in using these results to generalize about factors that influence juvenile justice spending policy beyond the sample used in this study. The influence of each of the variables included in this study is channeled through the institutions of individual states, which leave their own impression on the final spending decision. This research is a first step toward creating empirical evidence to assess the statistical and substantive significance of determinants of state spending behavior in the juvenile justice policy arena. Further, this research should be viewed as an initial step toward moving juvenile justice spending to a more prominent place among policy researchers.

Contributions to Literature

As noted in the Introduction, I address two gaps in the POSOF perspective in this dissertation research. First, I consider the influence of federal aid on state spending behavior in the juvenile justice policy arena. This is an important consideration since the federal government uses its resources to influence what states do about juvenile crime. Second, I extend the model to the study of juvenile justice and identify results that

suggest that the variable categories inform ones' understanding of state spending on juvenile justice and how the POSOF theory does or does not apply. Moreover, this dissertation study begins to fill a gap in the empirical literature on the study of determinants of state juvenile justice spending policy. Further, some of the findings represent contradictions to POSOF assumptions that may stimulate future academic research. Finally, this study culminated with the creation of a data set, including state level appropriations and federal aid for juvenile justice for 30 states, including all 13 states in Census Region 4 (western states) for eleven years (1996 – 2006). In addition, eleven years of data are available for all 50 states, the District of Columbia, and the United States for all variables, except missing years of state budget data and federal aid for the states that were not included in the study. A data set of this type did not previously exist.

Limitations

As I explained previously, budget data were not available for all 50 states for the eleven years of the study. I sought to collect as many years of budget data as possible. However, only the 30 states where eleven years of state own source and at least ten years of federal aid budget data were included in the study. Analysis of at least 20 years of data for all 50 states would have allowed for more variation in variables and more cross sections to reduce the influence of any given cross section and improve generalizability of findings.

From the perspective of using POSOF as a model for this dissertation, the study was limited due to the use of different data collection periods. Stucky et al. (2007) analyzed corrections spending for 1980 – 1998. During this period, imprisonment rates more than

tripled and corrections spending nearly doubled (Stucky et al., 2007). The data collection period for this dissertation was 1996 -2006. This was a period of overall sharp decline in the juvenile justice index crime rate; while juvenile justice spending showed an overall modest increase (Snyder & Sickmund, 2006). The different time periods were characterized by different political and social events in the country (i.e., terrorist attack of September 11, 2001), which likely influenced spending decisions. Investigation of these dynamics was beyond the scope of this dissertation study.

Recommendations for Future Research

Findings from this dissertation study suggest several directions for future research. First, future research on determinants of juvenile justice spending that is based on the assumptions in this dissertation study, but increases the time points and units, will be useful to confirm results present here. Second, future studies using different combinations of the independent variables included in this study or different variables that have been used in related studies on state spending behavior that employ other appropriate analytical models would also expand the baseline of knowledge generated by this study. Third, survey research to gather information from legislators in a cross-section of states about factors that influence their decisions on juvenile justice spending policy would contribute to theory building and filling the gap in empirical knowledge on the determinants of state juvenile justice spending policy.

A number of additional research topics would also expand upon research opportunities created by this dissertation. They include: investigation of the extent to which states engage in substitution of federal aid for state own source spending on juvenile justice; analysis of periods of stability, increase, and decline in federal aid to

juvenile justice to identify factors that may have contributed to changes; comparison of descriptive statistics relative to the 30 states included in the study to those of the 20 states that were not included; analysis of the structural organization of juvenile justice agencies in the states and regional differences in spending patterns for juvenile justice; and examination of the influence of interest groups on Congressional and state level juvenile justice spending decisions. Pursuing these research avenues would contribute to the literature by directing more attention to factors that matter in state juvenile justice spending decisions. Furthermore, it would illuminate a dynamic policy area with state and national significance in the important and challenging work of providing services for our nation's youth involved in the juvenile justice system.

EXHIBIT 1

JUVENILE JUSTICE AND DELINQUENCY PREVENTION ACT (JJDP) – CORE MANDATES

(Nunez-Neto, 2007a, p. 12; Snyder & Sickmund, 2006, p. 97)

The original JJDP of 1974 included two core requirements, or mandates, that states had to adhere to in order to receive formula grant funding. Subsequent revisions to the JJDP expanded the list of core mandates to the four that exist today. Failure to adhere to these requirements will result in a 20% reduction of funding for each of the four mandates with which the state is not in compliance. Additionally, the state will be ineligible for future funding unless: the state agrees to spend 50% of the allocated funding to achieving compliance with whichever mandate it is noncompliant with; the Administrator of OJJDP determines that the state has achieved “substantial compliance”; or the state has demonstrated an “unequivocal commitment to achieving full compliance with such applicable requirements within a reasonable time.” Following are the four core mandates as they are codified today:

- Deinstitutionalization of Status Offenders and Non-offenders (DSO) (1974) - Juveniles who are charged with or who have committed an offense that would not be a crime if committed by an adult, and juveniles who are not charged with any offenses, are not to be placed in secure detention or secure correctional facilities.
- Sight and Sound Separation (1974) - Juveniles are not to be detained or confined in any institution in which they would have contact with adult inmates. Correctional staff that work with both adult and juvenile offenders must have been trained and certified to work with juveniles.

JUVENILE JUSTICE AND DELINQUENCY PREVENTION ACT (JJDPa) – CORE
MANDATES

- Jail and Lockup Removal (1980) - Juveniles are not to be detained or confined in any jail or lockup for adults, except for juveniles who are accused of nonstatus offenses. These juveniles may be detained for no longer than six hours as they are processed, waiting to be released, awaiting transfer to a juvenile facility, or awaiting their court appearance. Additionally, juveniles in rural locations may be held for up to 48 hours in jails or lockups for adults as they await their initial court appearance. Juveniles held in adult jails or lockups in both rural and urban areas are not to have contact with adult inmates, and any staff working with both adults and juveniles must have been trained and certified to work with juveniles.
- Disproportionate minority confinement (DMC) (1988) - States are required to show that they are implementing juvenile delinquency prevention programs designed to reduce, without establishing or requiring numerical standards or quotas, the disproportionate number of minorities confined within their juvenile justice systems. The 2002 reauthorization of the JJDPa broadened the DMC concept to encompass all stages of the juvenile justice process; thus, DMC has come to mean disproportionate minority contact.

EXHIBIT 2

JUVENILE JUSTICE AND DELINQUENCY PREVENTION ACT (JJDP A) GRANT PROGRAMS ADMINISTERED BY THE OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION 1996 – 2006

Key Components	Program Description
Program Name:	State Formula Grants ^a
Program Number:	16.540 Juvenile Justice and Delinquency Prevention Allocation to States
Objectives:	To increase the capacity of state and local governments to support the development of more effective education, training, research, prevention, diversion, treatment, accountability based sanctions, and rehabilitation programs in the area of juvenile delinquency and programs to improve the juvenile justice system. Supports state efforts to comply with the core mandates of the JJDP A.
Type of Assistance:	Formula Grants; Project Grants
Match Requirement:	Dollar for dollar match on the 10% of funds that are allowable for planning and administration.
Program Name:	Juvenile Justice and Delinquency Prevention Special Emphasis
Program Number:	16.541
Objectives:	To develop programs, effective approaches, and techniques, such as community-based alternatives to institutional confinement, diversion programs, intervention efforts to strengthen and maintain the family unit, programs to prevent hate crimes, and programs to prevent youth gun and gang involvement.
Type of Assistance:	Project Grants
Match Requirement:	None

EXHIBIT 2 – (continued) – page 2 of 3

JUVENILE JUSTICE AND DELINQUENCY PREVENTION ACT (JJDPA) GRANT PROGRAMS
ADMINISTERED BY THE OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION
1996 - 2006

Key Components	Program Description
Program Name:	Title V – Incentive Grants for Local Delinquency Prevention Programs
Program Number:	16.548
Objectives:	To increase the capacity of State and local governments to support the development of more effective prevention programs to improve the juvenile justice system through risk and protective factor focused programming approaches.
Type of Assistance:	Formula Grants
Match Requirement:	50% Cash or In-Kind Match
Program Name:	Challenge Grants ^b
Program Number:	16.549 Part E – State Challenge Activities
Objectives:	To provide incentives for States participating in the Formula Grants Program to develop, adopt, and approve policies and programs in one or more of ten specified challenge activities to improve the State's juvenile justice system.
Type of Assistance:	Formula Grants
Match Requirement:	None

EXHIBIT 2 – (continued) – page 3 of 3

JUVENILE JUSTICE AND DELINQUENCY PREVENTION ACT (JJDPa) GRANT PROGRAMS
ADMINISTERED BY THE OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION
1996 – 2006

Key Components	Program Description
Program Name:	Juvenile Accountability Block Grants (JABG) ^c
Program Number:	16.523
Objectives:	To provide States and units of local government with funds to develop programs to strengthen and promote greater accountability in the juvenile justice system and a system of graduated sanctions to hold juvenile offenders accountable; to provide funding for construction and operation of juvenile correction or detention facilities; and to provide funds for hiring and training juvenile court personnel, including judges, probation officers, and prosecutors.
Type of Assistance:	Formula Grants; Project Grants
Match Requirement:	10% Cash Match of total program costs.
Program Name:	Enforcing Underage Drinking Laws Program
Program Number:	16.727
Objectives:	To support and enhance states' and local jurisdictions' efforts to prohibit the sale of alcoholic beverages to minors and the purchase and consumption of alcoholic beverages by minors.
Type of Assistance:	Project Grants; Block and Discretionary Grant Awards
Match Requirement:	None

Note: Sources - The Catalog of Federal Domestic Assistance. Retrieved from <http://www.cfda.gov> and U. S. Census Bureau, Governments Division, Consolidated Federal Funds Report Retrieved from <http://harvester.census.gov/cffr> ^aThe State Formula Grant program was authorized by the original JJDPa in 1974. ^b This program is no longer funded as of 2007. ^c The JABG program signified the federal government's movement away from an emphasis on rehabilitating juveniles toward the idea that juveniles need to be punished for their crimes.

EXHIBIT 3

DEFINITIONS OF GRANT TYPES AND CONTROL MECHANISMS

Grant Type	Definition
General Purpose Grants	Unrestricted grants that provide pure income transfers from the federal government to recipients that do not place conditions on use of the funds or require matching contributions.
Categorical or Specific Grants	Fund narrow purpose activities with specific objectives and tend to be the most restricted.
Block Grants	Authorize funds to be used for a wide range of activities within a broadly defined functional area, such as juvenile justice, education, or social services. Use of funds is restricted or conditional.
Control Mechanism	Definition
Matching Requirement	Provisions that require states to share a designated percentage of the cost of providing the aided service with the federal government.
Nonmatching Grants	Provide funds to recipients without any requirements for state cost sharing.
Maintenance-of-Effort	Provisions that require states to continue a designated spending level from their own revenue sources in order to receive federal aid. Limits the ability of a state to substitute federal funds for their own funds.
Closed-Ended Grants	Amount of federal aid available for the aided service is limited to a fixed amount. State spending beyond the amount needed for the federal match is without federal incentive.
Open-Ended Grants	Federal share of program spending is unlimited. Generally applies to a few large entitlement programs, such as Medicaid, in which the federal government matches state spending on services. Federal government cannot control or predict state spending on these programs, thus it has limited control over the amount of spending for the grant programs that have an open-ended grant design feature.

EXHIBIT 4

STATES (30) INCLUDED IN MODEL SPECIFICATION SORTED BY REGION

Region	Northeast	Midwest	South	West
States	Maine New Jersey Pennsylvania	Kansas Missouri Nebraska South Dakota	Alabama Arkansas Florida Georgia Kentucky Maryland Oklahoma South Carolina Texas Virginia	Alaska Arizona California Colorado Hawaii Idaho Montana Nevada New Mexico Oregon Utah Washington Wyoming

Note: Region labels and states are United States Census Bureau designations.

EXHIBIT 5

BIVARIATE CORRELATION MATRIX SAMPLE MODEL

Variables	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15
JJ Spend (X1)	1.000														
Lag JJ Spend (X2)	.853*	1.000													
Fed Aid (X3)	.322*	.297*	1.000												
Poverty (X4)	-.094	-.065	-.214*	1.000											
Percent Black (X5)	-.163*	-.149*	-.178*	.083	1.000										
Percent Black Sq (X6)	-.073	-.084	-.176*	.086	.919*	1.000									
Percent Hisp (X7)	-.030	-.023	-.254*	.060	.043	-.158*	1.000								
Percent Hisp Sq (X8)	-.121*	-.103	-.358*	.195*	-.013	-.201*	.951*	1.000							
Juv Pop Black (X9)	-.171*	-.154*	-.176*	.087	.997*	.916*	.025	-.028	1.000						
Juv Pop Hisp (X10)	-.076	-.061	-.256*	.057	-.013	-.220*	.995*	.951*	-.028	1.000					
GSP (X11)	.060	.059	.092	-.543*	.185*	.023	.382*	.284*	.180*	.364*	1.000				
Edu Expend (X12)	.227*	.192*	.125*	-.444*	.054	.045	-.004	-.054	.048	-.018	.627*	1.000			
Crime Rate (X13)	.029	.003	-.001	-.180*	-.389*	-.380*	.047	.051	-.414*	.069	-.114*	-.059	1.000		
Rep Leg (X14)	.316*	.277*	.123*	-.237*	-.499*	-.422*	.056	.003	-.503*	.058	.108	.089	.156*	1.000	
Rep Gov Dum (X15)	.032	.008	-.085	.174*	-.077	-.013	.155*	.144*	-.092	.151*	-.149*	-.192*	-.023	.179*	1.000
Ideology (X16)	-.409*	-.358*	-.149*	-.231*	.104	.069	.084	.136*	.121*	.111	.203*	.133*	-.033	-.470*	-.234*
Total Pop (X17)	-.400*	-.344*	-.609*	.126*	.655*	.546*	.344*	.357*	.653*	.322*	.111	-.069	-.220*	-.284*	-.048
Urban Pop (X18)	-.224*	-.193*	-.244*	-.345*	.209*	-.014	.785*	.676*	.183*	.778*	.493*	.051	.185*	-.063	.011
Juv Pop (X19)	-.371*	-.328*	-.699*	.169*	.337*	.248*	.426*	.486*	.326*	.418*	.216*	.105	-.148*	-.157*	.037
Total Expend (X20)	.308*	.259*	.212*	-.215*	-.210*	-.284*	-.015	-.061	-.216*	-.018	.438*	.676*	.060	.021	-.224*
Median Inc (X21)	.048	.024	-.003	-.771*	.183*	.086	.268*	.150*	.166*	.247*	.737*	.510*	.126*	.024	-.195*
Incarceration (X22)	.259*	.235*	-.040	.159*	-.162*	-.152*	.056	.078	-.166*	.047	.083	-.023	.001	.510*	.161*
Juv Sys 1 Dum (X23)	.305*	.238*	.110	.102	.074	.112	-.264*	-.142*	.074	-.298*	-.047	.252*	.107	-.178*	-.193*
Juv Sys 3 Dum (X24)	.057	.076	.245*	-.210*	-.140*	-.041	-.180*	-.268*	-.149*	-.184*	.061	.097	-.113*	.129*	.070
JJ Grant Dum (X25)	.241*	.208*	.450*	.029	-.300*	-.348*	-.097	-.063	-.293*	-.079	.029	.208*	.046	.122*	.003
Region 1 Dum (X26)	-.301*	-.281*	-.144*	-.303*	-.018	.008	-.207*	-.137*	.005	-.177*	.076	.439*	-.066	-.016	-.117*
Region 2 Dum (X27)	-.158*	-.096	.246*	-.076	-.087	-.093	-.276*	-.244*	-.085	-.263*	-.057	-.134*	-.130*	.236*	-.005
Region 3 Dum (X28)	.153*	.131*	-.051	.375*	.683*	.770*	-.247*	-.258*	.678*	-.303*	-.236*	-.153*	-.348*	-.419*	.059

EXHIBIT 5 – (continued) – Page 2 of 2

BIVARIATE CORRELATION MATRIX GENERAL MODEL

Variables	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28
Ideology (X16)	1.000												
Total Pop (X17)	.212*	1.000											
Urban Pop (X18)	.306*	.469*	1.000										
Juv Pop (X19)	.156*	.807*	.415*	1.000									
Total Expend (X20)	.063	-.423*	-.044	-.153*	1.000								
Median Inc (X21)	.320*	.167*	.629*	.148*	.323*	1.000							
Incarceration (X22)	-.419*	-.103	-.190*	.123*	.005	-.244*	1.000						
Juv Sys 1 Dum (X23)	.074	-.210*	-.322*	-.206*	.416*	.014	-.124*	1.000					
Juv Sys 3 Dum (X24)	-.052	-.215*	-.008	-.187*	-.062	.088	-.111	-.397*	1.000				
JJ Grant Dum (X25)	-.250*	-.487*	-.336*	-.376*	.269*	-.178*	.069	.219*	-.085	1.000			
Region 1 Dum (X26)	.387*	.145*	-.055	.062	.078	.144*	-.275*	.097	-.020	.145*	1.000		
Region 2 Dum (X27)	-.055	-.136*	-.209*	-.115*	-.238*	-.113*	.212*	-.172*	.270*	.105	-.114*	1.000	
Region 3 Dum (X28)	-.196*	.341*	-.268*	.115*	-.315*	-.232*	-.094	.198*	-.035	-.172*	-.243*	-.226*	1.000

Note: Variable names are shortened to save space in the columns. Listwise Observations = 302. Correlations are rounded to three decimal places. * Correlation is significant at the 0.05 level (2-tailed).

EXHIBIT 6

CORRELATION COEFFICIENT RANGE OF VALUES (Levin & Fox, 2004, p. 216)

-1.00	=	perfect negative correlation
-.60	=	strong negative correlation
-.30	=	moderate negative correlation
-.10	=	weak negative correlation
.00	=	no correlation
+.10	=	weak positive correlation
+.30	=	moderate positive correlation
+.60	=	strong positive correlation
+1.00	=	perfect positive correlation

EXHIBIT 7

VARIABLES AND DATA SOURCES

Variable	Data Source
Juvenile Justice Spending Federal Aid	<p>I collected individual state budget documents via internet access and/or direct contact with state agency representatives. See Exhibit 9 – Directory of State Agencies and Exhibit 10 – State Legislatures: Fiscal/Budget Websites.</p> <p>Data adjusted to 2005 dollars using U. S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 3.9.4. Retrieved from www.bea.gov</p>
Percentage Poverty	U. S. Census Bureau, Small Area Income and Poverty Estimates, State and County Interactive Tables. Retrieved from http://www.census.gov/did/www/saipe/county.html
Percentage Total Population Black Percentage Black Squared Percentage Total Population Hispanic Percentage Hispanic Squared Juvenile Population ages 10 - 17 Percentage Juvenile Population Black Percentage Juvenile Population Hispanic	<p>Office of Juvenile Justice and Delinquency Prevention OJJDP Statistical Briefing Book Online.</p> <p>Puzzanchera, C., Sladky, A. & Kang, W. (2008). Easy Access to Juvenile Populations: 1990-2007. Retrieved from http://www.ojjdp.gov/ojstatbb/ezapop/</p> <p>I computed squared percentages.</p>

EXHIBIT 7 – (continued) – page 2 of 4

VARIABLES AND DATA SOURCES

Variable	Data Source
Gross State Product	U. S. Census Bureau, Bureau of Economic Analysis Survey of Current Business, July 2006 and June 2009. Table 652: Gross State Product in Current and Real (2000) Dollars by State: 1977 to 2005 Retrieved from http://www.census.gov/compendia/statab/2007/tables/07s0652.xls Table 655: Gross Domestic Product by State in Current and Chained (2000) Dollars by State. Retrieved from http://www.census.gov/compendia/statab/2010/tables/10s0655.xls Data adjusted to 2005 dollars using U. S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 1.1.9. Retrieved from www.bea.gov
Median Income	U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. Table H-8. Median Household Income by State: 1984 to 2009. Retrieved from http://www.census.gov/hhes/www/income/data/historical/household/H08_2009.xls Data adjusted to 2005 dollars using Bureau of Labor Statistics, Consumer Price Index, CPI-U-RS, March 2010. Retrieved from http://www.bls.gov/cpi/ http://www.bls.gov/cpi/cpiurs.htm
Education Expenditures	U. S. Census Bureau, Public School Finance Data Retrieved from http://www.census.gov/govs/school/ Data adjusted to 2005 dollars using U. S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 3.9.4. Retrieved from www.bea.gov
Juvenile Crime Rate	Office of Juvenile Justice and Delinquency Prevention OJJDP Statistical Briefing Book Online. Puzzanchera, C., Adams, B., and Kang, W. (2008). Easy Access to FBI Arrest Statistics 1994-2006 Online. Retrieved from http://ojjdp.ncjrs.gov/ojstabb/ezaucr

VARIABLES AND DATA SOURCES

Variable	Data Source
Republican Legislative Percentage Governor's Party	Data provided by: Tim Storey, Senior Fellow, National Conference of State Legislatures, 7700 East 1 st Place, Denver, CO 80230. Supplemental Sources: 1) U. S. Census Bureau, The 2010 Statistical Abstract, Elections. Retrieved from http://www.census.gov/compendia/statab/past_years.html
Citizen Ideology	Interuniversity Consortium for Political and Social Research Study 1208: Measuring Citizen and Government Ideology in the United States. Principal Investigators: William D. Berry, Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson.
Juvenile System Type (1 – 3)	National Center for Juvenile Justice, State Profiles. Retrieved from http://70.89.227.250:8080/stateprofiles/overviews/faq1.asp
OJJDP Grant Administration	Office of Juvenile Justice and Delinquency, State Contacts http://www.ojjdp.gov/statecontacts/ResourceListDetails.asp
State Population Urban Population	U. S. Census Bureau, Population Division 1) Table CO-EST2001-12-00 – Time Series of Intercensal State Population Estimates: April 1, 1990 to April 1, 2000. Retrieved from http://www.census.gov/popest/archives/2000s/vintage_2001/CO-EST2001-12/CO-EST2001-12-00.xls 2) Table 1. Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2009 (NST-EST2009-01). Retrieved from http://www.census.gov/popest/states/tables/NST-EST2009-01.xls 3) 2000 Census of Population and Housing, Population and Housing Unit Counts PHC-3. Table 29. Urban and Rural Population by State: 1990 and 2000. Retrieved from http://www.census.gov/prod/cen2000/index.html http://www.census.gov/compendia/statab/2010/tables/10s0029.xls I used interpolation and extrapolation to compute percent urban and rural for intercensal years.

EXHIBIT 7 – (continued) – page 4 of 4

VARIABLES AND DATA SOURCES

Variable	Data Source
Total State Expenditures	U. S. Census Bureau, State Government Finances, Historical Data Retrieved from http://www.census.gov/govs/state/historical_data.html Data adjusted to 2005 dollars using U. S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 3.9.4. Retrieved from www.bea.gov
Juvenile Incarceration Rate	Office of Juvenile Justice and Delinquency Prevention OJJDP Statistical Briefing Book Online. Census of Juveniles in Residential Placement Databook Retrieved from http://ojjdp.ncjrs.org/ojstatbb/corrections/qa08601.asp?qaDate=1997
Region (1 – 4)	U. S. Census Bureau. Retrieved from http://www.census.gov/geo/www/us_regdiv.pdf

Note: Table 3 includes a description of all model variables, including names, descriptions, and operational definitions.

EXHIBIT 8

DATA SOURCES FOR STATE JUVENILE JUSTICE INFORMATION

American Correctional Association

Alice Heiserman
Manager of Publications and Research
American Correctional Association
206 N. Washington St.
Alexandria, VA 22314
(800) 222-5646 ext. 0194 or (703) 224-0194
Fax (703) 224-0179

Wayne Madison
Editor, Directories and Research
206 N. Washington, Suite 200
Alexandria, VA 22314
(703) 224-0192
(703) 224-0179 fax
1-800-222-5646, ext. 0192 toll free
WayneM@aca.org

Coalition for Juvenile Justice

Tara Andrews, Esq., Deputy Executive Director
Coalition for Juvenile Justice
202-467-0864, Ext. 109
andrews@juvjustice.org

Council of Juvenile Correctional Administrators

Kim Godfrey, Deputy Director
Council of Juvenile Correctional Administrators
170 Forbes Road, Suite 106
Braintree, Ma. 02184
781.843.2663
Kim Godfrey [kim.godfrey@cjca.net]

Council of State Governments

Amy Vandervort-Clark
Public Safety & Justice Policy Analyst
The Council of State Governments
2760 Research Park Drive
Lexington, Ky. 40578
Phone: 859-244-8013
Fax: 859-244-8001
avandervort-clark@csg.org
<http://www.csg.org/>

DATA SOURCES FOR STATE JUVENILE JUSTICE INFORMATION

Library of Congress

Elizabeth Jenkins-Joffe

Reference Librarian, Main Reading Room

Humanities and Social Sciences Division

Library of Congress

Phone: 202-707-1658

ejof@loc.gov

hssref@loc.gov

<http://www.loc.gov/index.html>

<http://www.loc.gov/rr/askalib/ask-law.html>

National Association of State Budget Officers

444 N. Capitol Street NW, Ste. 642

Washington, DC 20001

Phone: 202-624-5382

<http://www.nasbo.org/Home/tabid/38/Default.aspx>

Benjamin Husch, Staff Associate

Phone: 202-624-5949

bhusch@nasbo.org

National Center for Juvenile Justice

Gregg Halemba

Director of Applied Research

National Center for Juvenile Justice

3700 S. Water Street, Suite 200

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Chaz Puzzanchera

Senior Research Associate

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3700 South Water Street, Suite 200

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National Conference of State Legislatures

Tim Storey, Senior Fellow

National Conference of State Legislatures

7700 East 1st Place

Denver, CO 80230

tim.storey@ncsl.org

<http://www.ncsl.org/>

DATA SOURCES FOR STATE JUVENILE JUSTICE INFORMATION

National Criminal Justice Reference Service
National Criminal Justice Reference Service
<http://www.ncjrs.gov>

Nevada Legislative Counsel Bureau
Jennifer M. Chisel
Senior Research Analyst
Nevada Legislative Counsel Bureau
401 S. Carson Street
Carson City, NV 89701-4747
Phone: 775-864-6825; Fax: 775-684-6400
jchisel@lcb.state.nv.us

Sherie Silva, Office Manager
Nevada Legislative Counsel Bureau
<http://www.leg.state.nv.us/lcb/fiscal/FISBU210/>

Nevada State Library
C. Mitch Ison, Librarian II
Nevada State Library
100 N. Stewart St.
Carson City, NV 89701
(775) 684-3348
mison@nevadaculture.org

United States Census Bureau
<http://www.census.gov/>
<http://www.census.gov/compendia/statab/>

Lisa Mataloni, Economist
Bureau of Economic Analysis
Phone: 202-606-5304
GDPNIWD@bea.gov

KaNin Reese
Small Area Estimates Branch
U.S. Census Bureau
Phone: 301-763-3193
kanin.l.reese@census.gov
did.saipe@census.gov

United States Department of Justice
Office of Juvenile Justice and Delinquency Prevention
Statistical Briefing Book (Easy Access Data)
<http://www.ojjdp.gov/ojstatbb/default.asp>

DATA SOURCES FOR STATE JUVENILE JUSTICE INFORMATION

United States Department of Justice

Dorothy Lee
Office of Justice Programs
Office of the General Counsel
810 7th St., N.W.
Washington, D.C. 20531
Phone: 202-616-3267
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4505 Maryland Parkway
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Phone: 702-895-0233
Office: Greenspun Hall (GUA) – Room 5122
Timothy.Hart@unlv.edu

EXHIBIT 9

DIRECTORY OF STATE JUVENILE JUSTICE AGENCIES

<p>Alabama Department of Youth Services PO Box 66, I 85 Service Rd. Mt. Meigs, AL 36057 Phone: 334-215-3801 / Fax: 334-215-1453 www.dys.alabama.gov</p>	<p>Alaska Department of Health and Social Services Division of Juvenile Services PO Box 110635; 240 Main Street, Suite 700 Juneau, AK 99811 Phone: 907-465-2212 / Fax: 907-465-2333 www.hss.state.ak.us/djj</p>
<p>Arizona Department of Juvenile Corrections 1624 W Adams Phoenix, AZ 85007 Phone: 602-542-4302 / Fax: 602-542-5156 www.juvenile.state.az.us</p>	<p>Arkansas Department of Health and Human Services Division of Youth Services Donaghey Plaza S, 700 Main Street, Slot S501 Little Rock, AR 72203 Phone: 501-682-8755 / Fax: 501-682-1351 www.state.ar.us/dhs/dys</p>
<p>California Department of Corrections and Rehabilitation Division of Juvenile Justice 4241 Williamsborough Drive, Suite 201 Sacramento, CA 95823-2088 Phone: 916-262-1470 / Fax: 916-262-1767 http://www.cdcr.ca.gov/Divisions_Boards/DJJ</p>	<p>Colorado Department of Human Services Division of Youth Corrections 4255 S Knox Ct Denver, CO 80236 Phone: 303-866-7341 / 303-866-7344 www.cdhs.state.co.us/dyc</p>
<p>Connecticut Department of Children and Families Bureau of Juvenile Services 505 Hudson St Hartford, CT 06106 Phone: 860-550-6300 / Fax: 860-566-7947 www.state.ct.us/dcf/</p>	<p>Delaware Department of Services for Children, Youth, and Their Families Division of Youth Rehabilitative Services 1825 Faulkland Rd Wilmington, DE 19805 Phone: 302-633-2620 / Fax: 302-633-2636 www.state.de.us/kids/</p>
<p>District of Columbia Department of Youth Rehabilitation Services 1000 Mt. Oliver Rd, NE Washington, DC 20002 Phone: 202-576-8175 / Fax: 202-576-8457 www.dyrs.dc.gov</p>	<p>Florida Department of Juvenile Justice 2737 Centerview Dr., Knight Bldg Tallahassee, FL 32399 Phone: 850-413-7313 / Fax: 850-922-2992 www.djj.state.fl.us</p>
<p>Georgia Department of Juvenile Justice 3408 Covington Hwy Decatur, GA 30032 Phone: 404-508-6500 / Fax: 404-508-7340 www.djj.state.ga.us</p>	<p>Hawaii Department of Human Services Office of Youth Services 820 Mililani Street, Suite 817 Honolulu, HI 96813 Phone: 808-587-5706 / Fax: 808-587-5734 www.hawaii.gov/dhs/youth/oys</p>
<p>Idaho Department of Juvenile Corrections PO Box 83720, 400 N 10th, 2nd Floor Boise, ID 83720 Phone: 208-334-5100 / Fax: 208-334-5120 www.idjc.idaho.gov</p>	<p>Illinois Department of Juvenile Justice PO Box 19277, 1301 Concordia Ct Springfield, IL 62794 Phone: 217-522-266 / Fax: 217-522-9583 www.idoc.state.il.us</p>

DIRECTORY OF STATE JUVENILE JUSTICE AGENCIES

<p>Indiana Indiana Department of Corrections Division of Youth Services 302 W. Washington Street, Room E334 Indianapolis, IN 46204 Phone: 317- 2232-5711; 317-233-2286 / Fax: 217-232-6798 www.in.gov/indcorrection http://www.in.gov/indoc/dys/2335.htm</p>	<p>Iowa Department of Human Services Hoover State Office Building 1305 E. Walnut Street Des Moines, Iowa 50319 Phone: 515-281-5452 / Fax: 515-281-4980 www.dhs.state.ia.us</p>
<p>Kansas Kansas Juvenile Justice Authority Jayhawk Walk, 714 SW Jackson, Suite 300 Topeka, KS 66603 Phone: 785-296-4213 / Fax: 785-296-1412 http://jja.state.ks.us</p>	<p>Kentucky Department of Juvenile Justice 1025 Capital Center Dr, 3rd Floor Frankfort, KY 40601 Phone: 502-573-2738 / Fax: 502-573-4308 http://djj.ky.gov</p>
<p>Louisiana Office of Youth Development PO Box 66458, Audubon Station Baton Rouge, LA 70896 Phone: 225-287-7900 / Fax: 225-287-7969 www.oyd.louisiana.gov</p>	<p>Maine Department of Corrections Division of Juvenile Services State House Station 111, 25 Tyson Dr August, ME 04333 Phone: 207-287-4362 / Fax: 207-287-4370 www.state.me.us/corrections/JuvServices.htm</p>
<p>Maryland Department of Juvenile Services One Center Plaza, 120 W Fayette Street Baltimore, MD 21201 Phone: 410-230-3101 / Fax: 410-333-4199 www.djs.state.md.us</p>	<p>Massachusetts Department of Youth Services 27 Wormwood Street, Ft. Point Pl, Ste 400 Boston, MA 02210 Phone: 617-960-3304 / Fax: 617-727-0696 www.mass.gov/dys</p>
<p>Michigan Department of Human Services Bureau of Juvenile Justice PO Box 30037, 235 S Grand Ave, Ste 401 Lansing, MI 48909 Phone: 571-335-3489 / Fax: 571-241-5632 www.michigan.gov/dhs</p>	<p>Minnesota Department of Corrections (Adult/Juvenile) 1450 Energy Park Drive, Suite 200 St. Paul, MN 55108-5219 Phone: 651-642-0200 / Fax: 651-642-0414 www.doc.state.mn.us</p>
<p>Mississippi Department of Human Services Division of Youth Services PO Box 352, Jackson, MS 39202 750 N State ST, Jackson, MS 39205 Phone: 601-359-4972 / Fax: 601-359-4970 www.mdhs.state.ms.us/dys.html</p>	<p>Missouri Department of Social Services Division of Youth Services PO Box 447, 221 W High St Jefferson City, MO 65102 Phone: 573-751-3324 / Fax: 573-526-4494 www.dss.mo.gov.dys</p>
<p>Montana Department of Corrections, Youth Services Division Steve Gibson, Director PO Box 201301, 1539 11th Ave Helena, MT 59620 Phone: 406-444-0851 / Fax: 406-444-0522 http://www.cor.mt.gov/YouthServices/default.mcp</p>	<p>Nebraska Health and Human Services Agency Protection and Safety Division PO Box 95044, 301 Centennial Mall S Lincoln, NE 68509 Phone: 402-471-9625 / Fax: 402-471-9620 http://www.hhs.state.ne.us/jus/jusindex.htm</p>

DIRECTORY OF STATE JUVENILE JUSTICE AGENCIES

<p>Nevada Depart. of Health & Human Services, Division of Child and Family Services, Juvenile Justice Services 4126 Technology Way, 3rd Fl Carson City, NV 89706 Phone: 775-684-4400 / Fax: 775-684-4455 http://www.dcf.state.nv.us/DCFS_JuvenileJusticeSvcs.htm</p>	<p>New Hampshire Department of Health and Human Services Division for Juvenile Justice Services 1056 N River Rd Manchester, NH 03104 Phone: 603-625-5471 / Fax: 603-669-1203 www.dhhs.state.nh.us</p>
<p>New Jersey Department of Law and Public Safety Juvenile Justice Commission PO Box 107, 1001 Spruce St, Ste 202 Trenton, NJ 08625 Phone: 609-292-1444 / Fax: 609-943-4611 www.njjc.com</p>	<p>New Mexico Children, Youth, and Families Department Juvenile Justice Services PO Box Drawer 5160, 1120 Paseo De Peralta Santa Fe, NM 87502 Phone: 505-827-7629 / Fax: 505-827-8408 www.state.nm.us/cyfd/index.htm</p>
<p>New York Office of Children and Family Services Division of Rehabilitative Services 52 Washington St Rensselaer, NY 12144 Phone: 518-473-8437 / Fax: 518-486-7550 www.ocfs.state.ny.us</p>	<p>North Carolina Department of Juvenile Justice and Delinquency Prevention 1801 Mail Service Center, 410 S Salisbury St Raleigh, NC 27699 Phone: 919-733-3388 / Fax: 919-733-6809 www.ncdjdp.org</p>
<p>North Dakota Department of Corrections and Rehabilitation Division of Juvenile Services 3100 Railroad Ave PO Box 1898 Bismarck, ND 58502-1898 Phone: 701-328-6362 / Fax: 701-628-6651 http://www.nd.gov/docr/juvenile/</p>	<p>Ohio Department of Youth Services 51 N High St Columbus, OH 43215 Phone: 614-466-8783 / Fax: 614-387-2606 www.dys.ohio.gov</p>
<p>Oklahoma Office of Juvenile Affairs PO Box 268812, 3812 N Santa Fe, Ste 400 Oklahoma City, OK 73126 Phone: 405-530-2806 / Fax: 405-530-2890 http://www.ok.gov/oja/</p>	<p>Oregon Oregon Youth Authority 530 Center St NE, Ste 200 Salem, OR 97301 Phone: 503-373-7212 / Fax: 503-373-7622 www.oregon.gov/OYA</p>
<p>Pennsylvania Office of children, Youth, and Families Bureau of Juvenile Justice Services PO Box 2675, 1401 N 7th St, 4th Fl Harrisburg, PA 17105 Phone: 717-787-9532 / Fax: 717-787-7753 http://www.dpw.state.pa.us/About/OCYF/003676770.htm</p>	<p>Rhode Island Department of Children, Youth, and Families Division of Juvenile Correctional Services 300 New London Ave Cranston, RI 02920 Phone: 401-462-7240 / Fax: 401-462-7239 www.dcyf.state.ri.us</p>
<p>South Carolina Department of Juvenile Justice PO Box 21069, Columbia, SC 29221 4900 Broad River Rd, Columbia, SC 29212 Phone: 803-896-9749 / Fax: 803-896-9767 www.state.sc.us/djj</p>	<p>South Dakota Department of Corrections, Juvenile Services 1600 Sedivy Ln Rapid City, SD 57703 Phone: 605-773-3478 / Fax: 605-773-3194 http://doc.sd.gov/juvenile/</p>

DIRECTORY OF STATE JUVENILE JUSTICE AGENCIES

<p>Tennessee Department of Children's Services Division of Juvenile Justice 436 6th Ave N Nashville, TN 37243 Phone: 615-741-9701 / Fax: 615-532-8079 www.state.tn.us/youth</p>	<p>Texas Texas Youth Commission PO Box 4260, 4900 N Lamar Blvd Austin, TX 78765 Phone: 512-424-6001 / Fax: 512-424-6099 www.tyc.state.tx.us</p>
<p>Utah Department of Human Services Division of Juvenile Justice Services 195 North 1950 West Salt Lake City, UT 84116 Phone: 801-538-4330 / Fax: 801-538-4334 www.jjs.utah.gov</p>	<p>Vermont Department of Children and Families Family Services Division 103 S Main St, Osgood Bldg, 3rd Fl Waterbury, VT 05671 Phone: 802-241-2100 / Fax: 802-241-2980 www.dcf.state.vt.us</p>
<p>Virginia Department of Juvenile Justice PO Box 1110, 700 E Franklin St, Ste 400 Richmond, VA 23219 Phone: 804-371-0700 / Fax: 804-371-0725 www.jdd.virginia.gov</p>	<p>Washington Department of Social and Health Services Juvenile Rehabilitation Administration PO Box 45045, 14th and Jefferson Streets Olympia, WA 98504 Phone: 360-902-7804 / Fax: 360-902-7848 www.dshs.wa.gov/jra</p>
<p>West Virginia Department of Military Affairs and Public Safety Division of Juvenile Services 1200 Quarrier St, 2nd Fl Charleston, WV 25301 Phone: 304-558-9800 / Fax: 304-558-6032 www.wvdjs.state.wv.us</p>	<p>Wisconsin Department of Corrections Division of Juvenile Corrections PO Box 8930, 3099 E Washington Ave Madison, WI 53708 Phone: 608-240-5901 / Fax: 608-240-3370 http://www.wi-doc.com/index_juvenile.htm</p>
<p>Wyoming Department of Family Services Division of Juvenile Services 2300 Capitol Ave, Hathaway Bldg Cheyenne, WY 82002 Phone: 307-777-6285 / Fax: 307-777-3659 http://dfsweb.state.wy.us</p>	

Source: American Correctional Association. (2007). *2007 Directory: Adult and juvenile correctional departments, institutions, agencies, and probation and parole authorities* (Sixty-eight edition). Alexandria, Virginia: American Correctional Association.

EXHIBIT 10

STATE LEGISLATURES: FISCAL/BUDGET WEBSITES

State	Website
Alabama	http://www.lfo.state.al.us/
Alaska	http://www.legfin.state.ak.us/
Arizona	http://www.azleg.gov/jlbc.htm
Arkansas	http://www.arkleg.state.ar.us/fiscalreview/fiscalreview/index.htm?
California	http://www.lao.ca.gov/laoapp/main.aspx
Colorado	http://www.state.co.us/gov_dir/leg_dir/jbc/jbchome.htm
Connecticut	http://www.cga.ct.gov/ofa/
Delaware	http://legis.delaware.gov/legislature.nsf/Lookup/Controller_General?open&nav=divisions
District of Columbia	http://cfo.dc.gov
Florida	http://www.leg.state.fl.us/cgi-bin/view_page.pl?File=index_full.html&Directory=committees/Joint/JCLB
Georgia ^a	http://www.legis.state.ga.us/legis/2007_08/house/budget/budgetIndex.htm http://www.legis.state.ga.us/legis/2007_08/senate/aboutsbo.htm
Hawaii	http://www.state.hi.us/auditor/
Idaho	http://www.legislature.idaho.gov/budget/JFAC/jfac.htm
Illinois	http://www.ilga.gov/commission/cgfa2006/home.aspx
Indiana	http://www.in.gov/legislative/interim/committee/stfp.html
Iowa	http://www.legis.state.ia.us/Central/Fiscal.htm
Kansas	http://skyways.lib.ks.us/ksleg/KLRD/klrd.html
Kentucky	http://www.lrc.ky.gov/org_adm/lrc/aboutlrc.htm
Louisiana	http://lfo.louisiana.gov/
Maine	http://www.maine.gov/legis/ofpr/
Maryland	http://dls.state.md.us/side_pgs/budget_fiscal/budget_fiscal.html
Massachusetts	http://www.mass.gov/legis/legis.htm
Michigan ^a	http://www.house.mi.gov/hfa/home.asp http://www.senate.michigan.gov/sfa/
Minnesota ^a	http://www.house.leg.state.mn.us/fiscal/issuebriefs.htm http://www.senate.leg.state.mn.us/departments/office_bio.php?office_id=1007&ls=85
Mississippi	http://www.peer.state.ms.us/
Missouri	http://www.moga.mo.gov/oversight/overhome.htm
Montana	http://leg.mt.gov/css/fiscal/default.asp
Nebraska	http://www.nebraskalegislature.gov/contact/fiscal.php
Nevada	http://www.leg.state.nv.us/lcb/fiscal/index.cfm
New Hampshire	http://gencourt.state.nh.us/lba/index.html

STATE LEGISLATURES: FISCAL/BUDGET WEBSITES

New Jersey	http://www.njleg.state.nj.us/legislativepub/budget.asp
New Mexico	http://nmlegis.gov/lcs/lfc/lfcstaff.aspx
New York ^b	http://www.assembly.state.ny.us/ http://www.senate.state.ny.us/senatehomepage.nsf/Home?OpenForm
North Carolina	http://www.ncleg.net/FiscalResearch/
North Dakota	http://www.legis.nd.gov/council/general/overview.html
Ohio	http://www.lsc.state.oh.us/
Oklahoma ^a	http://www.okhouse.gov/Fiscal/Index.aspx http://www.oksenate.gov/staff/divfiscal.htm
Oregon	http://www.leg.state.or.us/comm/lfo/home.htm
Pennsylvania	http://lbfc.legis.state.pa.us/
Rhode Island	http://www.rilin.state.ri.us/HouseFiscal/
South Carolina ^b	http://www.scstatehouse.gov/index.html
South Dakota	http://legis.state.sd.us/fiscal/index.aspx
Tennessee	http://www.legislature.state.tn.us/Joint/Staff/lba/lba.htm
Texas	http://www.lbb.state.tx.us/
Utah	http://www.le.state.ut.us/lfa/index.htm
Vermont	http://www.leg.state.vt.us/jfo/
Virginia	http://leg2.state.va.us/MoneyWeb.NSF/sb2008
Washington	http://fiscal.wa.gov/
West Virginia	http://www.legis.state.wv.us/Joint/budget/budget.cfm
Wisconsin	http://www.legis.state.wi.us/lfb/
Wyoming	http://legisweb.state.wy.us/2009/Budget.htm

Note: ^a These states have a separate fiscal or budget division for each house of the legislature. ^b These are the legislative home pages since it appears there is no direct link to a fiscal or budget webpage.

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(2008, December 5)

EXHIBIT 11

ANNUAL JUVENILE JUSTICE APPROPRIATIONS/EXPENDITURES BY FUND SOURCE FORM

The purpose of this form is to collect data on annual state juvenile justice program budget appropriations and/or expenditures from 1996 through 2006. Most states have both appropriations and expenditure data available. The data will be used to provide the basis for analyzing overall changes in state juvenile justice spending during the eleven-year period covered rather than for direct comparisons of state expenditures. Direct comparisons of state expenditures would be invalid due to differences in budget development procedures and variations in cost by state and region; cultural differences among states; different population sizes and demographics; variation in methods of service delivery; and differences in eligibility requirements and the need for services.

Data collected will be used in a methodological analysis for my dissertation research, which seeks to determine the effects of federal aid on state spending on juvenile justice programs. I would appreciate your assistance by providing your state's expenditure data for state operated and funded juvenile justice programs for FY 1996 – FY 2006. For your convenience, I developed the attached Excel spreadsheet entitled, Annual Juvenile Justice Appropriations/Expenditures by Fund Source Form for data collection. However, most states have preferred to provide the relevant sections of their budget documents for FY 1996-2006 in PDF documents or their own Excel spreadsheets. Whichever method you elect that is most convenient and efficient for you is acceptable for my project. Instructions for the form and definitions of terms are provided below.

Instructions:

1. Please provide the total annual general fund juvenile justice operating budget appropriations and/or expenditures for 1996 through 2006. The total amount for each year is requested. It is not necessary to provide the total allocation for each budget line item category. For purposes of this project, operating expenditures include standard

ANNUAL JUVENILE JUSTICE APPROPRIATIONS/EXPENDITURES BY FUND
SOURCE FORM

juvenile justice budget categories, such as salaries and benefits, administrative costs, maintenance, institutions and residential programs, community programs, treatment and other support services, and contractual services. Please do not include capital expenditures in your total operating expenses. However, if your system is structured such that capital expenditures are included with operating expenses, please identify capital expenditures in a separate line item.

2. Please include all federal funds that are awarded to your agency for juvenile justice programs annually. Note that additional rows are provided on the data collection form for you to identify each grant source by name if this is how your fiscal data is collected.
3. Please include all other state funds spent on juvenile justice annually. Note that additional rows are provided on the data collection form for you to identify other state funds by name if this is how your fiscal data is collected.

Your assistance with collecting the information requested is greatly appreciated. If you have any questions, or need further clarification about the information requested, please contact me by phone at 702-263-4377 or 702-241-9191 (cell) or e-mail:

smithwb941@cox.net

Thank you in advance for your assistance.

Sincerely,

Ms. Willie B. Smith
Doctoral Candidate
University of Nevada-Las Vegas
School of Environmental and Public Affairs

EXHIBIT 11 – (continued) – page 3 of 3

ANNUAL JUVENILE JUSTICE APPROPRIATIONS/EXPENDITURES BY FUND SOURCE FORM

State:		Agency/Department Name:									
Revenue Source	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2993	FY2004	FY2005	FY2006
General Fund Appropriations ^a											
General Fund Expenditures ^a											
Other State Funds ^b											
Federal Funds ^c											
Total Funds											
Contact Information ^d :											
Name:											
Title:											
Address:											
Phone:											
E:mail:											

Note: ^aInclude total annual general fund operating budget appropriations and annual general fund expenditures. ^b Please identify any other revenue sources separately by name, if possible. ^c Please include all federal funds awarded directly to your agency for juvenile justice programs and identify each federal grant award separately by name, if possible. ^d Please include the contact information for the person completing this form.

EXHIBIT 12

JUVENILE JUSTICE SUBJECT MATTER EXPERTS

Kirby L. Burgess
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EXHIBIT 13

EXAMINATION OF VARIABLES

I used the following analytical measures to examine the variables included in the regression model: inspection for recording errors, distribution of variables, and trends and correlations between the dependent and independent variables.

Prior to selecting variables to include in my statistical model, I used Stata to generate a variable codebook to initiate the data cleaning/data screening process. Using the codebook, I inspected the entire dataset for errors in recording and coding. The data were checked for accuracy and all responses were within range. I generated frequency tables to examine the distribution of categorical variables to get a preliminary sense of how categories, such as region, juvenile justice system type, and governor's party might affect the model (juvenile justice spending).

Furthermore, I examined each variable included in the model specification using SPSS output for variable exploration. This procedure produces several descriptive results for multiple variables in table format, as well as visual representations of the data, such as histograms, stem & leaf diagrams, and box plots. While all of these graphs provided valuable information that helped determine whether the data were normally distributed and/or the degree of skewness of kurtosis in the distribution of each variable, Beck (2006) recommends the box plot for exploratory analysis of cross-sectional issues in TSCS data. Following Beck's recommendation, I generated box plots for the dependent variable and the primary independent variable of interest (federal aid) for each state. The box plot helps one to discern whether the center and spread of the variables differ by unit, or whether one or a few units are considerably different from the others.

EXAMINATION OF VARIABLES

Sensitivity analysis of findings indicated that the majority of the variables were likely to be skewed, supporting the decision to transform some of the variables to help normalize the distributions of selected variables. Additionally, this type of wide dispersion is expected when using TSCS data with a relatively small time period and given the variability among states. Findings from these procedures informed my decisions regarding variable transformations required before proceeding to model specification.

Finally, I plotted line graphs of the dependent variable and key independent variables against time to examine for trends in state spending relative to juvenile justice and related issues.

EXHIBIT 14

INTERPRETATION OF COEFFICIENTS

Log Transformed Variable

The general analytical model specified for this dissertation study employs a log transformed dependent variable, some independent variables in their original metric, and some log transformed independent variables. There are different requirements for interpretation of coefficients dependent on the form of the variable. The standard interpretation of coefficients in a regression analysis is applicable when both the dependent and independent variables are in their original form.⁴⁵ In contrast, log transformed variables are interpreted in terms of percent change. Hence, when both the dependent and independent variables are log transformed the interpretation format is: a one percent increase in the independent variable results in a $b\%$ change in the dependent variable while all other variables in the model are held constant. When the dependent variable is log transformed and the independent variable is in its original metric, the interpretation format is: a one-unit increase in the independent variable results in a $100(b)$ percent change in the dependent variable while all other variables in the model are held constant.⁴⁶

⁴⁵ Standard interpretation of regression coefficients is that a one unit change in the independent variable results in the respective regression coefficient change in the expected value of the dependent variable while all the predictors are held constant.

⁴⁶ See UCLA Academic Technology Services, Interpreting a Regression Model with Log Transformed Variables. Retrieved from http://www.ats.ucla.edu/stat/sas/faq/sas_interpret_log.htm and http://www.ats.ucla.edu/stat/mult_pkg/faq/general/log_transformed_regression.htm

INTERPRETATION OF COEFFICIENTS

Lagged Dependent Variable (LDV)

In this study, the LDV is not interpreted as a unit change in last year's y causes a Φ (phi coefficient) change in current y (Beck & Katz, 2004, p. 18). The past state of y is included in the model as an algebraic transformation to control for autocorrelation. The LDV has a dynamic interpretation as it dictates the timing of the effect of X on Y mathematically (Keele & Kelly, 2006, p. 189).

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