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## Privatization of Florida Juvenile Residential Facilities

Katherine Hancock  
*University of Central Florida*

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PRIVATIZATION OF FLORIDA  
JUVENILE RESIDENTIAL FACILITIES

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
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Major Professor: Kristina Childs

## **ABSTRACT**

Privatization of juvenile facilities and services has been the norm since the inception of the juvenile justice system. However, little research has been performed examining the impact of privatization on juvenile justice, despite the possible repercussions of this policy for the juveniles served. Prior research on privatization in other fields has tended to find a connection between privatization and outcomes; however, very little research has examined how privatization impacts operations, how operations impact recidivism, and how privatization and operations interact to produce juvenile justice outcomes. This exploratory study, informed by cybernetic systems theory and principal-agent theory, examined the mechanism by which privatization influences juvenile recidivism by exploring the possible mediating effect of facility operations. Using annual juvenile facility evaluation and recidivism data collected by the Florida Department of Juvenile Justice through 548 evaluations performed on 158 facilities from 2003-2006, this research examined whether facility operations mediated the relationship between ownership (public, for-profit, and non-profit) and juvenile recidivism. Multilevel analyses were completed using Stata software to account for the clustered nature of the data (facilities nested within provider companies). The results from multilevel regression analyses indicated no relationship between ownership type and either operations or recidivism. However, multilevel regression analyses indicated significant inverse relationships between recidivism and each of four of the operational variables: program management, health care services, security, and intervention management. A mediating relationship was not supported. Results also indicated that both provider company and characteristics of the juveniles served were significant predictors of both operational variables and recidivism. These results suggest that privatization concerns

may be more suitably focused on identifying the appropriate provider company rather than on choosing the appropriate ownership type. In addition, during the contract negotiation stage, juvenile justice administrators may wish to incorporate policies and/or incentives into the contract that are related to juvenile characteristics. Recommendations for future research are also discussed.

For my mom and dad, whose countless sacrifices brought me to where I am today.

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## **CHAPTER 1: INTRODUCTION**

Privatization within the juvenile justice system has been a normal occurrence since before the creation of the first juvenile court in 1899 (Krisberg, 1995). The presence of the private sector in the field of juvenile justice has largely been taken for granted, as evidenced by the dearth of research that has been devoted to this topic. The research that does exist on juvenile justice privatization typically defines ownership as public and private (Bayer & Pozen, 2005), ignoring potential differences between the for-profit and non-profit organizations that make up the private sector.

A review of the existing literature on privatization of adult and juvenile correctional facilities has found ownership type (public or private) to be related to recidivism in that private juvenile facilities tend to have higher recidivism rates than public facilities (Bayer & Pozen, 2005; Terry, Stolzenberg, & D'Alessio, 1997) while private adult facilities seem to have lower recidivism rates (Lanza-Kaduce & Maggard, 2001; Lanza-Kaduce, Parker, & Thomas, 1999). However, little to no research has looked at ownership as it relates to facility operations (management, admissions, mental health and substance abuse services, food services, health care services, intervention management, and security), or how these operations impact recidivism. A few previous studies have connected some aspects of facility operations to recidivism, however, there does not exist a body of literature or theory connecting ownership, facility operations, and recidivism. Due to the lack of prior research and theory in these areas, the current study is exploratory. Based upon the research and theory that does exist, it is proposed that facility operations mediate the relationship between ownership type and recidivism. The current study

adds to the current body of research by examining the following research questions with regard to juvenile residential facilities:

R1: Does facility ownership (public, for-profit, non-profit) impact the quality of facility operations? <sup>1</sup>

R2: Does the quality of facility operations impact juvenile recidivism?

R3: Does facility ownership impact juvenile recidivism?

R4: Does the quality of facility operations mediate the relationship between facility ownership and juvenile recidivism?

This study utilized principal-agent theory and cybernetic systems theory to frame the research questions. Principal-agent theory concerns the relationship between a contracting agency (principal) and a contracted agency (agent). The principal contracts with the agent to perform services or achieve a set of goals and has an expectation that the agent will act according to the wishes of the principal (Ross, 1973). However, principal-agent theory states that the agent has its own set of goals that may hinder the achievement of the principal's goals.

Cybernetic systems theory is a sub-theory of the broader collection of theories known as systems theory. Cybernetic systems theory, originally postulated by Boulding (1956), explains how feedback within a system can be used to alter processes, potentially correcting errors in the system's endeavor toward a set of goals or outputs. Within cybernetic systems, communication flows between the various parts are a critical piece of the system. For example, one entity communicates with another in the system in the form of an evaluation. The entity receiving the

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<sup>1</sup> The term "operations" refers to the services offered, as well as the management and administrative processes utilized by each residential facility. Examples included in this study are program management and security of the facility.

communication can then use that information to alter their behavior in order to better achieve a system goal.

In the current study, the cybernetic system consists mainly of the Florida Department of Juvenile Justice (FDJJ), the contracted facilities, and the communication flows between these entities. The Florida legislature communicates with FDJJ regarding desired processes and outcomes. The FDJJ then transmits instructions to their contracted facilities. Feedback is then used to improve facility organizations in order to better achieve desired outcomes. According to principal-agent theory, the contracted facilities interpret the instructions they receive from the FDJJ in light of their own goals, which may be in addition to, or even in conflict with, those of the FDJJ. Furthermore, the facilities have the ability, through lobbying, to impact the Florida legislature and the instructions given to the FDJJ. If there are differing goals and processes of public, for-profit, and non-profit facilities, different types of facilities may interpret instructions differently and thus achieve juvenile justice goals with varying effectiveness. Based on the theoretical framework and existing empirical research, it is hypothesized that:

H1: Ownership impacts facility operations. Due to the lack of prior empirical research or theory regarding the relationship between ownership and operations, the current study is exploratory. Combining cybernetic systems theory and principal-agent theory indicates that instructions are given to facilities from FDJJ along communication flows. Accordingly, ownership type will influence the interpretation and implementation of instructions, subsequently impacting operations. The only study on healthcare services and ownership type found public facilities to have higher service provision (Gallagher and Dobrin, 2007); in addition, although no empirical research in juvenile justice covers food services, it is thought that private facilities will

cut corners on service provision with food services being commonly cited as an example (Logan, 1990). Thus, public facilities will have the highest quality food and health care services. The bulk of what little research exists on management and admissions in both the adult and juvenile fields favors the private sector for management, admission, mental health and substance abuse services, intervention management, and security (Armstrong, 2001; Blakely & Bumphus, 2004; Yazzie, 2011). Due to their greater experience in the area and different organizational values (Ryan, 2002; Speckbacher, 2003), for-profits will be the leader with regard to program management and admissions. Finally, due to their supposed emphasis on humanitarian conditions and institutional programming (Low, 2003), non-profits will have the highest quality mental health and substance abuse services, intervention management, and security.

H2: Operations impacts recidivism. Again, due to the dearth of research on the impact of operations on recidivism, the current study is exploratory. The study predicts that intervention management will be the strongest predictor of recidivism because appropriate treatment delivered with fidelity is believed to be one of the most important factors in reducing juvenile recidivism (Lipsey, 2009).

H3: Ownership impacts recidivism. Prior research has found a link between ownership type and recidivism (Bayer & Pozen, 2005; Lanza-Kaduce & Maggard, 2001; Lanza-Kaduce et al., 1999; Terry et al., 1997). The study posits that non-profit facilities will have the lowest recidivism rates while for-profit facilities will have the highest. This hypothesis is based upon the hypotheses that non-profits will have the best intervention management and that intervention management will have the strongest relationship with recidivism. This hypothesis is also in

accord with the findings of Bayer & Pozen (2005), the only juvenile privatization study that separated for-profits and non-profits.

H4: Operations mediate the relationship between ownership and the outcome. As with hypotheses 1 and 2, the mediation analysis was exploratory. If ownership does impact both operations and recidivism, and operations does impact recidivism, a mediating relationship may exist. As per cybernetic systems theory and principal-agent theory, different ownership types will interpret FDJJ instructions differently, causing variations between ownership types with regard to operations. Subsequently, the different strengths with regard to operations will result in different recidivism rates for the facilities.

The study employed a non-experimental design that compared the quality of facility operations and juvenile recidivism across three groups of residential facilities, based on ownership. The current study used data collected by the FDJJ from 2003 through 2006. The sample included all juvenile residential facilities receiving an annual Quality Assurance (QA) evaluation in the state (n=633). As this study relied on annual QA reports across a number of years, individual facilities represented multiple cases. The sample used in the current study included 633 cases which represented 166 facilities. Out of these cases, 85 were missing, leaving a final sample of 548 cases representing 158 facilities. The unit of analysis was the QA report. The QA data included information on program management, admissions, health services, mental health and substance abuse services, intervention management, food services, security, and recidivism outcomes.

As the data were nested in nature with individual facilities nested within the provider companies with whom the FDJJ has contracted for facility management, the study utilized

multilevel modeling techniques for the analyses. Only variables found to have significant relationships during the bivariate analyses were included in the multivariate models, as relationships that fail to reach significance at the bivariate level are unlikely to be significant at the more rigorous multivariate level. The intra-class correlation coefficient (ICC) for each model was examined to determine whether the impact of provider company warranted the use of multilevel analysis; the ICCs for every model indicated the need for multilevel analyses.

Bivariate analyses indicated that ownership type was only significantly related to health care services and recidivism. Both of these relationships disappeared in the multilevel regression analyses. Thus, regarding research questions 1 and 3, the current study found no support for ownership type being related to either operations or recidivism. Thus, in terms of research question 4, mediation analysis was not supported and was thus not performed. With regard to research question 2, analyses found a significant inverse relationship between recidivism and each of 4 of the operational variables: program management, health care services, security, and intervention management.

While ownership type was not significant in any of the multilevel models, analyses indicated that provider company was related both to operations and to recidivism. As such, the debate over privatization may have created a false dichotomy by focusing on public versus private management. The findings indicate that both the public, for-profit, and non-profit sectors have high performing and low performing organizations. Policy makers and juvenile justice administrators may find it more productive to focus on which provider companies are high performers rather than on which ownership type is a high performer. In addition, in every model analyzed, the characteristics of the juveniles served by each facility (gender of the youth served,



average prior seriousness of youth served, percent of youth who were black, and average age of youth at admission) had significant relationships with the dependent variable (in model 1, health care services, in models 2 and 3, recidivism). As such, administrators drafting contracts with providers for facility management may wish to include policies, funding, and incentives related to the juveniles who will be served.

Future research should examine what practices distinguish high performing providers from other providers. Furthermore, it is important to better understand the role of the contract in the performance and outcomes of private juvenile residential facilities. As privatization is widely used in the field of juvenile justice, identifying best practices and understanding the contract and the way it impacts operations and outcomes is essential to selecting optimal partners and drafting an effective contract.

## CHAPTER 2: LITERATURE REVIEW

Despite the fact that the juvenile justice system has utilized private organizations since its inception and that, nationwide, private residential facilities make up more than half of juvenile residential facilities and hold nearly one-third of juvenile offenders (Hockenberry, Sickmund, & Sladky, 2011), privatization of the juvenile justice system has received sparse academic attention. Relatively few studies have been conducted on the privatization of juvenile residential facilities (Armstrong, 2001); still fewer have disaggregated the private sector and analyzed the operational and outcomes differences between for-profit and non-profit facilities (Bayer & Pozen, 2005).

Thus, the presence, propriety, and effectiveness of the private sector in juvenile justice seem to have been accepted with little debate. This acceptance is problematic given a number of known cases involving abuse and safety issues within private juvenile facilities (Dempsey, 2007; Hough, 2012). While abuse and safety issues are present within public facilities, their presence within private facilities seriously calls into question the ethical propriety of using private contractors to perform the government's duties. In theory, privatization has the potential to create very real benefits such as improved cost savings and effectiveness (Salamon, 2002), as well as better management (Logan, 1991). However, there is often a difference between criminal (and juvenile) justice rhetoric and what happens in reality (Coupet, 2000; Feld, 1990; Goldson, 2014; Hoffman, 2002). As there is a dearth of research in the area (Bayer & Pozen, 2005), there is little to no verification that privatization in juvenile corrections has lived up to its promises. Whether private facilities have better quality operations and improved, or even commensurate, outcomes than public facilities has yet to be fully examined. In an era when "evidence-based

practice” is a near exhortation both in corrections and in the juvenile justice field, it is puzzling that privatization of the management of juvenile facilities is so prevalent with such scant empirical support.

### **The nature of juvenile justice privatization**

**Privatization defined.** Privatization is “the utilization of private or nongovernmental organizations in the implementation of public policy, often replacing direct government provision of particular programs or services” (Cohen & Eimicke, 1998, p. 100). There are two types of private organizations in the juvenile justice system. For-profit organizations are those companies that are formed for the expressed goal of producing profit. Non-profit organizations are organizations that are formed for a purpose other than generating a profit. These purposes are typically altruistic in nature and focus on improving the social, religious, political, or economic conditions of society. Non-profits in the field of juvenile justice usually have the purpose of addressing criminogenic needs of juveniles such as poor socialization, limited education, physical and mental health problems, and substance abuse issues. The definition and regulation of a non-profit organization is outlined mainly through the United States tax code (Boris, 2006). The specific definition of non-profit under the United States tax code depends upon the type of activity being performed by the organization, whether it is charitable, religious, political, or some other type of non-profit work. Definitions, however, usually include such restrictions such as how surplus revenue is used and who can benefit from the operations of the organization (I.R.C. §501(c)). In contrast, public facilities, in the context of this study, are facilities operated by the government for a public purpose. Examples can include courthouses, schools, public museums, post offices, military bases, sanitation facilities, and correctional facilities (Behn, 1978).

**History of privatization in the juvenile justice system.** The private sector has played a major role in shaping the juvenile justice system into what it is today (Armstrong, 2001; Tanenhaus, 2004). Indeed, modern juvenile justice policies and methods find their roots in the reforms of the child savers movement of the 19<sup>th</sup> century, a movement whose members included many private groups and individuals, such as “career women and society philanthropists, women’s clubs and settlement houses...” (Platt, 1977, p. 77). The child savers movement helped to bring about humanitarian reform in the treatment of juvenile delinquency and helped to establish distinct criminal justice organizations for addressing delinquent and other troublesome youth (Platt, 1977). The first major reform in American juvenile justice happened during the early 19<sup>th</sup> century, even before the creation of the formal juvenile justice system in 1899 (Siegel & Senna, 2000). The impetus for this movement was the desire to improve the conditions of confinement of juveniles, who were typically housed with adults and suffered abuse and, possibly, further corruption from more experienced criminals (Miller, 1998; Platt, 1977; Siegel & Senna, 2000). The result of the reform movement was the establishment of separate juvenile facilities that inadvertently led to the subsequent increase in the institutionalization of juveniles (Miller, 1998), and the deterioration of the civil liberties of juveniles in the United States (Platt, 1977). Adult courts, which previously might have released a juvenile rather than sending them to the abuses of an adult prison, would now send the juvenile to a juvenile facility. By the 1880s, 51 reform schools and houses of refuge were in operation in the United States; about one-quarter of these were privately operated (Krisberg, 1995). By the 1890s, all states outside the South had a reform school. Initially, these schools were typically in urban areas; they were eventually moved to more rural areas with the idea that farm work would be rehabilitative (Krisberg, 1995).

In addition, many of these facilities implemented a cottage system and tried to imitate a family atmosphere (Krisberg, 1995).

Official probation services only existed in 3 states (Massachusetts, Missouri, and Vermont) prior to 1900 (Siegel & Worrall, 2013), but the initial decades of the 20th century saw the expansion of juvenile probation services (Krisberg, 1995). In the mid-1900s, the juvenile justice system began to incorporate more community-based alternatives to secure confinement (Krisberg, 1995). The Massachusetts reform school “experiment” of the early 1970s resulted in the Massachusetts juvenile justice system shifting from being run mostly by public facilities and employees to a network largely consisting of private community-based programs and services. This shift was the result of Jerome Miller, the newly hired head of the Massachusetts juvenile justice system, observing the harsh and often cruel conditions of Massachusetts reform schools (Miller, 1998). The new emphasis on community based services over institutionalization resulted in no significant change in Massachusetts’ juvenile crime rate (Miller, 1998).

Until fairly recently, private facilities operating within the juvenile justice system consisted almost entirely of non-profit organizations. Then, in the mid-1990s, large for-profit companies began to recognize the financial opportunities available in the juvenile justice system. The involvement of these companies created what has been called the “at-risk-youth industry” (Washburn, 2002; p. 38).

**Current scope of juvenile correctional privatization.** In 2006, 1,483 (56%) juvenile residential facilities nationwide were privately operated and 1,166 (44%) were publicly operated (Hockenberry et al., 2009). In 2008, 1,300 (53%) were privately operated and 1,150 (47%) were publicly operated (Hockenberry et al., 2011). However, in both years, private juvenile

residential facilities held 31% of juvenile offenders. In 2010, private facilities nationwide still held 31% (21,946) of juveniles in residential placement (Hanes, 2010). In 2008, private juvenile facilities across the United States held 24,757 juveniles; in 2008, Florida ranked fourth in the nation in the number of private juvenile residential facilities (Hockenberry, Sickmund, & Sladky, 2011; Stephan, 2008).

In terms of size, nationwide, large residential facilities (holding more than 100 juveniles) were more likely to be run by public entities; in 2008, 559 (43%) private juvenile facilities held 10 or fewer juveniles (Hockenberry et al., 2011). Thus, nationwide, a large percentage of juvenile facilities are privately operated and a large percentage of incarcerated juveniles are housed in these facilities. Yet, there is little research on the operational and effectiveness differences across these facilities.

**Contracting out for prison management.** Privatization can be achieved in a variety of ways, including contracting out functions previously performed by the government (e.g., providing academic or treatment services), selling public assets and monopolies (e.g., power plants, airports, municipal buildings, and roads), public-private partnerships (e.g., the government partners with private research institutes and pharmaceutical companies to develop affordable vaccines and other drugs), the use of public policy to promote particular behaviors within the private sector (e.g., tax expenditures for companies that hire veterans) and issuing grants to organizations to perform public functions (e.g. community drug treatment) (Cohen & Eimicke, 1998). The current research focuses on contracting out functions previously performed by or that are the responsibility of the government.

With regard to both adult and juvenile correctional facilities, governments in the United States typically use contracting as the method of privatization; in fact, contracting is the most common form of privatization in the U.S. (Savas, 2000). According to Kelman (2002), there are three basic types of contracts: fixed price or cost reimbursement contracts (e.g. a contractor delivers food weekly to a facility and receives a fixed price for each delivery), completion or performance contracts (e.g. a juvenile facility receives payment based upon the recidivism rate among releases), and best effort contracts (e.g. a juvenile facility demonstrates that it has provided adequate programs and services for the number of juveniles in residence).

The role of the contract is very important in establishing and maintaining the relationship between the contracting agent (in the case of this study, the FDJJ) and the contracted agency (the private facility administration or provider). Designing a good contract can be problematic. Among other things, the contract establishes incentives and compensation for meeting contract parameters, the nature and extent of oversight, the degree of discretion allowed the private facility administration, how claims and disputes are settled, and under what conditions the contract can be ended (Kelman, 2002). A contract that is too vague can lead to confusion about goals and sacrifice more of the contracting agent's power than is necessary. If the contract does not explicitly identify the contracting agent's expectations, the private facility administration has immense discretion in what services and amenities are provided (or not provided) to resident juveniles. In addition, if proper oversight is not established, the potential for abuse and mismanagement increases. Conversely, a contract that is too specific will constrain the private facility administration within certain methods of operation; the facilities are artificially made to

resemble public facilities, potentially eliminating any of the benefits of privatization (Wright, 2010).

Further exacerbating the contract design is the fact that contracting for services (such as running a juvenile facility) poses a set of problems that are unique from those of contracting for goods (such as food or clothing) (Savas, 2000). Typically, it is relatively easy to place a monetary value on goods and measure their quality. Services are more difficult to quantify. For example, treatment offered by a juvenile facility can be measured by the number of programs offered, the amount of money spent on treatment programs, the number of juveniles enrolled in treatment, the program staff to juvenile ratio, the number of juveniles who complete the treatment program, or the recidivism rate for program completers. Each of these measures shows treatment, yet each offers only a partial representation of treatment. For example, while cost of treatment is a way to determine how resources are being allocated to a particular treatment program, it fails to show the quality of that program.

For simplicity's sake, it may be tempting to use fixed price or cost reimbursement contracts for delivering public services; however, this method may place too much emphasis on the cost of services in an area where the true costs are not always clear. Furthermore, the government has a responsibility to ensure that social benefits are not lost after the services are contracted; timeliness, dependability, and quality are often more important than cost efficiency (Warner & Hefetz, 2001). The rehabilitative ideal of the juvenile justice system would emphasize rehabilitation and reintegration over cost efficiency. Moreover, there is no empirical link between efficiency and outcomes (Bayer & Pozen, 2005), so basing a contract for service on efficiency is not the best way to achieve public goals. However, given the traditionally limited



resources of the public sector, cost and outcomes must be balanced. To solve this dilemma, Wright (2010) advocates tying financial goals to the ideological goals of corrections. He states that prison contracts should be designed to “reflect the principles of effective intervention and correctional program integrity that are correlated with recidivism” (p. 81). Designing the contract in this manner also allows for-profit juvenile facilities to pursue both rehabilitative goals as well as profit.

Despite the lack of an efficiency-outcomes link and the importance of outcomes in corrections, the majority of prison contracts in the United States are cost reimbursement contracts, typically paying a set price per inmate served by the facility per day in residence (Bayer & Pozen, 2005; Lukemeyer & McCorkle, 2006). Existing prison contracts have few, if any, rehabilitative performance criteria established (Wright, 2010). The focus on cost efficiency created by these contracts is problematic, especially when considering the for-profit organizations. Under a cost reimbursement contract, the for-profit organization has scant incentive to provide programs and services beyond the basic standards set forth in the contract (Bayer & Pozen, 2005). In addition, for-profit organizations are motivated to provide services at the lowest possible price, which has led many privatization opponents to assert that for-profit prisons will find ways to subvert the contract in order to cut corners on things such as medical care, food, and other necessities, to the detriment of inmate welfare. These and other concerns have fueled the debate over the privatization of correctional facilities.

### **Debate over privatization**

**Public versus private.** Proponents of private corrections cite a number of advantages produced by privatization. First, they claim that the public facilities operate under monopolistic

conditions that have resulted in prisons being both inefficient and ineffective (Price, 2006). Historically, within the public service sector, public entities were the only places people could receive certain services (e.g. licenses, permits, probation services, police services). Citizen complaints about cost or service delivery may have little impact on an organization if the organization's personnel know citizens have nowhere else to turn; there may be no real incentive for the organization to change.

In contrast, competition in the private market can drive down costs and improve effectiveness (Salamon, 2002). Therefore, the competition of the private sector can potentially benefit the public sector. For example, private organizations competing for a juvenile residential facility contract will try to draft proposals offering the best services (e.g. safety, control, evidence-based treatment programs, etc.) and outcomes (e.g. lower recidivism rates, lower violent crime rates for juveniles released) for the lowest possible price. Contracted organizations that subsequently achieve these goals will have a stronger case for having their contracts renewed. If the organization fails to achieve goals or otherwise performs poorly (e.g. confirmed abuse within the facility, high suicide rates), the contracting government agent can turn to a different private organization to meet its needs. Contracted organizations thus have real incentive to meet the terms of their contract and the government saves money. Money saved on juvenile corrections can be redirected to education or community programs which would help prevent future delinquency and improve social welfare.

In addition, private companies are thought to be more sensitive than public organizations in anticipating the needs of the environment and more flexible in meeting those needs (Logan, 1990). For example, if legislation is passed that imposes more severe sanctions on juveniles for

certain offenses, private juvenile facilities would theoretically be better able to anticipate how much their juvenile population would increase as a result of this legislation. Furthermore, the private facility will be able to acquire the extra resources that would be needed (facilities, staff, community partners, food, etc.) for the increase without being impeded by the cumbersome procedures and bureaucracy of government. Private agencies also have greater reach than government agencies (Goldsmith & Eggers, 2004). This means that private agencies are better able to connect with the customers of government services and have more extensive knowledge of providers in their area. This allows private agencies to better anticipate the needs of the community and connect with partners to meet those needs.

Proponents also assert that privatization allows the government more flexibility; for example, should the need for prisons decline, governments can more easily alter or discontinue a contract than change an existing bureaucracy (Logan, 1990). In addition, privatization is thought to create more innovative solutions to public problems than direct government provision of services. This is due to privatization's ability to allow governments to explore alternatives and use a variety of partners who may have more creative ways of operating than the public sector (Goldsmith & Eggers, 2004). Moreover, privatization allows for specialization; the contracting entity and the contracted entity can both focus on areas where their skill set is strongest (Goldsmith & Eggers, 2004). Thus, in relation to the current study, the FDJJ can focus on creating policy, promoting research, managing networks, and overseeing contracts while the private sector can run the juvenile residential facilities and treatment programs.

In contrast, opponents of correctional privatization may claim that the purported benefits of privatization are not realized in practice. Communication problems between the government

and private facilities and contract mismanagement means the ideals of privatization are not realized. Goal ambiguity, where organizational goals are not clearly specified or communicated, can also inhibit facility performance. Furthermore, opponents of correctional privatization claim that the pursuit of profit will cause private companies to cut corners on things such as food, maintenance, health care, security, and staffing (Logan, 1990). As a result, inmates receive substandard treatment and services and may even suffer from abuse due to inadequately trained staff. Juveniles, who are still developing into adults, may be more vulnerable than their adult counterparts to such poor conditions and abusive treatment. Juveniles' experiences in mismanaged facilities with poorer conditions may even serve to promote recidivism (Chen & Shapiro, 2007; Craig, 2010).

There is also ethical debate about whether the state has the right to allow private entities to run correctional facilities. The argument is that citizens have given the state the right to imprison and otherwise punish criminals, and it is inappropriate for the private sector to engage in an activity that only the state has the right to do. The situation is further exacerbated by the fact that, while the democratic ideals of the United States would dictate that public services (such as punishing lawbreakers) be subject to the rule of the people, private correctional facilities are not directly answerable to the citizenry.

In addition, a problem unique to the for-profit prisons is that they are seen as ethically and morally abhorrent due to the coercive and punishing nature of these facilities (Bortolotti & Siniscalco, 2004; Logan, 1990; Price, 2006). Opponents of privatization find it distasteful for organizations to make a profit from the punishment and suffering of others. Similarly, opponents also assert that, to maximize their profits, for-profit prison companies naturally will attempt to

lobby for legislation that favors increased incarceration. There is even some empirical evidence to support the fear that private companies may lobby for their own benefit, whether or not it supports the public good (Steen & Smith, 2012; Zullo, 2006). For example, Zullo (2006) found evidence that donations from construction company executives were related to contract awards and procurement processes. Furthermore, in studying private child welfare agencies, Mosley and Ros (2011, p. 310) found that over half of the private agencies studied were involved in policy advocacy; of these, more than 80% paid dues to or belonged to a group that lobbied on their behalf. Another study concluded that, after controlling for past contracts, organizations that donated more money to federal candidates later received more contracts (Witko, 2011). However, public agencies may be involved in lobbying as well. For example, Campbell (2009) found that lobbying efforts by law enforcement personnel were influential in California and Texas shifting to more punitive criminal justice policies.

The ethical issues surrounding private prisons can be especially troublesome for juvenile facilities as juveniles are seen as more vulnerable than adults and juvenile facilities are philosophically different from adult facilities. For example, adult prisons typically place a higher priority on security and are more custody oriented while juvenile facilities are less concerned with security and more concerned with fostering a therapeutic environment (Bishop, 2000). When compared to adult facilities, juvenile facilities tend to be smaller, more staff intensive, and offer more programming while juvenile offenders are more emotionally explosive and impulsive than their adult counterparts (Bishop, 2000; Moore, 1999). These differences can be a problem, for example, when private companies want to spend less money on operations. As a result, therapeutic programming may be subpar or nonexistent and inadequately trained staff

(who can be paid less) are less able to appropriately deal with volatile situations caused by impulsive, emotionally explosive juveniles. Subsequently, interventions for juveniles may be deficient, negatively impacting juvenile outcomes. In addition, programming delivered to juveniles who do not need those particular services is not only a waste of money, but it also means the juveniles have less time for more appropriate treatment.

There are a number of studies showing that inappropriate or poor interventions may actually harm juveniles (Cecile & Born, 2009; Rhule, 2005). For example, Petrosino, Turpin-Petrosino and Finckenauer (2000) performed a systematic review of nine randomized experiments of the Scared Straight prison visitation programs for juveniles. The researchers had a number of criteria for studies to be included in their review, for example, the study had to focus on juveniles, the intervention had to be administered at a prison or reformatory, juveniles had to be randomly assigned to control and treatment groups, and the study had to incorporate at least one measure for crime in the community. Using these criteria, the researchers utilized numerous databases, which included unpublished studies and dissertations, and found nine studies for inclusion in the review.

Petrosino et al. (2000) found that the Scared Straight prison visitation programs had detrimental effects. Almost all of the studies showed increased recidivism for the treatment group. Only two showed no difference between the control and treatment groups (Locke, Johnson, Kirigin-Ramp, Atwater, & Gerrard, 1986; Orchowsky & Taylor, 1981). Some of the differences between groups were striking; for example, one study found 41% of treatment youth reoffended versus only 17% of controls (Finckenauer, 1982). Another found 43% of treatment

youth reoffended compared to only 17% of control youth (Michigan Department of Corrections, 1967).

Furthermore, in conducting a meta-analysis of 548 juvenile delinquency intervention studies, Lipsey (2009) found that the amount and quality of juvenile programming was one of the most important factors in a program's ability to cause reductions in juvenile recidivism. Thus, an adequate amount (i.e. a certain number of hours, days, weeks, etc., as determined by the particular program's standards) of the program's services must be delivered to the juvenile for the strongest effect to be seen. In addition, quality of program implementation is also critical. Lipsey found that factors such as high dropout rates<sup>2</sup>, staff turnover, poorly trained personnel, and incomplete service delivery resulted in lower effect sizes for program interventions. Clearly, appropriate programming, delivered well is critical to achieving the rehabilitative ideal of the juvenile justice system, so it is essential that companies are committed to ethical and appropriate delivery of services.

**For-profit versus non-profit.** The debate over correctional privatization has largely ignored non-profits, focusing solely on the differences between public and for-profit facilities (Low, 2003). However, some have discussed the use of non-profits in residential corrections. Scholars do not agree about whether the cost savings and effectiveness benefits of the private sector remain if for-profits and non-profits are examined separately (Low, 2003). Some argue that non-profits are more inefficient than for-profit companies for a number of reasons. First, non-profits typically provide public goods and services that are in demand but for which people do not wish to pay, resulting in poor cost to revenue ratios (Brooks, 2006). Return on investment

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<sup>2</sup> Youth dropping out of the juvenile program they were attending.

(ROI) is a standard measure for organizational efficiency; it is calculated as total revenue less total expenses written as a percentage of the organization's total assets. Nationally, for-profits have an average ROI of 17% while non-profits have an average of 2.33% (Brooks, 2006) indicating that, using this measure of efficiency, for-profits are far more efficient than non-profits.

Another reason given for non-profits' inefficiency is that non-profits are thought to devalue efficiency in lieu of other goals, such as fairness, conflict avoidance, and the creation of a good work environment (Buckles, 2002). As such, organizational resources are utilized to pursue these extraneous goals rather than the central goals and mission of the organization, resulting in inefficiencies. Moreover, some scholars believe non-profits to be more inefficient than for-profits because of the lack of a profit motive and a lower level of organizational oversight by stakeholders (Buckles, 2002). The assertion is that the profit motive serves to concentrate the efforts of for-profits on performing organizational goals efficiently. In addition, the stakeholders for the non-profit organization do not have the same degree of oversight of non-profit operations as for-profit stakeholders have over for-profit operations (Buckles, 2002). For instance, non-profit stakeholders in the community may be satisfied if they simply receive services instead of being concerned with whether the services were delivered efficiently.

In contrast, proponents of non-profit prisons believe non-profits have the potential to offer the best of both the private and public sectors while minimizing the disadvantages of each (Low, 2003). Non-profits offer the innovation and flexibility of the private sector without some of the ethical dilemmas and offer the public service motivation of the public sector without the political constraints. Some scholars even assert that non-profits are not necessarily less efficient



than for-profits. For example, Lublin (2010) claims that while inefficient non-profits do exist, many non-profits operate on very small budgets. As a result, the non-profits that are able to survive are those that are able to operate efficiently; they must do more with less money. Proponents claim that non-profits have the potential to run more efficient prisons than for-profit companies because non-profits can reinvest surplus revenue into the prison rather than using it to pay stakeholders (Low, 2003). In addition, non-profits would be able to receive donations from the public. Furthermore, proponents claim that any inefficiencies that have been observed in the non-profit sector are a result of non-profits tending to work in areas where efficiency is difficult to achieve (Mason, 1984).

Along the same line, Brooks (2006) states that typical measures of efficiency do not apply to non-profits. He argues that non-profits must engage in some revenue-generating activities (i.e. fundraising) and some activities that are likely to lose money (i.e. feeding the poor, providing free counseling services to indigent clients). Thus, traditional efficiency measures, such as ROI, tend to cast non-profits in a negative light. According to Brooks, a more appropriate way to gauge non-profit efficiency is to calculate marginal returns on investment in non-program areas. If this method is used, efficiency in the non-profit sector is tied to sector. Non-profits in the arts, environmental, and religious sector operate efficiently while those in education, health, and social welfare are inefficient (Brooks, 2006).

Proponents of the non-profit prison also point out that non-profit prisons can solve the ethical dilemma that arises with punishing prisoners for-profit. Non-profit organizations are, in theory, motivated by ideology and employees are driven to create positive reform (James & Rose-Ackerman, 1986; Lloyd, 1990). As such, non-profits are more likely than for-profits to be

concerned with improving humanitarian conditions and institutional programming (Low, 2003).

In theory, non-profits will not cut corners to save money. As a result, programming at non-profit facilities is more likely to be appropriate for clients and is more likely to be delivered correctly, resulting in improved client outcomes.

**Summary.** In theory, public, for-profit, and non-profit organizations have different strengths and weaknesses in their operations. For-profit organizations are thought to be more efficient and effective, although some scholars point to ethical problems and argue that these organizations may cut corners in operations. Non-profits have the potential to provide the innovation and flexibility of for-profits with the service motive of the public sector; possible inefficiencies may lead these facilities to cost more. Government organizations have a high level of stability, as well as the legitimacy to perform public functions and thus avoid the ethical issues associated with the private sector; however, the bureaucratic nature of government can lead to inefficiency and a lack of flexibility to changes in public needs and demands.

If the hypothesized benefits of privatization are a reality within the system of juvenile residential facilities, then using private sector organizations can be a powerful tool to aid the government in rehabilitating juveniles into productive members of society while at the same time saving taxpayer dollars. However, if opponents of privatization are correct, then for-profit facilities not only violate ethical standards, but also, in cutting corners on operations to save money (Logan, 1990), may subsequently sacrifice management and facility conditions and, as a result, may actually be exacerbating the juvenile delinquency problem (Craig, 2010; Chen & Shapiro, 2007). Non-profit facilities may be more ethical and morally acceptable, but there is no agreement on the quality of their processes or the level of their effectiveness. Academics and

practitioners have been unable to resolve the debate over whether correctional services are best delivered by the public, for-profit, or non-profit sector. Without concrete and consistent empirical evidence, the differences in operations and outcomes across privately and publicly operated juvenile residential facilities remain unknown.

### **Prior privatization research**

Empirical research on privatization in the criminal justice system has not been commensurate with the theoretical attention the topic has received (Bayer & Pozen, 2005; Gaes, 2012; Gaes, Camp, & Saylor, 1998). Although some empirical studies have been done (Armstrong, 2001; Blackstone, Buck, & Hakim, 2004; Bayer & Pozen, 2005; Logan, 1991), much of the privatization debate is theoretical in nature, with little research support (Gaes, 2012). The research that does exist on privatization of juvenile justice programs tends to dichotomize ownership into public versus private (Bayer & Pozen, 2005). Very little empirical research has been conducted on the direct and indirect impact of non-profit organizations the juvenile justice system (Boris, 2006). Due to the scarcity of research on the privatization of juvenile residential facilities, the research on the child welfare system and adult correctional facilities will be used to form a foundation for the juvenile justice literature and to help inform the inclusion of variables for the current study.

The child welfare system may be the social service area that has the most in common with the juvenile justice system. Both child welfare and juvenile justice deal with troubled youth who have behavioral issues. In addition, there is crossover between the two systems when a child becomes involved in both the juvenile justice and the child welfare systems. Thus, child welfare and juvenile justice serve similar clients and have a similar set of stakeholders. In

addition, like the juvenile justice system, the adult correctional system provides secure confinement and social services to individuals found to be in violation of the law and thus may face many of the same operational and recidivism issues as the juvenile system. This section reviews the current literature on privatization in three sections: a general review of research on child welfare privatization, research on privatization within the adult correctional system, and the limited research that exists on privatization within the juvenile justice system.

**Privatization in the child welfare system.** A few studies have looked at privatization in the child welfare system. For example, Blackstone, Buck, and Hakim (2004) studied service quality and caseloads of public and private child welfare agencies in Illinois, Kansas, and Michigan. They found that Illinois, which allowed the most competition between agencies, saw the most impact from privatization through higher rates of permanency for children in the child welfare system, lower caseloads for agency workers, improved quality of services, and the elimination of inefficient contractors and duplicate services. Kansas's system, which relied on a fixed price per child and per month payments, resulted in improvements in the number of adoptions but reduced incentives for contractors to perform; in addition, Kansas also created unneeded monopolies. In Michigan, contracted agencies were given six months to place eligible children in an adoptive home. If the agency failed to do so after six months, the child was placed in a publicly available adoption registry and other agencies can compete to place the child. After implementing this system (which clearly allows competition among private providers), Michigan subsequently saw increases in adoptions. As discussed earlier, one of the benefits of privatization is that competition in the market will cause private companies to strive for

efficiency and effectiveness. The findings of Blackstone et al. (2004) support the idea that competition between private companies can result in improved outcomes for public services.

On the other hand, while studying the privatization of foster care in Kansas, Petr and Johnson (1999) found that children under the supervision of private foster care agencies had more placement moves, less time at first placement, and were more likely to run away. Moreover, in a study of privatized foster care in Milwaukee County, Zullo (2002) concluded that private foster care resulted in lower transition to permanency rates than public foster care, especially for larger non-profit agencies. However, this relationship disappeared when size of the agency was taken into account. Smaller private foster care agencies were commensurate with similar sized public foster care agencies with regard to children's transition to permanency.

Further confounding the debate is a study by Yampolskaya, Paulson, Armstrong, Jordan, and Vargo (2004) evaluating Florida's Community-Based Care initiative. They found that private agencies performed at least as well as their state counterparts. In addition, Steen and Smith (2012) reviewed studies researching child welfare with regard to achieving permanency; they found mixed results with regard to public and private agencies' ability to achieve permanency. Clearly, the impact of privatization on outcomes is both complex and unclear.

As with the general social service area, private and public child welfare employees are different. Public employees tend to be more experienced (Hollingsworth, Bybee, Johnson, & Swick, 2010; Steen & Smith, 2012) and are more committed to the organization and to child welfare (Jayaratne & Faller, 2009). Moreover, foster care workers in private foster care agencies are more likely to have negative attitudes toward parents with substance abuse, alcohol abuse,

and mental health issues (Hollingsworth et al., 2010) and are more likely to report having taken their job because it was the only one available (Jayaratne et al., 2009).

While the research on child welfare privatization has reached somewhat mixed conclusions, in general, it does seem to be more favorable to public ownership. This is especially true with regard to issues concerning agency employees. The implication for the current study is that public juvenile residential facilities may show more positive outcomes than privately run facilities. A major caveat to take into account when gleaning from child welfare literature implications for juvenile corrections is that, as total institutions, secure correctional facilities have a wholly different environment (i.e. more coercive, more likely to be isolated from the general public, etc.) than child welfare and foster care. In addition, as with most research on privatization, the child welfare research generally does not disaggregate private ownership into for-profit and non-profit ownership, potentially disguising important differences.

**Privatization within the adult correctional system.** As stated before, the bulk of research that has been done on secure correctional facilities is focused on adult prisons. Empirical research comparing public and private adult facilities has looked at cost and efficiency, facility conditions, staff characteristics, programming, inmate violence, and recidivism. As with privatization literature in general, much of the research on private adult correctional facilities has focused on or at least discusses cost and efficiency (Winn, 1996). For example, in a study of cost-efficiency, Crants (1991) looked at 7 correctional facilities pre and post privatization and compared the government cost of each facility to the initial private contractor cost of each facility. He found that all of the facilities showed significant cost savings after being privatized. Similarly, Sellers (1989) conducted a comparative cost analysis of three

public prisons and three privately operated prisons and concluded that the privately operated prisons provided more services at a lower cost than the public facilities.

In contrast, Pratt and Maahs (1999) conducted a meta-analysis of 33 cost-effectiveness evaluations of private and public prisons. They found that the ownership (public/private) of a facility was not a statistically significant predictor of inmate cost per day. They concluded that private prisons were no more cost-effective than public prisons and other variables are more important for determining cost. Pratt and Maahs also examined a number of variables that represented facility characteristics. These variables were the number of inmates held in the facility, age of the facility, and security level (minimum, medium, maximum, and mixed). All of the independent variables included in the analysis were statistically significant predictors of inmate cost per day. Facilities housing fewer inmates, older facilities, and higher risk facilities are more expensive to operate (Pratt & Maahs, 1999).

It may be that the mixed findings regarding the cost and efficiency of public and private facilities are potentially related to the variables included in research. In examining 45 articles on privatization, Winn (1996) found that while “no other single topic was as pervasive in the literature as efficiency” (p. 24), few of the studies provided an empirical analysis of efficiency (i.e. analyzing both costs and services). Winn found that 49% of the articles empirically analyzed cost alone; results as to whether public or private prisons were less costly were mixed. Analyzing cost alone can make clear the bottom line, but it does not answer the question of whether private facilities are more efficient or offer quality services sufficient to meet the needs of inmates. Indeed, one major argument against private prisons is that for-profit management will cut corners on services.

The concern that private correctional facilities may cut corners on services is not groundless. For example, research has shown that private adult facilities tend to require less training of their correctional officers, pay lower staff and inmate salaries, have higher rates of staff turnover (Blakely & Bumphus, 2004; Camp & Camp, 2000), and have higher inmate to staff ratios (Blakely & Bumphus, 2004). These facts support the assertion that private facilities employ fewer and more poorly trained staff and provide lower levels of service.

In contrast, some research has shown private prison conditions to be as good as or better than their public counterparts, suggesting that they do not cut corners on services. For example, Blakely and Bumphus (2004) found that the private prisons they studied operated, on average, at 82% capacity while public prisons operated, on average, at 113% capacity.<sup>3</sup> In addition, private prisons may in fact provide more treatment than public prisons (Logan, 1991; Lukemeyer & McCorkle, 2006). For example, Blakely and Bumphus (2004) found that private prisons had a higher proportion of inmates participating in drug treatment programs than public prisons (28% versus 14%).

Furthermore, Logan (1991) compared three women's prisons in New Mexico: one private, one state, and one federal.<sup>4</sup> Conditions of confinement were measured using 333 indicators from facility records and surveys with staff and inmates. These indicators were used to create 8 dimensions for conditions of confinement: security, safety, order, care, activity, justice, conditions, and management. Logan found that all of the prisons were high in quality;

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<sup>3</sup> Blakey and Bumphus's (2004) data came from the Criminal Justice Institute's (CJI) Corrections Yearbook for 1998, which included data for public and private prisons at both the state and federal level and represented 88% of prisoners in public prisons and 74% of prisoners in private prisons.

<sup>4</sup> Logan selected these prisons because, during the study period, "New Mexico was the only state that was privatizing a multi-security level prison" (Logan, 1990, p. 578).



however, the private prison performed better than the public prisons on every dimension but care (mental and physical health care) and justice (clear rules and sanctions following due process). Care and justice as defined in Logan's study are quite relevant to juvenile residential facilities. As discussed below, the provision of adequate physical and mental health care has been noted in correctional literature as being related to lower recidivism levels. With regard to justice, also discussed below, proper control is also related to lower recidivism. In addition, rules and sanctions will help shape the culture of the facility; juveniles who see themselves as being treated fairly and who are receiving appropriate care may feel safer within the facility; safety is another factor related to lower levels of recidivism. Thus, the conditions in Logan's research found to be worse in private facilities than in public are linked to lower recidivism. This suggests that factors related to the operations of the facility are related to both ownership and recidivism; as such, the relationships between ownership, operations, and recidivism merit research attention.

Safety is another area where prisons can cut corners. Empirical research on the safety of public versus private prisons has been inconclusive. In comparing assaults in private and public prisons, Blakely & Bumphus (2004) found that the private prisons experienced many more total assaults (on both inmates and staff) than the public sector (49 vs. 29). However, the public prisons reported slightly more assaults on staff than the private prisons (10 vs. 9). In addition, Austin and Coventry (2001) found that private prisons were more likely than public prisons to report inmate on inmate violence. Conversely, Lukemeyer and McCorkle (2006) analyzed the 1995 Census of State and Federal Correctional Facilities and concluded that private prisons were significantly less likely to experience violence than federal prisons, both on inmates and on staff.

At the state level, private and public prisons showed no significant difference in violent incidents. Camp, Gaes, Langan, and Saylor (2003) compared a private prison with three comparison public prisons. They found that the private prison was more likely than the public comparisons to report any misconduct, however, this relationship did not hold when analyzing only violent misconduct.

Thus, with regard to violence, the only disagreement in the literature seems to be the studies on total violence. One study found that public facilities had lower levels of total violence (Blakely & Bumphus, 2004), however, two other studies found that there was no difference in violence at the state level (Camp et al., 2003; Lukemeyer & McCorkle 2006); one study found that at the federal level, private facilities had less total violence (Lukemeyer & McCorkle, 2006). The difference may be due to the fact that the Blakely and Bumphus study combined state and federal prisons in its analysis.

The research discussed thus far has focused on cost, efficiency and quality of operations. Only recently has privatization research begun to focus on the effectiveness of prisons, specifically with regard to recidivism (Camp, 2005). Consequently, few studies exist on recidivism differences between public and private prisons. Lanza-Kaduce et al. (1999) studied 198 adult males released from two private prisons. These males were matched with males released from public prisons based on offense, race, prior record, and age. Recidivism was measured for 12 months after release. Lanza-Kaduce et al. found that males released from private prisons had lower rates of recidivism than their public counterparts. In addition, males released from private prisons who reoffended committed less serious offenses than the public releases. Later, Lanza-Kaduce and Maggard (2001) analyzed these same matched pairs again

looking at recidivism after 2 years. They found again that men released from the private facilities had lower recidivism rates than those released from public prisons.

More recently, Bales, Bedard, Quinn, Ensley, and Holley (2005) studied recidivism using the Florida Department of Corrections' Offender Based Information System. They looked at 81,737 inmates released between 1995 and 2001 for a follow-up period of 60 months. Bales et al. used inmate history and demographics to match offenders released from private and public prisons. They found that there was no statistically significant relationship between prison ownership and recidivism. The differences in the research findings regarding recidivism in adult facilities may be a result of the use of different follow up periods (1 year, 2 years, and 5 years) to measure recidivism.

In summary, regarding cost and efficiency, prison privatization literature has been mixed but seems to tend slightly toward private facilities being cheaper than public. Regarding conditions, operations, and recidivism, the adult prison privatization literature is fairly consistent in its findings, with the caveat that different studies examined different populations (federal versus state facilities), concepts (total violence as opposed to inmate on inmate or inmate on staff violence) and operationalizations (different recidivism follow up periods). The research seems to favor the private adult facility with regard to management, security, and treatment. Nonetheless, due to the inherent differences between adult and juvenile facilities already outlined, the findings for adult facilities may not apply to juvenile facilities.

**Privatization of juvenile residential facilities.** As stated before, despite the ubiquity of private juvenile residential facilities, research comparing public and private juvenile residential facilities is rare. This is especially disturbing given that, nationally in 2008, private juvenile

residential facilities had higher rates of suicide, accidental death, and homicide than public facilities. This same year, the national death rate for private facilities was more than twice that of public facilities (Hockenberry et al., 2011). Similar to literature on adult corrections, the attention on privatization of juvenile corrections is largely theoretical and editorial in nature. Little empirical evidence makes its way into the debate. There are, however, a few empirical studies that do look at this issue.

Terry et al. (1997) examined recidivism among juveniles released from public and private prisons through longitudinal data collected from a medium-sized Midwestern county. Specifically, they compared private residential placements with public training school placements with regard to operating cost and recidivism reduction. They defined recidivism in three ways: level of reoffending (dichotomous, whether they had reoffended during the 20 month follow-up period), seriousness of reoffending (dichotomous, whether the juvenile had allegedly committed an offense equal to or more serious than their previous offense), and time to failure (continuous). Cost was operationalized as the estimated daily cost to house and provide services to a juvenile. The methods of analysis were OLS and logistic regression. Terry et al. controlled for demographic and legal factors, such as age, race, gender, original offense seriousness, criminal history, and length of confinement. They collected data from court and city police records of 116 adjudicated juveniles from 15 private residential facilities and juveniles released from 2 public training schools from 1990 and 1991.

Regarding the control variables, juveniles in private facilities tended to be younger and were more likely to be female, and white. Juveniles in private facilities were incarcerated longer, adjudicated for less serious offenses, and had less serious criminal histories. When they

examined recidivism, Terry et al. found that juveniles from private facilities reoffended at a slightly lower rate than juveniles from public facilities, but when they did reoffend, it was, on average, approximately one month earlier. There was no significant difference between the two groups with regard to re-offense severity. Furthermore, Terry et al. found that private facilities cost more on average than their public counterparts.

This study defined ownership as public and private, combining for-profit and non-profit facilities into one group, thus obscuring any differences between for-profits and non-profits. Furthermore, the sample used in this study included only 15 private and 2 public facilities and only 116 youth, all located within a single county in the Midwest. As such, the generalizability of this study is questionable. In addition, a sample of 116 youth is also relatively small calling into question the validity of the results.

Moreover, Terry et al. did not control for facility variables, such as size or risk level of the facility. Previous research has found that juvenile inmates released from larger facilities are more likely to recidivate (Farrington & Nuttall, 1980). In addition, inmates released from higher risk facilities have also been found to have higher levels of recidivism, even when controlling for the seriousness of the offender (Gaes & Camp, 2009). One possible explanation for these findings is that larger facilities would have a more difficult time creating a therapeutic environment that is conducive to treatment and rehabilitation because of the larger youth to staff ratio. The same may be true for higher risk facilities; a more controlling and physically secure environment is detrimental to a therapeutic environment. In addition, larger facilities are more likely to be public facilities (Hockenberry et al., 2011) which are in turn more likely to be overcrowded (Elrod & Ryder, 2011; Hockenberry et al., 2009). It is argued that facility

overcrowding may be a detriment to rehabilitation, as the straining of staff and other resources prevent the proper implementation of programming (Clements, 1982), which would make higher recidivism levels in overcrowded facilities understandable. Without the inclusion of facility level control variables, the presence and impact of these variables remains unknown.

Another study comparing public and private juvenile facilities was conducted by Yazzie (2011) using the 1992-1993 *Census of Public and Private Juvenile Detention, Correctional, and Shelter Facilities* collected by the Office of Juvenile Justice and Delinquency Prevention. The sample included 1,037 public facilities and 2,096 private facilities. Ownership was defined as public and private. Facilities reported in the survey whether they provided certain services and information about staff and juveniles. Results indicated that public facilities had more treatment staff, had larger juvenile populations, and held juveniles for shorter periods of time than private facilities. Public facilities were more than twice as likely as private facilities to offer mental health personnel on an on-call basis and were more likely to offer treatment for threats of suicide, drug and alcohol treatment, and specific violent offense treatment programs to youth. Private facilities were more likely than public facilities to have daily mental health personnel and psychological treatment and family counseling for their youth. Finally, public facilities were more likely to report juvenile suicides. This study was a descriptive study and incorporated no controls into the analysis. The lack of controls is an issue because one would expect that the size and risk level of a facility would influence staffing and the type of services available. For example, private facilities tend to be smaller, so it is not surprising that they have fewer staff and fewer suicides. Also, larger facilities tend to offer inmates more services (Gallagher & Dobrin, 2007). Higher risk facilities are designed for more serious and violent offenders (Siegel &

Senna, 2000) who are thus in greater need of services to deal with recidivism (Lipsey, Howell, Kelly, Chapman, Carver, 2010). So, in theory, higher risk facilities may offer more services if they in fact do have more serious and violent offenders. Moreover, as with previous studies, Yazzie combined for-profit and non-profit facilities.

Gallagher and Dobrin (2007) also looked at service availability, but in juvenile detention centers rather than in longer term residential facilities, using 2 national censuses of juvenile justice facilities. The purpose of the study was to examine whether juvenile detention centers met minimum standards for correctional health care set by the National Commission on Correctional Health Care. These standards included provision of dental, vision, and gynecological services, exercise requirements, health assessment and screening, first aid/CPR capabilities, and communicable disease and pregnancy detection services. Gallagher and Dobrin controlled for a variety of variables, including geographic region, facility population, level of security, ownership (public or private), crowding, length of stay, average age of juveniles, and race. Facilities in New England or the West, with longer lengths of stay, and serving a greater proportion of African American youth reported higher levels of health service provision. In addition, larger facilities were more likely to report higher health service provision. While not specifically comparing public and private facilities, they did find that private facilities were significantly less likely than public facilities to report high health service provision. Although this study included detention centers, rather than the longer term residential facilities that are the focus of the current study, it does provide insight into differences in service provision that may exist between public and private juvenile facilities.

Also in regard to service provision, Armstrong (2001) compared public and private operation of juvenile residential facilities. Armstrong developed conditions of confinement indices that measured 13 conditions: control, resident danger, danger from staff, environmental danger, activity, care, risks to residents, quality of life, structure, justice, freedom, programs, and preparation for release. Surveys were administered in April 1997 to 4,121 juveniles and 1,362 staff in 48 correctional facilities (16 private, 32 public) in 19 states. Official record information was also collected through interviews with administrators. Of the facilities in the sample, 27 were juvenile boot camp programs while 14 were more traditional juvenile programs. Armstrong controlled for a number of facility (i.e. capacity, age, juvenile to staff ratio), operational (admissions process and staffing) and juvenile variables (race, gender, offense seriousness).

Regarding the control variables, Armstrong found that private facilities tended to be smaller and were more likely to hold males and were more likely to hold property offenders than public facilities. Operationally, private facilities tended to have more intensive admissions processes and more extensive evaluations of juveniles. Furthermore, when compared to public facilities, private facilities employed younger, less experienced staff and had employed their current staff for a shorter length of time. There were no statistically significant staff differences with regard to race, gender, and education level and no statistically significant differences between public and private facilities with regard to juvenile offense seriousness. In addition, although the adult literature has found that private facilities to have higher level of security, Armstrong found no significant difference between ownership types with regard to juvenile to staff ratios, a component of security.



When Armstrong analyzed the conditions of confinement and ownership, she found activity to be the only condition to reach significance. Juveniles in private facilities reported higher levels of activity (the level<sup>5</sup> and variety of activities available). Armstrong also looked at the impact of ownership on juvenile adjustment by administering the survey twice to a subset of juveniles. She found that juveniles in private facilities “experienced more negative adjustment between survey administrations, especially as indicated by the change in their levels of anxiety and social bonds” (p. 82).

Unlike some of the other privatization studies, Armstrong utilized multilevel modeling in order to account for the nested structure of her data (juveniles and staff nested within facilities). Juveniles and staff within the same facility may have similar, or correlated, perceptions of facility conditions simply because they are in the same facility; multilevel modeling will account for this correlation. However, she did not address the facilities being nested within provider companies. Just as facilities can influence the juveniles and staff within them, private companies that run the facilities can influence facility conditions.

A limitation of this study, as with the studies discussed above, is that for-profit and non-profit facilities were combined. In addition, Armstrong’s study looked at juvenile and staff perceptions, which are subjective measures, rather than using more objective measures of conditions that may be more valid and reliable. Furthermore, nearly two-thirds of the facilities comprising the sample in this study were boot camps, a non-traditional juvenile program, so this sample does not represent the population of juvenile residential programs. This study cannot represent the juvenile boot camp population, as nearly half of the boot camps contacted declined

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<sup>5</sup> Armstrong did not elaborate on the meaning of “level” of activities.

to participate for reasons such as staffing and resource limitations and impending program closure. As such, the boot camps included may underrepresent boot camps of lower quality.

Bayer and Pozen (2005) conducted the only empirical study found on privatization of juvenile corrections that defined ownership as public, for-profit, and non-profit. Bayer and Pozen used data collected from 1997-1999 from the internal database of the FDJJ to compare state, county, for-profit, and non-profit juvenile residential facilities with regard to recidivism and monetary costs to the state of Florida. County facilities were mostly boot camps, but also included youth development centers. The study's sample contained 5,322 juveniles from 110 high or moderate risk juvenile correctional facilities. Recidivism (follow-up period was 1 year) was defined as subsequent adjudication, charge for any crime, and charge for one of 16 categories of crime. A number of control variables including facility risk level, gender and race of the youth served, criminogenic characteristics of the neighborhoods from which incarcerated youth came, and the age and size of the facility were also included in the analyses. In addition, Bayer and Pozen accounted in their analysis for the juveniles being nested within facilities.

For-profit facilities were found to serve youth with the highest number of felony charges and were more likely to serve youth charged with violent crimes. For-profit facilities had longer average lengths of stay, older average age at exit, and were larger than non-profit or public facilities, indicating for-profit facilities served more serious offenders. However, even when controlling for these factors, Bayer and Pozen found that non-profit facilities had the lowest recidivism rates, public facilities had the second lowest, and for-profit facilities had the highest rates. However, for-profit facilities had lower costs to the state of Florida than state or non-profit facilities. Furthermore, Bayer and Pozen concluded that the problems of for-profit companies in

reducing recidivism were systematic. This finding suggests that there may be operational issues unique to for-profit companies (such as the quality of facility security, management issues, and the quality of service provision) that may be impacting facility outcomes. Risk level of the facility was not found to be a statistically significant predictor of recidivism, although they only examined moderate and high risk facilities. Bayer and Pozen also found that neighborhood, facility, and peer characteristics were also found to be related to recidivism differences between the ownership types, but only accounted for a small proportion of the variance explained in their model. Combining these factors together obscures any differences between ownership types regarding facility characteristics. Regardless, Bayer and Pozen utilized a strong methodology to examine the impact of facility management on juvenile outcomes and uncover differences between for-profit and non-profit companies in juvenile corrections that had previously been overlooked. Nonetheless, their research does not explain exactly why the different ownership types result in different juvenile outcomes.

**Summary of research supporting mediation.** The goal of the current study is to examine whether the quality of facility operations mediate the relationships between ownership type and recidivism. Except where transparency is concerned, the privatization debate is typically fueled by what ownership types do rather than the ownership status itself. For example, as discussed previously, the private sector is thought to operate more efficiently, respond to the environment more quickly, and even cut corners on services and training while the public sector is thought to focus more on social welfare and rely too much on bureaucracy. As such, the study hypothesized that operations mediates the relationship between ownership type and recidivism.

That is, public, for-profit, and non-profit facilities operate differently and thus have different outcomes.

Table 1  
*Summary of juvenile privatization findings*

	Sample	Ownership measurement	Ownership results		Controls
			Operations	Recidivism	
Armstrong 2001	19 states, 16 private facilities, 32 public facilities, 27 of which were boot camps	Public/private	Private had a more intensive admissions process. No difference between ownership types regarding youth to staff ratio.	-	Facility capacity, age, and juvenile to staff ratio, admissions process and staffing, and juvenile race, gender, and offense seriousness.
Bayer & Pozen 2005	Florida JRFs	Public/for-profit/non-profit	-	Non-profit lowest, for-profit highest, 1 year follow up.	Facility age, size, and risk level, gender and race of the youth served, criminogenic characteristics of the neighborhoods from which incarcerated youth came
Gallagher & Dobrin 2007	Nat'l census of detention centers	Public/private	Public facilities reported more healthcare services	-	Size, length of stay, race, region
Terry et al. 1997	116 youth from 15 private and 2 public facilities in Midwest county	Public/private	-	Private lowest at 20 mos., public longer time to failure, no difference in seriousness	Demographic and legal factors, such as age, race, gender, original offense seriousness, criminal history, and length of confinement
Yazzie, 2011	Nat'l census of juvenile facilities	Public/private	Private had better psychological and counseling services, public has better personnel, drug and alcohol treatment, suicide treatment, and programs for violent youth	-	None

Furthermore, rather than one ownership type being best at operations and service delivery as a whole, different ownership types may excel at different aspects of operations and service delivery. Table 1 displays a summary of the research that was discussed in the literature review

on privatization in juvenile corrections regarding the impact of ownership type on recidivism and operational variables.<sup>6</sup>

**Ownership and operations.** As can be seen in Table 1, little theory and empirical research exists that addresses the impact of ownership type on operations. In addition, the findings of studies that do exist are rather mixed. As such, the current study's investigation into the relationship between ownership and operations were exploratory in nature. The research that does exist does not typically focus specifically on the relationship between ownership and operations. For example, the admissions process was found to be a longer more intensive process in private juvenile facilities (Armstrong, 2001). While a longer process does not necessarily indicate a better process, in the absence of research looking at quality of admissions, it is logical to conclude that a longer process may result in more accurate classification of juveniles. Although little, if any, research compares management and admissions between non-profits and for-profits, it has been suggested that tools for management are not easily utilized in the non-profit sector (Speckbacher, 2003). In addition, management has not historically been valued in the non-profit sector (Speckbacher, 2003). Furthermore, Ryan (2002) indicates that for-profits have more experience and expertise in managing and administering complex projects.

In terms of mental health, substance abuse, and intervention services, the research that does exist has somewhat mixed findings. While Armstrong (2001) found no difference between public and private facilities with regard to programming, Yazzie (2011) found mixed results, with private facilities having better counseling and psychological programs and public facilities

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<sup>6</sup> Only one study was found that separated private into for-profit and non-profit organizations, and this study did not look at operations. As such, previous thought on for-profit and non-profit organizations will guide the hypotheses regarding whether for-profit or non-profits are better at a particular aspect of operations.

having better treatment personnel and better programs for violent youth. The differences between the two studies may be attributable to the fact that Yazzie looked at staffing and types of programming while Armstrong looked at programs as a single variable, potentially obscuring differences within the variable. In addition, Armstrong was looking at a sample consisting of mostly boot camp programs, excluding boot camps that had declined to participate due to management issues. In contrast, Yazzie was examining data from a national census. As boot camps are specialized programs that serve as alternatives to traditional JRFs (Peters, Thomas, & Zamberlan, 1997), it is not surprising that the results of Armstrong and Yazzie were different.

As seen in Table 1, no study could be found comparing the public and private sectors with regard to food services. However, as stated above, one of the arguments against prison privatization is that the private sector will cut corners on services such as food (Logan, 1990). Only one juvenile study looked at public and private facilities with regard to security. This study found no difference between ownership types was only looking at youth to staff ratio, rather than security as a whole.

As can be seen from the review above, an important topic in juvenile privatization research is how ownership type impacts operations. The research that does exist focuses on one or two forms of operations and fails to consider the array of operations that are important aspects of quality programming. The current study addresses this research issue by examining how ownership type, including for-profit, non-profit, and public agencies, influences the quality of operations across juvenile residential facilities in Florida.

**Operations and Outcomes.** Studying operations is critical because, as Donabedian (1966) stated, it is important to know whether what is known to be “good” is what is actually

practiced. In fact, the existing evidence-based practice research is based upon the theory that methods are tied to outcomes (Henggeler & Sohoenwald, 2011; Lipsey et al., 2010; Mackenzie, 2000; McKibbin, 1998; Nutley, Walter, & Davies, 2009; Sherman, 1999). For example, in a meta-analysis of 548 delinquency intervention studies from 1958-2002, Lipsey (2009) concluded that one of the most important factors in reducing recidivism was the amount and quality of services. Quality of service included factors such as incomplete service delivery, poor staff training, high staff turnover, and dropout rates. Lipsey's study supports the idea that facility operations are an important factor in achieving desired outcomes.

Facility operations, the totality of a facility's methods, include security and control, community relationships, education services, health services, staff development, intake, and release (Pilson & Forstater, 2005). Although there is a scarcity of research studying the influence of juvenile residential facility operations on recidivism, research has studied various factors that make up operations (i.e. mental and physical health services, management, security, etc.) and their impact on juvenile outcomes. However, research and previous thought in these areas is both sparse and unsystematic and does not form a strong foundation for hypothesizing. Thus, the current study's examination of the impact of operations on recidivism is exploratory. The current study examines the impact of program management, admissions, mental health and substance abuse services, food services, health care services, intervention management, and security on recidivism.

***Program management.*** Program management, which includes setting and promoting organizational goals, screening and retaining employees, and establishing rules for staff, is expected to be related to facility outcomes, including recidivism. For example, Craig (2010)

suggested that proper prison management should be studied to help address high recidivism rates because prison managers have control over prison conditions, thus impacting prison outcomes. In addition, according to Lipsey (2009), one of the most important factors in recidivism reduction is having a therapeutic, rather than control oriented, environment. The balance of the therapeutic and control ideologies within a correctional facility is a management issue (Adams & Ferrandino, 2008) and would theoretically be related to setting and promoting therapeutic goals and establishing rules for staff that promoted a therapeutic environment. Another management factor related to recidivism is staffing. Recruiting, developing, and retaining appropriate staff is important to prevent recidivism (Auerbach, McGowan, Ausberger, Strolin-Goltzman, & Schudrich, 2010; Pilson & Forstater, 2005; Steward & Andrade, 2004). Well trained and screened staff will perform their jobs appropriately and know how to handle adverse situations that may arise in the facility, such as a juvenile behaving violently, without resorting to inappropriate or abusive behavior. Violence or abuse in a facility will detract from a therapeutic environment.

*Admissions.* Admissions is another important factor in facility outcomes. The admissions process of a residential facility includes classification of juveniles upon entrance to the facility in order to place them in appropriate housing and treatment programs. Admissions can be related to facility conditions and outcomes. When placed in appropriate treatment programs, juveniles are less likely to recidivate (Lipsey, 2009). In addition, as discussed earlier, the wrong intervention can actually increase recidivism (Petrosino et al., 2000). Furthermore, Kupers et al. (2009) found that appropriate classification of juveniles entering a residential facility resulted in reductions in violence, staff use of force, and inmate misconduct. The



reduction of these three factors helps to promote a more therapeutic environment that aids in the reduction of recidivism, as per Lipsey (2009).

***Mental health and substance abuse treatment.*** Mental health and substance abuse services are of critical importance in the juvenile justice system because mental health and substance abuse issues are overrepresented in the juvenile justice population (Pullmann et al., 2006; Siegel & Senna, 2000). While youth with mental health issues are at an increased risk of juvenile justice involvement, the effectiveness of mental health services provided to justice involved youth has been the subject of little research (Pullmann et al., 2006). Lipsey et al. (2010) list mental health issues as being a risk factor for delinquency; furthermore, provision of mental health services and substance abuse treatment have been found to lead to reductions in recidivism (Batten, 2006; Hiller, Knight, & Simpson, 2002; Kim et al., 1997).

***Food services.*** Food services refers to the provision of adequate and nutritious meals. Quality food services may play a role in juvenile recidivism; by altering chemical levels, poor nutrition can alter or even delay cognitive development, leading to impaired judgment and thus, delinquent behavior. A number of studies have linked diet with behavioral issues such as violence, aggression, poor impulse control, antisocial behavior, hyperactivity, drug and alcohol abuse, and, most importantly for the current study, delinquent behavior (Benton, 2007; Fishbein & Pease, 1995; Shoenthaler, 1983).

***Health care services.*** As with mental health and substance abuse issues, health issues are also an important concern within the juvenile justice system, because juvenile justice youth tend to have a higher rate of physical health problems than the general youth population (Golzari, Hunt, & Anoshiravani, 2006). Due to the overrepresentation of lower-income youth in the

justice system, the juvenile justice system may be the only way some justice involved youth gain access to health care (Golzari et al., 2006). In addition, the provision of adequate healthcare services has been shown to decrease recidivism (Kim et al., 1997).

***Intervention management.*** Intervention management has to do with case management and the delivery of appropriate programming for juveniles. Case management insures that juveniles connect with appropriate interventions and that their progress is monitored. One of the most important factors in reducing recidivism is appropriate programming that is delivered with fidelity (Lipsey, 2009); as such, it is believed that intervention management will have the strongest relationship with recidivism. Other studies have also found that receiving treatment interventions can reduce recidivism (Lipsey, Wilson, Cothorn, 2000). In addition, quality case management has been shown to reduce recidivism (Desai et al., 2006).

***Security.*** Security here includes the issue of youth to staff ratio, procedures for appropriate staffing levels, and monitoring for contraband. Quality facility security is essential to improving juvenile outcomes. For example, a low youth to staff ratio (fewer youth per staff) is important to maintain a therapeutic environment (Kupchik, 2007); as state above, a therapeutic environment is related to reduced recidivism. Similarly, a higher inmate to staff ratio (more inmates per staff member) has been found to lead to higher levels of violence within a prison (Lahm, 2009). Furthermore, overcrowding has been linked with higher levels of recidivism (Farrington & Nuttall, 1980). Thus, the various facility operations may potentially influence juvenile recidivism. In addition, ownership type may also impact juvenile outcomes.

***Ownership and outcomes.*** As seen in Table 1, the studies on ownership type and recidivism used various follow up periods. This is not surprising given the lack of a standardized

measure for recidivism (Harris, Lockwood, Mengers, & Stoodley, 2009). However, both studies examining recidivism show a relationship between ownership type and recidivism. Terry et al. found private facilities had the lowest recidivism rate at 20 months as well as the shortest time to re-offense. In contrast, Bayer and Pozen (2005) separated private sector into for-profit and non-profit and found non-profits to have the lowest recidivism rate and for-profits to have the highest after one year.

These studies used different operationalizations for both recidivism and ownership type. Bayer and Pozen (2005) utilized a 1 year follow up for recidivism and defined ownership type as public, for-profit, and non-profit while Terry et al. (1997) utilized 3 measures for recidivism: a 20 month follow up period, re-offense seriousness, and a dichotomous time to failure to define recidivism. Terry et al. also defined ownership type as public and private. While the different operationalizations would explain the differences in the two studies' findings, it must also be noted that these studies also looked at populations that were different in both their breadth and their location. Bayer and Pozen (2005) looked at the entire state of Florida while Terry et al. (1997) looked at a single mid-sized county in the Midwest. Taken together, the findings of these studies highlight the need for additional research on the impact that ownership type, distinguishing between for-profit and non-profit, has on recidivism.

In summary, ownership type has been shown to have a relationship with recidivism and to potentially have a relationship with facility operations. At the same time, quality management, accurate admissions procedures, provision of adequate physical, mental, and substance abuse services, good nutrition, quality and appropriate programming, and high levels of security all have the potential to reduce recidivism. As such, it is possible that operations

mediate the relationship between ownership type and recidivism. The causal processes that account for these relationships can be explained by existing organizational theories.

### **CHAPTER 3: THEORETICAL FRAMEWORK**

Due to the nature of how the juvenile justice system operates, cybernetic systems theory seems the most applicable to the current research. This theory explains how the system operates and makes changes based upon system learning. Furthermore, the incorporation of principal-agent theory into cybernetic systems theory can help to explain how the contracting relationship can impact the learning and processes of the system.

#### **Principal-agent theory**

Principal-agent theory hypothesizes the relationship between a contracting agency (principal) and a contracted agency (agent). As such, it is an appropriate theory to utilize when examining the contracting relationship between the FDJJ and contracted residential facilities. According to principal-agent theory, the agent acts on behalf of the interests of the principal; the principal has the expectation that the agent will act according to the preferences of the principal (Elgie, 2002; Ross, 1973). According to principal-agent theory, “despite the apparent influence that the principals in such relationships wield by virtue of their control of the purse strings, it turns out that the agents frequently end up with the upper hand” (Salamon, 2002, p. 12). In this case, the “purse strings” represent incentives to perform (e.g. funding, bonuses, etc.).

In the current example, the principal is represented by the Florida Department of Juvenile Justice (FDJJ) and the agents are the for-profit and non-profit organizations to which the FDJJ contracts for residential facility management. Within the Florida juvenile justice system, the “purse strings” are controlled by the FDJJ (within the budget constraints established by the Florida legislature), which provides compensation to those private organizations with which the FDJJ contracts. The purse strings in this example are the control of performance incentives for

JRFs. These incentives can include bonuses for above average performance or even the threat of contract termination for below average performance.

Principal-agent theory explains that, while working with in-house employees, principals can use coercive means to transmit and achieve goals. However, in contracting out to agents, principals must sacrifice some of this power and are forced to use more collaborative methods (Salamon, 2002). Within principal-agent theory, the principal and agent establish a payment model or fee schedule, through a bargaining process, for the desired goods or services; the fee schedule is based upon outcomes that the principal can observe (Ross, 1973; Sobel, 1993). The problems that arise in this situation are a result of imperfect information and conflicting objectives (Laffont & Martimort, 2002). These problems are termed adverse selection and moral hazard.

Adverse selection occurs when the principal has incomplete information about the agent. The agent, especially during the contract bidding process, will not only market itself as most suitable for the contract, but will also try to get the most possible compensation for their work. Thus, the principal will have incomplete knowledge about the agent's appropriateness to fulfill the contract (Laffont & Martimort, 2002). Examples of factors that may be hidden from the principal are the true cost to the agent of fulfilling the contract, the technology available to the agent, and the availability of appropriate skill sets within the agent's employees (Laffont & Martimort, 2002). In the case of JRFs, the agent may know they can feed a juvenile on \$5 a day, but tell the principal they need \$6.25 per juvenile per day. Thus, adverse selection may cause the principal to contract with an agent that might not be the best choice for the task at hand and/or may end up paying more than the agent is worth.

Once the contract has been signed, moral hazard can become an issue. Because contracting moves processes to an outside agent, the principal relinquishes some of its ability to supervise and thus loses a degree of control over those processes. As such, the principal does not totally control the actions taken by the agent to fulfill the contract because these actions are essentially unobservable. Moral hazard occurs when conflict arises between the principal and the agent regarding what actions should be taken (Laffont & Martimort, 2002). Because the actions of the agent are unobservable, no contract written to delineate these actions can be enforceable. An example of moral hazard action would be the amount of effort expended to pursue a particular goal. In the current example, JRF administration must pursue goals of security, but the amount of effort they truly put forth to supervise staff and juveniles is unobserved by the FDJJ, who can only measure security outcomes. Another moral hazard example would be a JRF cutting corners on services for juveniles. Hypothetically, while JRFs must provide food for juveniles, facility administration may choose to purchase poor quality food in order to save money.

Moral hazard issues also arise when the goals of the agent are different from, and even in conflict with, those of the principal. This type of moral hazard is referred to as agency shirking (Elgie, 2002). Thus, an agent may be pursuing alternate goals without the knowledge of the principal. Government agencies, for-profit companies, and non-profits may have differing cultures that impact goals and interfere with communication between agencies (Goldsmith & Eggers, 2004). For example, for-profit cultures tend to be results oriented and profit based and for-profit companies tend to have concise, homogenous goals, which are easily communicated to the organization (Goldsmith & Eggers, 2004; Spechbacher, 2003). For-profit organizations are

by definition dedicated to the goal of profit and are seen as a good choice when cost-efficiency is the primary concern (Besley & Ghatak, 2001). Thus, contracting to for-profit agencies for juvenile facility management may be seen as a feasible option during an economic crisis such as the recession of the early 2000s; the FDJJ, in fact, increased privatization of juvenile residential facilities during this time (FDJJ, 2011; Hockenberry, Sickmund, & Sladky, 2009).

In contrast, because of their social purpose, non-profits tend to have humanistic cultures and heterogeneous goals that are tied to a variety of community welfare and support functions (Baruch & Ramalho, 2006; Goldsmith & Eggers, 2004). These goals tend to be ideological and mission driven in nature (Dimaggio & Anheier, 1990; James & Ackerman, 1986) and include aims such as providing more humanitarian conditions and improving education (Low, 2003). Some research has shown that employees working in non-profit organizations tend to do so out of a desire to improve social conditions (Lloyd, 1990). Thus, non-profit organizations are thought to be more committed to quality of service and thus ideal for the pursuit of social welfare goals (Besley & Ghatak, 2001). Due to the developing nature of the youth involved, the juvenile justice field seems an ideal field for the ideological and mission driven nature of the non-profit, which theoretically focuses more on service than on cost. It must be noted, however, that while non-profits do not exist for the sole purpose of generating profit, they may and often do have a profit goal. The main difference with non-profits is that their profits must be reinvested into the organization, which they may do through improving technology, updating facilities, or paying executives. Indeed, non-profit executives may pursue more surplus revenue in order to improve their salaries. However, based on academic thought on privatization, for-profits will place more emphasis on the profit motive while non-profits will place more emphasis on the social good



motive. Thus, moral hazard may be a larger problem in for-profit corporations than in non-profit corporations.

In fact, some empirical research has shown that public and private organizations tend to have different goals (Rainey, Blackoff, & Levine, 1976). For example, in studying research and development laboratories, Scott and Falcone (1998) concluded that private laboratories placed a greater emphasis on commercial goals (developing knowledge for the purpose of creating commercial products and processes) while public laboratories had more focus on basic research (the pursuit of fundamental scientific knowledge). Others have found that government agencies tend to pursue political goals as part of their operations (Frydman, Gray, Hessel, Rapaczynski, 1999). This is not surprising given that government agencies are political in their very nature. In another study of research and development laboratories, Emmert and Crow (1988) found that government actors exerted more control over public laboratories than private laboratories in such areas as structuring the organization, obtaining and managing resources, and establishing goals. Thus, while government agencies may be formed to pursue goals of social welfare, these goals may deteriorate due to political pressures, special-interest demands, or simply greed (Shleifer, 1998).

Principal-agent theory also asserts that agents may choose to operate the organization to pursue goals in a different manner than the principal would prefer. In fact, Besley and Ghatak (2001) state that even when public and private agencies have similar goals, they may have different ideas about how these goals should be met. The same holds true when comparing for-profits and non-profits. For example, for-profits tend to view non-profits as not placing enough emphasis on results and not having adequate business skills; conversely, non-profits may assert

that for-profits do not focus on the unique needs of individual clients (Goldsmith & Eggers, 2004).

Within the current example, public juvenile facilities may be pursuing the goals of lower recidivism, greater educational improvement, and moving juveniles through the system. For-profit facilities by definition pursue the goal of profit, which can be achieved through the secondary goals of reducing costs, improving the efficiency (or reducing the quality) of service delivery, and increasing market share. For-profits may view success as achieving the lowest possible cost per juvenile per day. That is not to say that for-profits will not pursue or achieve public good; multiple levels of success are possible. For example, achieving the lowest cost is success, but achieving high quality at a low cost is a higher level of success. This higher level of success may in the long term lead to increased market share and/or provide the organization an edge during contract renewal. Finally, non-profits may be more duty driven and thus be concerned not only with lower recidivism but also with the improved overall well-being of the juveniles in their care. Success for a non-profit may include not only low recidivism rates, but also having juveniles improve their life skills, set educational and career goals, and build family and community relationships. Again, profit may be a motive for non-profits as well. However, general thought about privatization would state that while for-profits and non-profits may have the same goals, for-profits may place more emphasis on the profit goal while non-profits may place more emphasis on the social goal. Ultimately, the success of all three ownership types must be achieved within their respective budget constraints.

The principal-agent problem calls for the principal to take steps to ensure the accountability of agents; this is done through the contract. The principal must define goals,

outputs, and performance targets (Goldsmith & Eggers, 2004) and incorporate accountability measures into the wording of the contract. The principal must also incorporate incentives into the contract in order to motivate the agent to act efficiently (Elgie, 2002). As stated previously, this must be done carefully to achieve the optimum balance between the principal's control and the agent's discretion. As an example, the FDJJ does perform quality assessments of the operations of their JRFs to ensure accountability. The FDJJ requires that facilities achieve an overall score of 70 or above on each of the standard areas of the quality assessment in order for their operations to be considered "acceptable" (FDJJ, 2011).

### **Cybernetic systems theory**

The cybernetic systems theory being utilized for this study falls under the category of open systems theory. Open systems theory views organizations as structured systems composed of interdependent parts. These parts interact with one another and with the environment (Scott & Davis, 2007). Open systems theory emphasizes both feedback as a means to maintain a steady state as well as the pursuit of multiple and sometimes conflicting goals by different parts of the system. Open systems theory also examines the manner in which the system receives inputs from the environment and transforms them into outputs (Kast & Rosenzweig, 1972). In the current study, the Florida legislature, the FDJJ, and the individual JRFs represent the different parts of the juvenile corrections system; these parts interact with one another and exchange information to alter the system. The general public, communities, law enforcement, and juvenile court all represent parts of the environment that interact with and provide feedback to the juvenile correctional system.

The use of open systems theory for studying privatization has precedent (Pickel, 2006; Steen & Smith, 2012). For example, Steen and Smith (2012) used systems theory when comparing public and private foster care agencies. They found that public and private foster care agencies each had strengths and weaknesses. For example, when compared to private agencies, public agencies tended to employ more experienced foster care workers with a greater commitment to agency goals; public agencies also had higher salaries, higher levels of safety, and funding stability. Conversely, private agencies had greater autonomy with regard to lobbying and higher agency morale than their public counterparts.

In addition, systems theory has been used in the study of criminal justice. According to Feeley and Simon (1992), systems theory started as a business administration theory and gradually across the 20th Century began to be used in studying public policy, including criminal justice. Researchers have used systems theory to study police (Cotton & Coleman, 2010; Crank & Giacomazzi, 2009), courts (Gray, Cochran, & Gray, 1976; Gray & Gray, 1974), and corrections (Andrews, Feit, & Everett, 2011; DeMichele & Payne, 2012; Handler, 1975; Joubert, 1981). As such, open systems theory can appropriately applied to the current study.

According to systems theory, there are a variety of forms that a system can take, differing in the number of and relationships between the system's various parts (Scott & Davis, 2007). This idea was expanded by Boulding (1956) who created a typology of systems ranging from the simplest systems (Frameworks) to the most complex (Transcendental). The current study examined juvenile residential facilities as cybernetic systems, Boulding's third system level. The cybernetic system differs from the simpler systems at lower levels primarily in that "the transmission and interpretation of information is an essential part of the system" (Boulding,

1956, p. 203). This difference is important for the current study because moral hazard, as outlined in principal-agent theory, indicates that the individual JRFs may interpret and implement the instructions from FDJJ in a manner other than the FDJJ would desire. Due to their contrasting cultures and different emphases on various social and profit goals (as discussed above), public and private juvenile facilities (agents) may differentially interpret and implement the information transmitted by FDJJ (principal). The varying implementation consequently results in variations in operations across JRFs and a subsequent difference in their achievement of the outcomes required by FDJJ.

For example, a for-profit JRF may place the strongest emphasis on operating below budget with less emphasis on achieving the lowest recidivism levels. As a result, they may reduce services and treatment to a minimum level or ignore training needs of staff in order to spend less money and increase profit. In contrast, a different for-profit JRF may wish to increase market share; thus management will emphasize recidivism reduction as a means to bargain for more contracts in the future. Because they must still operate within a budget, operations such as management or security may suffer as more money is allocated to treatment programming.

According to Swinth (1974, paraphrased in Scott & Davis, 2007, p. 91), “to view an organization as a cybernetic system is to emphasize the importance of the operations, control, and policy centers, and the flows among them.” A cybernetic system is one that can self-regulate based upon an externally prescribed target or criterion (Scott & Davis, 2007, p. 89). In addition, some systems are double loop learning systems, meaning that participants in a system (in this case, the agents) can provide feedback and subsequently influence the leader (here, the principal)

(Argyris, 1976). Figure 1 depicts Florida’s juvenile residential facility system as a Cybernetic System.

As can be seen in Figure 1 (adapted from Swinth, 1974, paraphrased in Scott & Davis, 2007, p.91), the policy center represents the FDJJ and the control center represents the facility’s management, whether public, for-profit, or non-profit. According to principal-agent theory, the goals and plans transmitted through Flow 3a are often altered in the control center and a variety of different instructions are subsequently transmitted to the operations center through Flow 4.

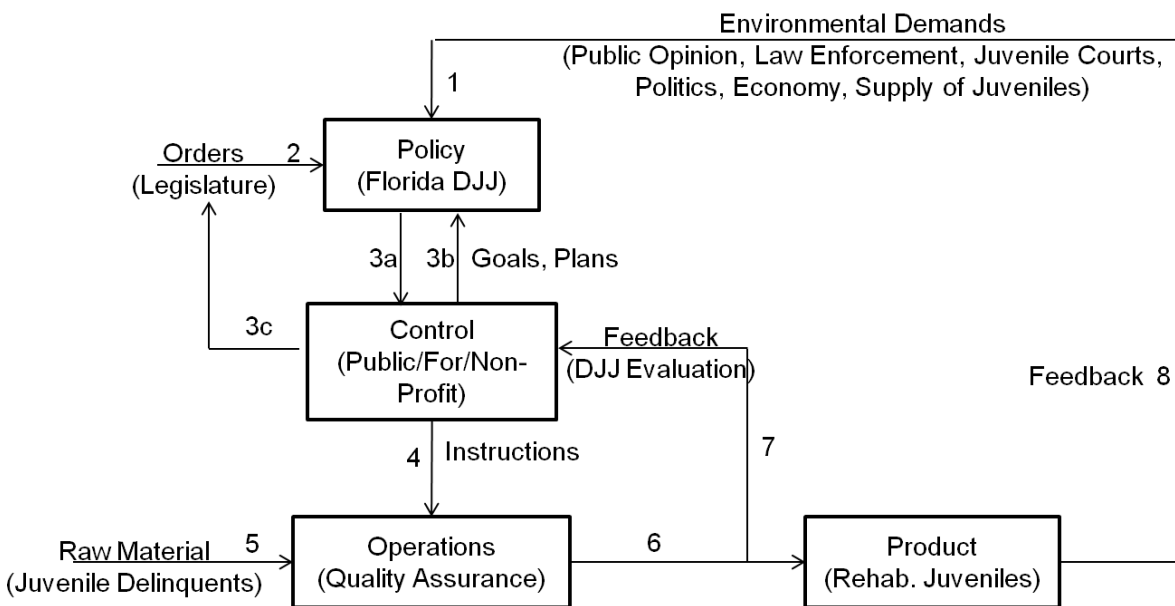


Figure 1: FL juvenile residential system as a cybernetic system

Double loop learning is represented in both Flows 3b and 3c. Flow 3b indicates the influence that the agent may potentially have on the principal. This potential influence emphasizes the fact that agents have different ideas and methods of accomplishing goals and may transmit them back to the principal. This same process was documented by Vaughan (1996) when she examined the decision to launch the Challenger space shuttle despite warnings that the

shuttle had serious safety issues. According to Vaughan, NASA contracted with agents to work on the Challenger project. Through a feedback process, the agents were able to alter the initial standards set for the project by NASA; what was initially a sign of danger became normalized in a process Vaughan (1996, p. xiii) described as an “incremental descent into poor judgment.” In the current example, the same thing could happen along Flow 3b to alter FDJJ set standards regarding such things as safety, staff, and proper programming to a point where staff and juveniles could be in serious danger.

The other double learning loop, Flow 3c, represents the influence that the control center may have on the legislature. In the current case, individual JRFs and the organizations that own them may lobby with the Florida legislature in order to have legislation passed that benefits the JRFs. Thus, the control center can influence the orders that are transmitted to the policy center. For this study, only the loops from policy to control to operations to product were studied (Flows 3a, 4, and 6).

The operations center is the functioning of the facility where raw materials (delinquent juveniles) are transformed into products (rehabilitated juveniles). The operations center is represented by program management, mental health and substance abuse services, health services, food services, intervention management, and security. The quality of the juveniles’ transformations is measured here through recidivism. Florida’s QA protocols would be represented in Figure 1 by Flow 7 (Feedback) and, as a cybernetic system, would result in the facility self-regulating and thus improving its performance.

## Final theoretical model

The final theoretical model can be seen in Figure 2, which shows how principal-agent theory can be incorporated into the cybernetic system. The current study focuses on Flows 3, 4, and 6a. As the model indicates, principal-agent theory comes into play from Flow 3 to Flow 4 and along Flow 6b and the alternate goals center.

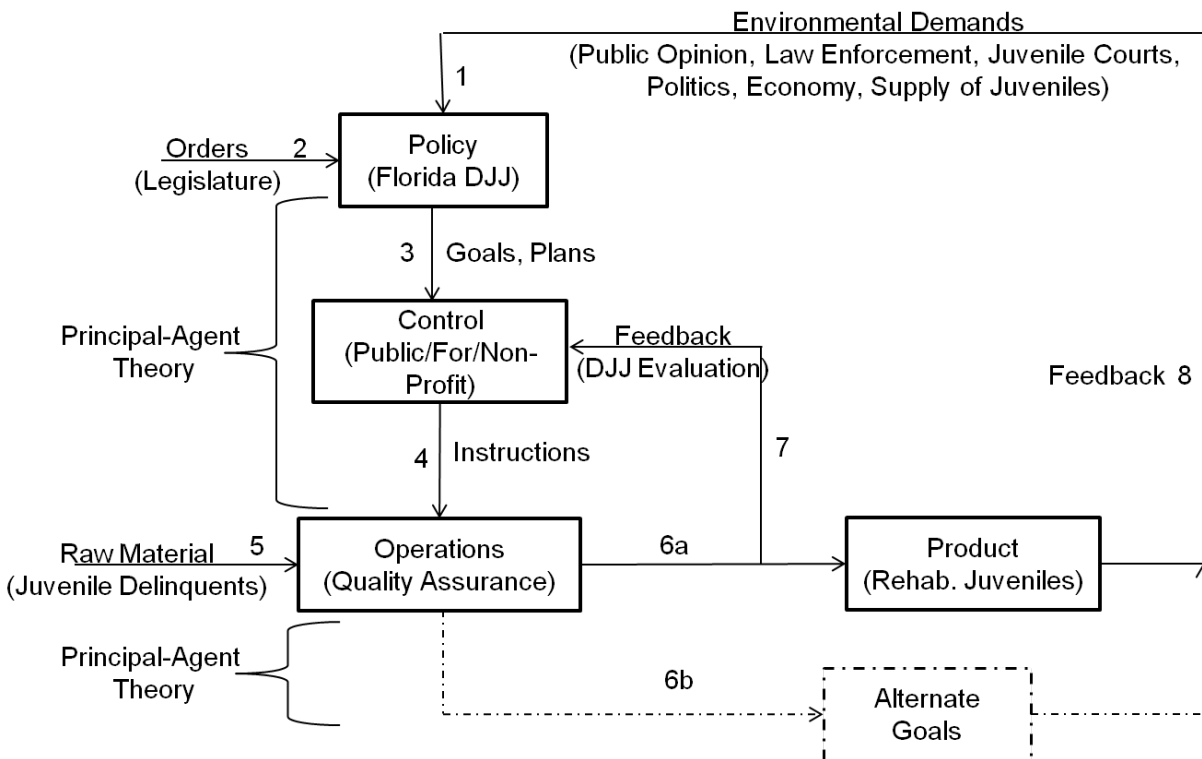


Figure 2: FL juvenile residential system as a cybernetic system with principal-agent theory

The juvenile facilities holding contracts with FDJJ may have goals separate from those of the FDJJ, as indicated by Flow 6b and the alternate goals center. The principal (FDJJ) transmits information regarding goals and plans to the facility administrators (Flow 3). Principal-agent theory would indicate that at the control center, the agents (juvenile facilities) will interpret that information, add their own goals and plans, and transmit instructions (Flow 4) to the operations



center. The instructions are fashioned to follow both Flows 6a and 6b. Thus, resources are allocated and strategies implemented to pursue both the product center and the alternate goals center, which may be conflicting to some degree (for example, pursuing both profit and the provision of adequate services). Thus, the degree to which either set of goals will be realized may vary across organizations depending on how each facility instructs the operations center. Again, different levels of success are possible. So, hypothetically, a JRF may be able to achieve 8% reduction in recidivism, but choose to lower the quality of services in order to maximize profit, resulting in only 5% reduction in recidivism. This choice may be more probable if the contract only sets a target of 5% reduction. Adding incentives (e.g. bonuses) for surpassing targets can address this problem.

In summary, privatization is a common practice in the juvenile justice system, which is surprising given the scant empirical research on private juvenile facilities. Based upon the privatization literature that does exist, type of juvenile facility ownership has the potential to impact the operations of the facility. Principal-agent theory suggests that public, non-profit, and for-profit organizations may have different and conflicting goals and thus have different strengths with regard to operations and outcomes. Conflicting goals combined with contrasting plans for achieving these goals will not only cause different types of facility ownership to emphasize different aspects of facility operations but also will lead the facilities to adopt different methods of operating. Based on this theoretical framework, the hypotheses that guide the current study are listed below.

## **Current study**

As seen in Table 1 above, research on the juvenile justice system seems to have reached somewhat mixed conclusions with regard to which ownership type performs best, specifically with regard to intervention and recidivism. However, upon closer examination, it becomes clear that the different conclusions reached by these studies may be due to a number of limitations of the current body of research.

For example, a major limitation of the current body of research is that the majority of studies combine for-profit and non-profit into a “private” category. As discussed earlier, for-profits and non-profits are thought to have different goals and to emphasize different organizational processes. For-profits may value efficiency and the “bottom line” whereas non-profits may place more emphasis on humanitarian and social goals. As such, there may be differences both in how they operate and in the outcomes they achieve. Indeed, the only study found that measured ownership type as public, for-profit, and non-profit (Bayer & Pozen, 2005) found differences between the two with regard to cost and recidivism. Therefore, it is important to further examine the impact of ownership type, distinguishing between public, for-profit, and non-profit types, on operations and outcomes.

In addition, the inconsistent use of control variables, or lack of control variables, is also a limitation. The current study incorporates appropriate control variables, including gender served by the facility, the risk level of the facility, the size of the facility, change in provider company, juvenile race, juvenile age, and prior seriousness into the analyses. Facilities serving females will have to provide special services, such as gynecological services; in addition males have been found to have a higher recidivism rate (Bayer & Pozen, 2005). Higher risk facilities are more

physically restrictive and thus may have special operational issues; furthermore, higher risk facilities have been found to have higher recidivism rates (Gaes & Camp, 2009). Larger facilities tend to offer more services (Gallagher & Dobrin, 2007) and tend to have higher recidivism rates (Bayer & Pozen, 2005; Farrington & Nuttall, 1980).

Individual juvenile variables have been found to be related to recidivism as well: younger offenders tend to have higher levels of recidivism (Kubrin, Squires, & Stewart, 2007; Myner, Santman, Cappelletty, & Perlmutter, 1998; Snyder & Sickmund, 2006); race has also been found to be related to recidivism, with minority juveniles having higher levels of recidivism (Kubrin et al., 2007; Snyder & Sickmund, 2006; Walters, 2012). In addition, juveniles with more prior referrals (Snyder & Sickmund, 2006) or higher risk levels (Lipsey, 2009) are more likely to recidivate. Some opponents of privatization argue that private companies may engage in “creaming,” or manipulating the system to have more easily served clients sent to their program, in the hope that, as a result, their recidivism will be lower (Nightengale & Pindus, 1997; Schwartz, 2007). In the current study, this would mean private companies managed to have less severe offenders sent to their facilities. Thus, aggregate measures for race, average age, and average prior seriousness are included as control variables.

Furthermore, the study controlled for change in provider. Sometimes the FDJJ will discontinue a facility management contract with one private provider and switch the contract for that facility to a different private provider. It is expected from cybernetic systems theory and principal-agent theory that providers will emphasize different goals and processes in their operations.

Finally, previous research has failed to examine operations as a whole. Typically, studies that examine operational variables, such as management, health care, or mental health services, include only one or two operational variables or aspects of those operational variables and thus, prior research provides only a partial image of privatization. Moreover, few prior studies have examined ownership and its impact on operations, or how operations impact outcomes. Furthermore, prior research has not combined ownership, operations, and outcomes into one study. Therefore, previous literature has not examined the entire privatization process or examined possible mechanisms that account for the ways in which privatization actually impacts outcomes. That is, studies have failed to examine the possibility of a mediating relationship.

Based on existing empirical evidence and organizational theory, the current study posits that operations may mediate the relationship between ownership and outcomes-different ownership types may be better at different operational characteristics and thus excel with regard to different outcomes.

Due to the dearth of empirical research in this area, the current study is exploratory in nature and attempts to examine whether facility operations mediates the relationship between ownership and recidivism while endeavoring to improve upon previous methodology. Rather than using juvenile or staff perceptions to measure service delivery and other operational characteristics, this study uses a systematic assessment of operations performed by the FDJJ. The study also separates the private category into for-profit and non-profit in order to examine possible differences between these two groups. In addition, while previous studies have tended to focus on either operational variables or outcomes variables, this study attempts to link the two. By combining all these factors into one model, a complete picture of how privatization impacts

outcomes can be examined. The current study builds on the previous studies by using a sample from an entire state that includes both rural and urban areas, and by including facilities from all risk levels.

### **Research questions**

R1: Does facility ownership (public, for-profit, non-profit) impact the quality of facility operations?

R2: Does the quality of facility operations impact juvenile recidivism?

R3: Does facility ownership impact juvenile recidivism?

R4: Does the quality of facility operations mediate the relationship between facility ownership and juvenile recidivism?

### **Hypotheses**

H1: Ownership impacts facility operations. As stated above, due to the dearth of research and theory in this area, this research question is exploratory in nature. The only study on healthcare services and ownership type found public facilities to have higher service provision (Gallagher and Dobrin, 2007); in addition, although no empirical research in juvenile justice covers food services, it is thought that private facilities will cut corners on service provision (Logan, 1990). Thus, public facilities will have the highest quality food and health care services. The bulk of what little research exists on management and admissions in both the adult and juvenile fields favors the private sector for management, admission, mental health and substance abuse services, intervention management, and security. Due to their greater experience in the area and different organizational values (Ryan, 2002; Speckbacher, 2003), for-profits will be the leader with regard to program management and admissions. Finally, due to their supposed

emphasis on humanitarian conditions and institutional programming (Low, 2003), non-profits will have the highest quality mental health and substance abuse services, intervention management, and security.

H2: Operations impacts recidivism. As with the impact of ownership on operations, the investigation of the relationship between operations and recidivism is exploratory. The study predicts that intervention management will be the strongest predictor of recidivism because appropriate treatment delivered with fidelity is believed to be one of the most important factors in reducing juvenile recidivism (Lipsey, 2009).

H3: Ownership impacts recidivism. The study posits that non-profit facilities will have the lowest recidivism rates while public facilities will have the highest. This hypothesis is based upon the hypotheses that non-profits will have the best intervention management and that intervention management will have the strongest relationship with recidivism. This hypothesis is also in accord with the recidivism findings of Bayer & Pozen (2005), the only empirical juvenile privatization study that separated for-profits and non-profits.

H4: Operations mediates the relationship between ownership and the outcome. Rather than ownership having a direct impact on juvenile recidivism, it is hypothesized that ownership impacts operations which in turn impacts recidivism.

The hypothesized results can be seen in Figure 3. The arrows connecting ownership with the operational variables represent hypothesis 1-ownership impacts operations; hypothesis 2 can be seen in the lines connecting the operational variables with recidivism. Hypothesis 3 is seen in the line connecting ownership with recidivism. Hypothesis 4-operations mediate the relationship between ownership and outcomes-can also be seen in the line connecting ownership with

recidivism. If mediation exists, the relationship between ownership and recidivism will be reduced or disappear altogether when the operational variables are included in the ownership/recidivism relationship.

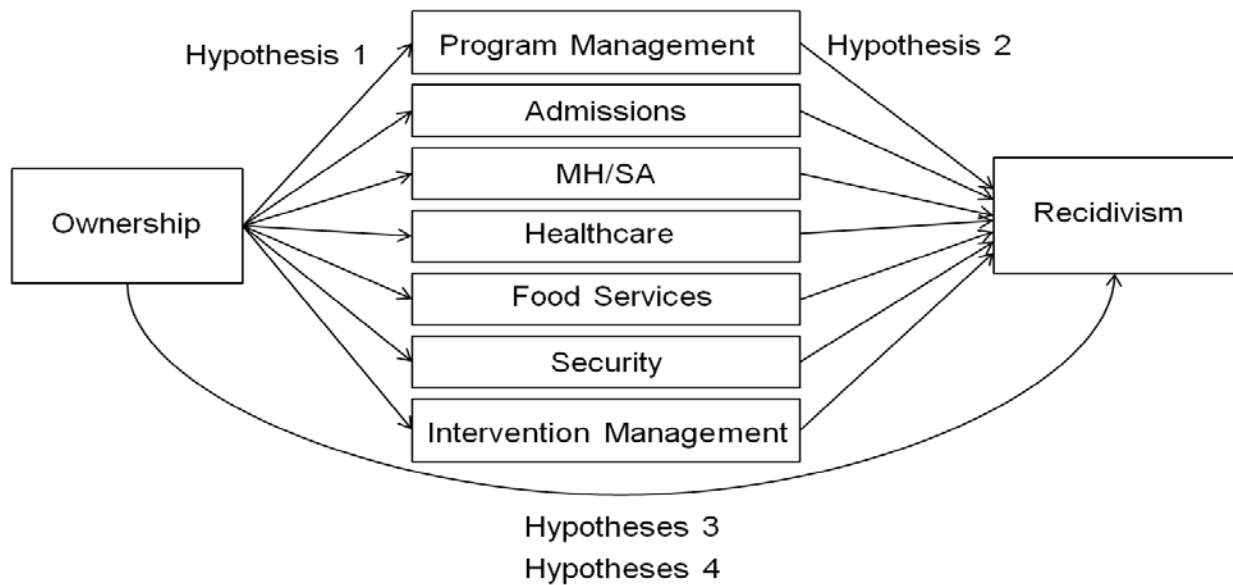


Figure 3: Representation of hypotheses

The current research seeks to add to the literature by examining how for-profit, non-profit, and public juvenile residential facilities in Florida differ with regard to their operations and their resulting outcomes. Juvenile justice departments nationwide will better be able to weigh privatization options by having a more detailed understanding of the strengths and weaknesses of each type of facility ownership. For instance, the research findings can be used along with cost information for prospective contractors to inform the contracting decision or perform a cost-benefit analysis. In some cases, the FDJJ may decide to pay more to an ownership type that is associated with a particular desired outcome. For example, when the public is concerned about juvenile crime, FDJJ may be willing to increase spending on an ownership type with lower recidivism rates.

Moreover, knowledge of the variations between different types of facilities will allow juvenile justice departments to better make decisions as they negotiate and draft contracts. For example, if juvenile justice administrators know the strengths and weaknesses of a particular type of facility, they can draft the contract to ensure accountability in the weak areas while also emphasizing strengths. If an ownership type is associated with higher quality program management but lower quality mental health services, the contract can set higher performance targets for management indicators while establishing higher supervision for provision of mental health services. Finally, this research strengthens recidivism research by examining whether operational processes are linked to lower juvenile reoffending, thus potentially allowing facilities to more efficiently achieve the aim of lower recidivism rates.



## **CHAPTER 4: METHOD**

### **Research design**

The current study utilizes a non-experimental design to answer the research questions. Facilities were grouped according to their ownership status (public, for-profit, or non-profit) and were compared across a group of operational and outcome measures. The goal of the study is to test whether operational characteristics mediate the relationship between ownership and outcomes. The design was non-experimental for a number of reasons. First, facilities cannot be randomly assigned to ownership type; therefore a true experimental design is not possible. Also, the study does not include an experimental group. Therefore, the study is a non-experimental design (as opposed to quasi-experimental). Data for this study were obtained from the Florida Department of Juvenile Justice. In total, information on 166 facilities from 2003-2006 was obtained through public records requests to the FDJJ.

### **Florida Department of Juvenile Justice**

Originally, all official dealings with children in Florida (including both dependency and delinquency cases) were under the jurisdiction of the Florida Department of Health and Rehabilitative Services (HRS). HRS's strategy for dealing with these issues was to provide social services to both children and their families. Florida began to move away from the social services model in 1994 when it created the modern Florida Department of Juvenile Justice (FDJJ, 2010). FDJJ "was assigned responsibility for juvenile delinquency cases and children and families in need of services (CINS/FINS) cases" (FDJJ, 2010, p. 12).

Subsequent to the creation of the new department, juvenile legislation remained nearly unaltered and many of the employees of the new FDJJ were formerly employees of HRS. As a

result, the cultural and philosophical orientation of the FDJJ remained similar to that of HRS- “to approach juveniles as children in need of treatment and reform rather than criminals deserving punishment” (FDJJ, 2010, p. 12). Although the FDJJ has shifted toward a more punitive orientation as a result of “Tough Love” legislation of 2000<sup>7</sup> (FDJJ, 2010; p. 12), it continues to focus on treating juveniles to promote beneficial changes in behavior. Currently, the mission of the FDJJ is “to increase public safety by reducing juvenile delinquency through effective prevention, intervention, and treatment services that strengthen families and turn around the lives of troubled youth” (FDJJ, 2010, p. 11). FDJJ is responsible for juvenile delinquency prevention, juvenile victim services, and cases involving status offenders and juvenile delinquents.

FDJJ receives funding from a variety of sources, including the Florida legislature, the U.S. Department of Juvenile Justice and Delinquency Prevention, Florida county governments, and other public and private funders. The department’s operating budget for the 2010-2011 fiscal year was just over \$600 million (FDJJ, 2013a). The department receives over 150,000 delinquency referrals per year (FDJJ, 2013a). In fiscal year 2010-2011, the various offices of FDJJ served a large number of youth: Prevention and Victim Services served 25,219 youth, Detention Services had 37,426 admissions, Residential Services served 8,169 youth, and Probation and Community Intervention served 66,907 youth (FDJJ, 2013a). This study focuses on the residential services offered by FDJJ.

Historically, the Florida system of juvenile residential facilities has been largely privatized. For example, the 2006 juvenile residential facility census reports that 72% of the 144 juvenile residential facilities in Florida were privately operated (40 public and 104 private)

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<sup>7</sup> “Tough Love” legislation provided for the organizational restructuring of FDJJ and shifted department policy away from its original social services model toward a more retributive approach to juvenile justice (FDJJ, 2010, p. 12).

(Hockenberry et al., 2009). Of the 6,854 juveniles being held on the day of the 2006 census, 2,594 were in public facilities and 4,260 were in private facilities (Hockenberry et al., 2009). In 2010, Florida had 118 juvenile residential facilities; 103 (87.3%) of these were privately operated (FDJJ, 2011). Thus, in four years, the privatization of Florida's juvenile justice system increased about 15 percentage points. As stated previously, from 2006 to 2008, the privatization of juvenile facilities nationwide dropped from 56% to 53%; thus, Florida has a higher rate of JRF privatization than the nation as a whole. In fact, currently, all of FDJJ's residential programs are privatized (George Pesta, Associate Director, Center for Criminology and Public Policy Research, Florida State University, personal communication, July 19, 2013).

The FDJJ operates under the assumption that operations will impact outcomes. The FDJJ aims to reduce juvenile crime and increase public safety through the use of evidence-based practices, effective interventions, and quality educational programming. The department also measures and evaluates facility operations on a regular basis (FDJJ, 2011), collecting data annually.

Privatization under the FDJJ is performed through a contracting process overseen by the FDJJ's Bureau of Contracting, which supervises an estimated \$320 million in contracting activities per year (FDJJ, 2012). The FDJJ contracts out for a variety of services, including administrative, health, probation, preventative, educational, mental health, and residential services (FDJJ, 2012). The contracting process is initiated when the FDJJ's Bureau of Contracting posts a competitive solicitation, which can be either a request for proposals, an invitation to bid, or an invitation to negotiate. An interested party can then submit an application packet that includes an assortment of forms, including a budget summary, a spending plan, and a

drug-free workplace certification. The Bureau of Contracting facilitates the contracting process between the contracting department and the interested parties (FDJJ, 2012). In the current example, the Bureau of Contracting facilitates the contracting process between the Office of Residential Services and the private provider. In the case of residential facilities, the Office of Residential Services would post a competitive solicitation for facility management. Those organizations who were interested in managing the facility would then submit an application. The Bureau of Contracting would facilitate the contracting process between the Office of Residential Services and potential contractors. The Office of Residential Services would review the applications and select a contractor. Residential contracts are three to five years in length. When a program is coming up for renewal, the Office of Residential Services meets with regional and headquarters' residential staff to discuss the program. If they decide to renew the program's contract, Residential Services then schedules a conference with the provider to discuss renewal (Laura Adams, Operations and Management Consultant, FDJJ, personal communication, May 8, 2013).

Florida is an appropriate study site for a number of reasons. First, Florida has a sufficient number of facilities under each ownership type to fulfill the sample requirements for this study. In 2004, Florida had the fourth largest number of private facilities, behind only New York, California, and Pennsylvania (Livsey, Sickmund, & Sladky, 2009). Of these states, New York serves the smallest number of juveniles, California holds 89 percent of its juveniles in public facilities and Pennsylvania has a relatively small number of public facilities (Livsey et al., 2009). Thus, Florida is a most appropriate study site of these four states. In addition, Florida conducts a comprehensive annual review of facility operational characteristics that has been recognized

worldwide as a model evaluation process; FDJJ has even trained representatives from other states (i.e. Texas, Ohio, and Georgia) and countries (i.e. Australia, Germany, and England) in this evaluation process (FDJJ, 2011). Thus, Florida has high quality measures of the variables that were examined in the current study.

### **Ethics**

The current study relies on the secondary analysis of publicly available data that are at the facility level. No information that could violate the confidentiality and anonymity of individuals will be used or disseminated. As such, there is little issue with safety in the storage of data.

In regard to institutional review board (IRB) approval, the Human Research Determination checklist published by UCF's IRB was completed and it was determined that the current research is not human research as defined by DHHS regulations. The researcher also did apply for UCF IRB approval and received an official "not human research" determination. The UCF IRB letter can be found in Appendix C. Moreover, the FDJJ has confirmed that it does not require its IRB office to approve the use of the data being used for this study as it is publicly available, aggregate level data (Erika Gaeta, Institutional Review Board Director, FDJJ, personal communication, May 17, 2013).

### **Data collection**

This study performed a secondary data analysis of the official data collected by the state of Florida during each study year on each of the JRF's. Specifically, data were obtained through two annual reports from 2003-2006: the QA protocols and the outcome evaluation report (OER).

The QA protocols measure facility operations and the OER measures facility outcomes, including recidivism, program completion rates, and length of stay.

Results of these reports were obtained from the FDJJ Bureau of Quality Improvement (QA protocols) and the FDJJ website (OER). The QA protocols are performed each calendar year (i.e. January 2003 through December 2003); the OERs are based upon fiscal year (i.e. July 2003 through June 2004). The OER reports a facility's recidivism as the recidivism for all youth who completed the program and were released during the fiscal year in question. To illustrate, for each facility, the 2005 OER reports the percent of all completed youth released from that facility from July 2002 through June 2003 who recidivated within one year of release.

The QA reports were obtained through a public records request to FDJJ's Bureau of Quality Improvement (BQI). The reports were requested for years 2002-2007. While the current study is only interested in 2003-2006, the 2002 and 2007 reports are necessary to finalize the study sample. For example, the 2002-2003 recidivism report contains the recidivism data needed for some of the 2003 QA reports. The 2002 QA reports are needed to determine which of the facilities listed in the 2002-2003 recidivism report received their QA evaluation in 2002 (thus not being part of the sample) and which facilities are actually missing. The same is true of the 2006-2007 recidivism report and the 2007 QA reports.

In order to match each facility's annual QA evaluation with the recidivism for that facility, the QA evaluations were recoded into fiscal years. Thus, a QA evaluation performed in January 2003 was recoded as the 2002 fiscal year and was matched with the 2002 fiscal year recidivism. A QA evaluation performed in August 2003 was recoded as the 2003 fiscal year and subsequently was matched with the 2003 fiscal year recidivism. For facilities with no

completions, the OER reported the recidivism as N/A. As these youth did not complete the program, it follows that operations would not impact their behavior in the same way as it would impact those youth who completed the program. Thus, facilities with no completions were removed from the sample. There were 7 facilities (<1%) removed for this reason.

In some cases, a QA evaluation was done twice in the same fiscal year (i.e. August 2003 and May 2004). For these cases, two sets of QA scores correspond to a single recidivism score. These cases were handled in one of two ways. First, if one of the evaluations was completed within two months of July 1 (the beginning of the fiscal year), it was recoded into the missing fiscal years. So, in the earlier example of QA evaluations for one facility being performed in August 2003 and May 2004, the corresponding recidivism score is from fiscal year 2003. Because May 2004 is within two months of July 1, that QA report is matched with the recidivism score from fiscal year 2004. The rationale is that in two months, facility operations are unlikely to have changed a great deal. Of the 633 cases, 28 (4.4%) were coded this way. However, if neither QA evaluation was performed within two months of July 1, the QA scores were averaged and matched with the corresponding fiscal year recidivism. This method was used in 17 (2.7%) cases. In some cases, the fiscal year recoding left a recidivism score with no QA score. For instance, if two QA evaluations were performed in fiscal year 2004, it is possible that fiscal year 2005 was left without a QA evaluation. These cases were treated as missing and accounted for 10.4% (66) of the facilities.

## **Sample**

The current study relies on yearly contract (i.e., ownership), quality assurance, and recidivism data from 2003-2006. These years were chosen because they were the most recent

and most consecutive years in which the QA assessment was largely unaltered. Significant changes were made to the QA standards in 2007, 2008, 2009, and 2011. In addition, the number of public facilities decreases a great deal in subsequent years to the current year where no public juvenile residential facilities exist in Florida, thus precluding any comparison of public facilities.

The unit of analysis for the current study is the QA evaluation, thus making this study incident-based research.<sup>8</sup> Similarly to previous incident-based studies, specific facilities can be included in the sample multiple times if they received a QA evaluation more than once during the study period (2003-2006). Ideally, facilities in the sample would receive a QA report every year; thus, being included in the sample four times. In addition, the OER reported recidivism for cases that did not have a QA report. These facilities were also entered into the dataset. Based upon these two reports, the sample consisted of 731 cases.

Further research, in collaboration with FDJJ's Bureau of Quality Improvement and Department of Residential Services, was made to determine which cases would be included in the final sample. Facilities were removed for a number of reasons: 1) they were confirmed as not having been in operation at the time in question (39 cases), 2) their QA evaluation fell outside the study period (14), 3) they had no completions and thus no valid recidivism score (7), or 4) FDJJ confirmed no QA had been performed (38). Subsequent to this research, 98 cases were

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<sup>8</sup> Examples of incident-based research are some studies using the *National Incident Based Reporting System* (NIBRS) (i.e., Roberts, 2007; Snyder, 2000; Thompson, Saltzman, & Bibel, 1999). In research based on NIBRS, while using the individual offender or aggregate crime numbers as the unit of analysis is possible, another potential unit of analysis is the crime incident (Maxfield and Babbie, 2011). When the incident is the unit of analysis, a single offender or victim may appear in the dataset multiple times. The focus in these particular NIBRS studies is usually the relationships among the victims and offenders or the process of the incident (i.e. were weapons used) (Maxfield & Babbie, 2011). The current study is looking at the relationships between ownership, operations and recidivism based upon cybernetic systems theory and principal-agent theory. The QA evaluation is the mechanism by which the units in the system give and receive feedback, thus making the QA evaluation (i.e., operations) the appropriate unit of analysis.



removed from the sample, resulting in a final sample of 633 cases (i.e. annual QA reports) representing 166 facilities.

In some cases, a recidivism score was reported for a facility, but no QA evaluation was produced to match. This situation was handled in one of two ways. As stated above, if FDJJ confirmed that no QA evaluation was performed that year, the case was removed from the sample. Otherwise, QA scores were imputed. Imputation of missing QA evaluations was performed for 134 (21.2%) cases. Of the 633 cases, 6 cases (<1%) had QA evaluations but no recidivism reported to match; these recidivism scores were also imputed. In total, 140 (22.1%) cases had missing QA evaluations or recidivism scores imputed. In addition, there were 19 (3%) cases for which neither a recidivism score or a QA evaluation was reported. Although, FDJJ confirmed these facilities were open during the study period, it was unable to confirm or deny whether QA evaluations had taken place for these facilities. As the QA evaluation is the unit of analysis, there was no way of telling whether these facilities were actually in the sample; as such, they could not be imputed and so were treated as missing. As stated previously, there were 66 (10.4%) cases that had no QA to match due to the fiscal year recoding that were also treated as missing-although a QA had technically been performed, placing these cases in the study, the recoding left them with missing evaluations.

Table 2 shows a summary of the sample used in this study. In total, complete QA and recidivism information is available for 408 (64.5%) cases representing 155 facilities. Imputation of QA or recidivism scores was performed on 140 (22.1%) cases representing 95 facilities, resulting in 548 (86.6%) complete cases representing 158 facilities. Finally, 85 (13.4%) of cases were missing.

Table 2  
*Summary of study sample*

	Frequency	Percent
QA and Recidivism	408	64.5
Imputed QA or Recidivism	140	22.1
Missing	85	13.4
Total	633	100

Table 15 in Appendix A shows a comparison of sample characteristics between the full sample of 633 cases and the sample of 548 cases after the 85 missing cases were removed. As is shown in table 15, very little difference exists in these sample characteristics, indicating that little or no bias was introduced by removing the missing cases. Furthermore, chi square tests for independence indicated no relationship between missing/non-missing status and the categorical control variables. Independent samples t-tests indicated no significant difference between the missing and non-missing cases on mean scores for the continuous control variables.

In addition, a t-test comparing the recidivism scores of the full sample and the missing removed sample was performed. The results of the t-test showed no statistically significant difference between the full sample and the missing removed sample with regard to recidivism. These results further indicate that there was little or no bias introduced by removing the missing cases. Therefore, the final sample size used throughout the analyses included 548 cases representing 158 facilities.

Missing value analysis of the study variables for the 548 cases indicated that 185 (33.6%) cases had at least one value missing; in total, 15.8% of values from these 185 cases in the dataset

were missing and needed imputation. Multiple imputation<sup>9</sup> is considered an ideal method for imputation of missing data (Rubin, 1996) and has been found to work well on a wide variety of models (Rubin, 1996; 2004) and be more accurate than single imputation methods (Norusis, 2011). The regression method of multiple imputation fits a regression model for each variable with missing values (Yuan, 2000); thus, SPSS computed multiple linear regression estimates to create predicted values for each missing value. The continuous variables in the model served as predictors for each estimate. SPSS then improved each predicted value by adding a randomly selected residual from a non-missing case (Norusis, 2011), thus incorporating uncertainty into the missing value estimate.

**FDJJ residential facilities.** Within the FDJJ, secure Florida juvenile residential facilities (JRFs) are categorized by risk into four categories: low risk, moderate risk, high risk, and maximum risk (FDJJ, 2011). Low-risk facilities are not physically secure, but are secure enough for the safety of youth and staff. These facilities serve youth who are a low risk to themselves and society and are generally first time or less serious offenders. Moderate-risk facilities are environmentally or staff-secure facilities and allow youth limited access to the community. Youth in these facilities receive specialized services as needed. High-risk facilities are hardware secure with perimeter fencing; youth are not allowed to have access to the community. Youth are placed in these facilities out of a concern for public safety and receive a variety of integrated

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<sup>9</sup> For studies with 10 to 60% missing values, multiple imputation is the most accurate imputation technique (Barzi & Woodward, 2004). The majority of missing values were within the QA evaluation scores, as described above. As such, the data values are not randomly missing. For data with non-random missing values and only 10 to 20% missing values (in the current study, there are 15.8% missing values), the regression method of multiple imputation will produce the most accurate value estimates with a low root mean squared error (Lee & Huber, 2010). It is generally agreed that 3-10 imputations is sufficient for optimal multiple imputation results (King, Honaker, Joseph, Scheve, 2001; Rubin, 1996; Schaefter, 1997). For this study, SPSS was set to perform 5 imputations and the final dataset was used for the study analyses.

services. Finally, maximum-risk facilities serve youth deemed to be a very high risk to the community. All services are provided on-site-youth are only permitted to leave the facility for court appearances and to receive medical care not available at the facility. Youth are housed in private cells and may be held until 22 years old (FDJJ, 2006b). Table 16 in Appendix B provides a list of each facility included in the analysis by risk level and year of inclusion in the sample. It is important to note that, during the sampling time frame, no significant changes were made in Florida juvenile justice policy which would create a history threat.

*Youth served.* Table 3<sup>10</sup> shows the number of youth served during the study period by facility risk level and fiscal year. Across all years, moderate level facilities have the most releases followed by high risk facilities. In addition, the total percentage of male youth stays around the same amount across all years as does the percentage of black youth, the total recidivism rate, and the completion rate. The similarity across years indicates that year may not be a factor in the demographics and outcomes of the juvenile residential facilities and supports the use of multiyear sampling.

### **Measurement instruments**

**Quality assurance protocols.** In accordance with the Florida Legislature, the FDJJ has implemented the QA protocols, which are tied to the continuation of the private contract (FDJJ, 2011). The FDJJ uses the QA protocols to evaluate the performance of both the public and private facilities. The standards outlined in the QA protocols establish minimum levels of performance. The QA protocols of JRF operations are conducted by the Office of Residential Services of the FDJJ. The QA protocols have been recognized worldwide as a model evaluation

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<sup>10</sup> Data for this table were taken from the Comprehensive Accountability Reports retrieved from <http://www.djj.state.fl.us/research/reports/car>

Table 3  
*Youth served by facility risk level and fiscal year*

	Facility risk level				Total
	Low	Moderate	High	Max	
<b>FY 2002-2003</b>					
Total releases	1,327	6,199	2,276	199	10,001
Total completions	1,196	5,306	1,702	105	8,309
Percent male	80	81	85	90	84
Percent black	54	43	51	57	51
Recidivism	43	40	37	40	40
<b>FY 2003-2004</b>					
Total releases	1,258	6,273	2,162	149	9,842
Total completions	1,104	5,313	1,805	76	8,298
Percent male	81	80	82	83	82
Percent black	55	44	51	63	53
Recidivism	43	39	41	32	39
<b>FY 2004-2005</b>					
Total releases	1,109	6,100	2,130	117	9,456
Total completions	1,030	5,349	1,684	102	8,165
Percent male	78	80	85	89	83
Percent black	54	44	51	62	53
Recidivism	40	40	41	37	40
<b>FY 2005-2006</b>					
Total releases	1,032	6,099	2,040	80	9,251
Total completions	911	5,417	1,632	55	8,015
Percent male	76	81	86	91	84
Percent black	58	47	54	58	54
Recidivism	39	39	39	33	38
<b>FY 2006-2007</b>					
Total releases	962	5,284	1,791	146	8,183
Total completions	850	4,610	1,569	88	7,117
Percent male	77	83	91	94	86
Percent black	60	50	54	61	56
Recidivism	43	43	45	33	41
<b>FY 2002-2007</b>					
Total Releases	5,688	29,955	10,399	691	46,733
Total Completions	5,091	25,995	8,392	426	39,904
Percent Male	78	81	86	89	84
Percent Black	56	46	52	60	54
Recidivism	42	40	41	35	39

process. FDJJ has trained agents from other states and has conferenced with representatives from other countries about these protocols (FDJJ, 2011).

Since 1996, the FDJJ has been training and certifying individuals to perform the reviews of the JRFs (Bureau of Quality Improvement, 2012). These individuals complete two days of training and must pass three examinations to become “certified reviewers.” QA reviewers are professionals with juvenile justice experience who are drawn from FDJJ or provider staff. Hundreds of certified reviewers volunteer to evaluate FDJJ’s detention services, prevention and victim services, probation and community intervention services, and, relevant to this study, residential services (BQI, 2012). To qualify to participate on a QA review team, individuals must have “a bachelor’s degree or higher, currently hold a supervisor or management position with FDJJ or a provider program, and have at least two years of experience in juvenile justice. These qualifications may be waived by the bureau chief based upon experience or other justification (Jennifer Bailey, Bureau of Quality Improvement, FDJJ, personal communication, October 8, 2013).

FDJJ has over 450 reviewers that participate on the QA review teams. FDJJ may use the same individual for their review process from year to year; however, that individual may be reviewing a different facility each year (Jennifer Bailey, personal communication, October 8, 2013). Although different facilities may not be reviewed by the same team of reviewers, reliability of the QA evaluations is assumed by requiring reviewers to be certified in the QA evaluation process prior to participating on a review team. Certified reviewer training includes goals and objectives of the quality improvement process, getting familiar with the review instruments, learning how to conduct on-site

reviews, collecting thorough documentation, and writing summaries, narratives, and justifications. Additionally, skill practice activities and competency-based assessments are conducted throughout the training sessions to ensure that the participants comprehend and can apply the material learned in the training (BQI, 2012, p. 11).

***QA team and review process.*** QA review teams consist of a lead reviewer and three to six peer reviewers. The lead reviewer is a staff member with the Bureau of Quality Improvement and is responsible for ensuring the fairness of the review and the rigor of the review's methodology and for writing the final report. To gather the QA data, a team reviews the juvenile residential facilities on an annual basis using a process-based assessment. The review is done on site and for residential programs and may last up to three days. The review team studies policies, procedures, and practices of the facilities. The information for the QA protocols is gathered through interviews with staff, youth, and management, examining records, and through observation.

***QA standards.*** Facilities are evaluated concerning a variety of broad standards, which are made up of a number of indicators. From 2003-2005, facilities were evaluated regarding 13 standards: program management, admissions, living and treatment, case management, mental health/substance abuse treatment, behavior management, food services, health services, program security, program safety, transition planning, training and staff development, and conditional release. In 2006, the QA evaluations assessed facilities regarding 10 standards: program management, training and staff development, admissions, residential community, treatment and case management, mental health/substance abuse treatment, healthcare services, food services,

program safety/security, and conditional release. Conditional release is not applicable to juvenile residential facilities and all JRFs in the sample scored zeros on this indicator. The current study will use program management, admissions, mental health/substance abuse treatment, healthcare services, food services, intervention management,<sup>11</sup> and program security to represent facility operations.

***QA standard indicators.*** Each of the QA standards is composed of a number of indicators. Indicators measure how well certain processes are accomplished. Examples of performance indicators are “the sleeping quarters have adequate lighting, covers, pillows, and individual beds” and “food service staff develop advanced, planned menus and substantially follow the schedule.” Each standard has differing numbers of performance indicators. For example, program management may be measured by 15 indicators while admissions are measured through eight indicators. Moreover, some indicators are not applicable in some facilities. For example, under health care services, the provision of gynecological and obstetrical services is not applicable in a male facility. The indicators deemed not applicable are not included when calculating the facility’s score.<sup>12</sup>

***QA rubric and scoring.*** The QA review team uses a rubric to evaluate whether the facility meets minimum standards and to assess the quality of facility operations. According to

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<sup>11</sup> For this study, treatment and case management were combined in 2006 using similar indicators from previous years. Matching indicators from the 2003-2005 standard “living and treatment” and 2006 “treatment and case management” were combined to form this standard.

<sup>12</sup> The indicators for each standard are not identical across years. Some standards are reworded while others may be combined; however, the indicators still represent the same concepts. For example, under “food services,” 2003 has an indicator that states “The kitchen and dining area are clean and well maintained,” while 2006 has an indicator stating “Food service areas are clean, sanitary, and well maintained.”



the QA rubric, performance indicators are rated using a ten point scale (0-9). Scores on each performance indicator specify the following:

***7-9-Superior performance:*** The program exceeds all elements required in the particular indicator with either an innovative approach or an exceptional, program-wide dedication to performance that is readily apparent. There is evidence of very few, if any, exception to this.

***4-6-Satisfactory Performance:*** All of the requirements of the indicator are met almost all of the time. While the items, elements or actions necessary to accomplish the indicator are prevailing practice, minor exceptions may occur occasionally.

***1-3-Partial Performance:*** Not all of the elements of the indicator are being accomplished or there are frequent exceptions to accomplishing the items, elements, or actions required to satisfy the requirements of the indicator. While there may be a policy in place, many staff is unaware of it or there is no policy or procedure in place although staff generally is accomplishing the indicator.

***0-Non-Performance:*** The items, elements or actions necessary to accomplish the indicator are missing or are done so poorly that they do not contribute to the accomplishment of the indicator or the overall standard.

To determine the score for each standard, the scores received on each indicator for that standard are summed and divided by the maximum possible score for the standard. For example, if Standard A was made up of 5 indicators, each with a maximum possible score of 9, the

maximum possible score for Standard A would be 5 multiplied by 9, or 45. If, during an evaluation, a facility receives a 5 on each indicator under Standard A, it would have a score of 5 multiplied by 5, or 25. The percentage score for Standard A would then be 56% (25 divided by 45, then multiplied by 100 and rounded up).

The use of a percentage score for each standard accounts for the fact that each QA standard may have a different number of indicators across years or across facilities (i.e. “N/A” indicators at a facility). Each standard was placed within a performance range based upon the score it received. Scores of 59% or below would fall within the “Failed to Meet Standards” range, 60-69% represents Minimal Performance; 70-79% represents Acceptable Performance; 80-89%- represents Commendable Performance; and 90-100% represents Exceptional Performance. In the above example, Standard A received a score of 56%, placing it in the “Failed to Meet Standards” range.<sup>13</sup>

Should issues arise with one or more components of a facility’s operations, the facility is placed on conditional status with the goal of causing the facility to correct any problems. Facilities are placed on conditional status when “they achieve at least a minimum level of performance overall but fail to meet minimal performance level [*sic*] in one or more program components” (FDJJ, 2006b, p. 41). Facilities on conditional status are more closely monitored by FDJJ; once corrective action has successfully been taken, the facility is no longer on

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<sup>13</sup> Facilities may challenge their scores and have the opportunity to offer additional information to the QA review staff which may influence their scores. Drafts of final reports are emailed to each facility director who then has five working days to initiate the challenge process. The regional QA manager discusses each issue raised with the lead reviewer and documentation is reviewed to determine the legitimacy of the challenge. Other members of the review team may be contacted for additional information. Challenges are then successful or unsuccessful and a final report is published. Facility directors have 10 working days to review the report and may begin a formal challenge process. A panel is then formed to review the formal challenge; the Director of Administration makes the final decision (FDJJ, 2006b).

conditional status. If a facility does not correct the problem(s) within six months, they are open to contract or administrative action (FDJJ, 2006b).

On the opposite end of the spectrum, facilities that receive an overall performance rating between 80-89%, a compliance rating of 90% or above, and have no standard rated at minimal performance are placed on “deemed” status and do not receive a QA evaluation for the following two years. So, for instance, a facility placed on deemed status in 2003 would not receive another QA evaluation until 2006. However, according to the Bureau of Quality Improvement of FDJJ, FDJJ views these two “deemed” years as having the same QA scores as when the facility achieved deemed status (Mark Greenwald, Director of Research and Planning, FDJJ, personal communication, September 3, 2013). For example, a facility that achieved “deemed” status in 2003 did not receive a QA review again until 2006. The QA scores received in 2003 will then be carried over to 2004 and 2005, as per FDJJ recommendation.

**Outcome evaluation report.** The outcome evaluation report will be used to measure recidivism, a juvenile behavioral outcome. According to the FDJJ (2006a), recidivism rates are only calculated for those juveniles who completed the residential program. The follow-up period to measure recidivism has been established as one year following release. FDJJ collects recidivism data primarily from the Juvenile Justice Information System (JJIS). When, within one year of release, the juvenile reaches the age of majority or has a case waived to adult court, the data must necessarily be collected from the Florida Department of Law Enforcement (FDLE) and Florida Department of Corrections (FDC). Recidivism is reported for each facility as “the percentage of youth with a subsequent juvenile adjudication or adult conviction including adjudications withheld for an offense that occurred within one year of release” (FDJJ, 2006a, pp.

4-5). This definition has been used in previous research regarding juvenile recidivism and privatization (Bayer & Pozen, 2005). As implied in the previous section, the recidivism data were obtained from the FDJJ website for fiscal year 2002-2003 through fiscal year 2006-2007. The residential facility recidivism data can be found in the Comprehensive Accountability Reports, which are available online through the FDJJ website.

## **Variables**

**Ownership.** The independent variable, facility ownership, is operationalized as whether the facility is public, non-profit, or for-profit.<sup>14</sup> The facilities' ownership types are determined by examining the FDJJ Comprehensive Accountability Report (FDJJ, 2011), which reports whether facilities are public or private. For-profit and non-profit are determined through self-report of the facility, either by statement of the provider organization's website or through personal contact via telephone. Table 5 below shows cases and facilities categorized by ownership type. There were 28 facilities run publicly, representing 90 cases. For-profit companies managed 70 facilities representing 273 cases. Similarly, non-profit companies managed 74 facilities representing 272 cases. As Table 4 shows, the percentage of cases for each ownership type is similar to the percentage of facilities for each ownership type. This indicates that no facility is overrepresented in any given ownership type.<sup>15</sup> Appendix B shows a summary count of Florida JRFs from 2003 to 2006. Most facilities are classified as moderate risk facilities (385 cases, or about 60.8%) while maximum risk facilities represent the smallest risk group (19,

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<sup>14</sup> Ownership is coded as two dummy variables with public ownership as the reference.

<sup>15</sup>It can be noted that the facilities column adds up to 171 even though there are only 158 facilities in the sample. This seeming discrepancy is due to 13 facilities changing ownership type during the study period. Not only is this a small number of cases (2.4%), but the control variable representing change in provider will help to accommodate the change.

or about 3%).<sup>16</sup> With regard to ownership, most facilities were privately run, with 236 (43.1%) being for-profit and 228 (41.6%) being non-profit; 84 (17.7%) were publicly run (FDJJ).

Table 4  
*Ownership types by case and facility*

Ownership	No. cases	% Cases	No. Facilities	% Facilities
Public	84	15.3	28	17.7
For-profit	236	43.1	70	44.3
Non-profit	228	41.6	73	46.2
Total	548		158	

**Facility operations.** As stated previously, the QA reports scores for each facility across a number of standards. Seven of these standards have been taken from the QA reports to serve as indicators of facility operations. These standards are those that are most comparable across the four study years. In addition, as stated in the literature review, elements from these operational variables have been shown in previous studies to be associated with recidivism (Auerbach et al., 2010; Batten, 2006; Benton, 2007; Craig, 2010; Desai et al., 2006; Hiller et al., 2002; Kim et al., 1997; Kupchik, 2007; Kupers et al., 2009; Lipsey, 2009; Lipsey et al., 2000; Pilson & Forstater, 2005; Steward & Andrade, 2004). The current study will use program management, admissions, mental health/substance abuse treatment, healthcare services, food services, intervention management, and program security to represent facility operations. To represent the operational variables, the converted scores for each standard (as described previously) will be used. The possible range for all operational variable scores is 0-100. Definitions for each standard are provided below:

<sup>16</sup> One QA report combined a high risk (Florida Institute for Girls high risk) and a maximum risk (Florida Institute for Girls maximum risk) facility into one report; these facilities could not be disaggregated for that year.

***Program management***-the quality of program management. This includes transmitting the mission statement, goals, and expectations to staff, filing appropriate reports, conducting audits of youth in residence, hiring appropriate staff, ensuring FDJJ guidelines are followed, and fostering relationships with the community. Program managers must also ensure that procedures are in place for incident reporting.

***Admissions and orientation process***-the quality of the admissions and orientation process. This includes orienting the youth to the facility, receiving paperwork and making appropriate notifications to parents/legal guardians and juvenile justice personnel, and classifying juveniles so they receive appropriate sleeping arrangements and staff are aware of the juvenile's needs and issues.

***Mental health and substance abuse***-the quality of mental health and substance abuse services. This includes screening and assessment of youth for mental health and substance abuse issues, suicide screening and prevention, and treatment for any MH/SA needs.

***Food services***-the quality of food services at the facility. This includes provision of adequate and nutritious meals and keeping the kitchen sanitary.

***Health services***-the quality of health care services at the facility. This includes contracting with physicians for provision and oversight of healthcare, screening for health conditions, provision of medications, and providing gynecological services where applicable.

***Program security***-the quality of oversight of juveniles and the facility. This includes staff to youth ratios, procedures for adequate staffing, and searches for contraband.

***Intervention Management***-the quality of the management of intervention services. Management of intervention services includes completion of progress reports and individual

performance plans, provision of social and life skills education, promotion of family involvement, and implementation of restorative principles.

**Facility recidivism.** The outcome variable for this study is juvenile recidivism. Recidivism is operationalized as subsequent juvenile adjudication or adult conviction within one year of release from the residential facility. The FDJJ reports in the CAR the percentage of released juveniles (who completed the residential program) who recidivated within a one year follow up period; this percentage is the measure used for this study. The one year follow up period is used by more states to measure recidivism than any other follow up period (Harris, Lockwood, & Mengers, 2009). The possible range for recidivism scores is 0-100.

**Control variables.** According to the study's theoretical model, the environmental center (public opinion, law enforcement, economy, politics, juvenile courts, etc.) and policy center (FDJJ) will exert influence on the control center (juvenile residential facility). Within juvenile justice, this influence is exemplified by political pressures, cultural beliefs, juvenile justice department policies, and state legislation impacting the operations of JRFs. The pressures, beliefs, policies, and legislation will vary across states; in addition, the legislature and the FDJJ experience their own principal-agent problem (Flow 2). The role of the environmental center will be controlled by limiting the study to Florida JRFs. Thus, all facilities will have fairly similar environmental influences, especially with regard to state law. In addition, some of the regional variation in the environmental influence was accounted for through the inclusion of a variable representing the region of the state the JRF is located.

The other control variables for this study have been found, as indicated in the literature review, to impact juvenile recidivism (Bayer & Pozen, 2005; Farrington & Nuttall, 1980; Gaes &

Camp, 2009). They are risk level of the JRF (low, moderate, or high/maximum<sup>17</sup>),<sup>18</sup> facility size, and gender of the juveniles in the facility<sup>19</sup>. In addition, the outcome evaluation report states the percentage of black youth in the facility, the average age of juveniles upon entry to the program, and average prior seriousness (APS) of juveniles served by the facility. APS is a point system to reflect the delinquency histories of youths served by a facility. A seriousness score is calculate for each juvenile “by assigning point values to prior charges based upon the seriousness of the adjudicated charged offenses” (FDJJ, 2011). Each violent felony receives 8 points, property or other felonies each receive 5, misdemeanors each receive 2, and any other offenses each receive 1 point. APS is calculated by dividing the total seriousness score by the total number of youth served during the fiscal year.

Table 5  
*Study model*

Independent	Mediating/Dependent	Dependent	Control
Ownership (2)	Program management	Recidivism	Facility size
	Admissions		Facility risk level (2)
	Mental health/SA services		Juvenile gender (2)
	Health care services		Percent black
	Food services		Average age at admission
	Security		Average prior seriousness
	Intervention Management		Change in ownership

In some cases, the management of a JRF passed from one private company to another, so the change in the organization of ownership is also included as a control variable. Facilities managed by the same provider as the previous year had this variable coded as 0; facilities received a 1 if there was a change in management from the previous year. In total, facilities

<sup>17</sup> Due to the limited number of maximum risk facilities and their similarity to high risk in security and in risk of juveniles served, maximum and high risk facilities were combined into one risk group for this study.

<sup>18</sup> Risk is coded as two dummy variables with low risk as the reference.

<sup>19</sup> Gender is coded as two dummy variables with coed as the reference.



changed providers 39 times across the study period. All of the information regarding these control variables can be found in the QA reports.

## **Data Analyses**

**Bivariate analysis.** Bivariate analyses were conducted in order to determine which variables will be included in the multivariate analyses. While descriptive analyses are used to describe the sample and units of analysis, bivariate analyses are used to describe the relationship between two variables (Maxfield & Babbie, 1995). Relationships that fail to reach significance at the bivariate level are unlikely to be significant at the more rigorous multivariate level. In addition, bivariate analysis will also provide the means to test some of the assumptions for multivariate statistical techniques, such as multicollinearity (through correlations and variance inflation factors). Specifically for the current study, analysis of variance (ANOVA) and correlation analyses were used to identify statistically significant relationships.

An ANOVA is used to examine the relationship between a categorical variable (with three or more level or groups) and a continuous variable. The ANOVA will determine whether there is a significant difference across the groups in the categorical variable in the mean scores on the continuous variable (Pallant, 2007). To perform an ANOVA, an F ratio (between groups variation divided by the within groups variation) is calculated. A large F ratio signifies more variance between groups than within; should the F test reach significance, the null hypothesis that the means are equal across the groups can be rejected. After a significant F test, post hoc tests are used to determine the nature of the differences between the groups. One of the assumptions of the ANOVA test is equality of variances across groups; should the data fail this

assumption, the Welch's and Brown-Forsythe tests will be used. Welch's and Brown-Forsythe are more rigorous F tests that do not assume equality of variances (Pallant, 2007).

In contrast, correlation analysis is used with two continuous variables to determine the strength and direction of their relationship (Pallant, 2007). The correlation coefficient reported ranges from -1 to 1. A correlation coefficient of -1 or 1 means that the variables are perfectly correlated; a coefficient of 0 means there is no correlation between the two variables. A negative correlation coefficient signifies an inverse relationship while a positive correlation coefficient indicates a direct relationship. The square of the correlation coefficient also indicates how much variance in one variable the other will explain (Pallant, 2007).

Since facility ownership is a categorical variable and operations and recidivism are continuous variables, a series of one-way between-groups ANOVAs were performed to determine if there is an impact of facility ownership on each of the facility operations (program management, admissions, mental health/substance abuse services, health services, and food services) and recidivism. Both facility operations and recidivism are continuous, therefore, whether a relationship exists between the operational variable and recidivism was investigated by using Pearson product-moment correlation coefficient.

Thus, the bivariate analyses will show some simple relationships between variables and help inform the final model for the current study. Variables that show signs of multicollinearity may be removed from the model, due to parametric assumptions and for the sake of parsimony. In addition, variables that fail to achieve significance at the bivariate level are highly unlikely to achieve significance at the more rigorous multivariate level; thus, for the sake of parsimony,

independent variables that do not have significant relationships with the dependent variable at the bivariate level will not be included in the multivariate model

**Multilevel modeling (MLM).** The current study is using data that are nested. Each juvenile residential facility is nested within a provider company. Across the five fiscal years, 23 non-profits and 19 for-profit companies managed JRFs in Florida. The largest for-profit companies were Premier Behavioral Solutions, which managed 56 facilities during the sample time frame, and G4S Youth Services, LLC, which managed 44 facilities. The largest non-profits were Eckerd Youth Alternatives, Inc. (39 facilities) and the Associated Marine Institute (33 facilities). While all three ownership types managed moderate risk facilities, non-profit companies managed more low risk facilities than the other two ownership types and for-profit companies managed more maximum risk facilities than the other two types.

As a result of the influence the provider companies have on the facilities they manage, JRF's, which are managed by the same provider company, may operationally be more similar to one another than facilities owned by different companies. The influence of the provider companies will have to be addressed in the analysis through the use of MLM techniques.

Luke (2004) describes three ways in which the use of MLM analyses can be justified: theoretical, statistical, and empirical. The theoretical basis for MLM is that processes and systems, especially in organizational research, occur at multiple levels and should thus be analyzed on multiple levels (Luke, 2004; Goldstein, 1987). The context in which relationships and processes occur matters (Luke, 2004). In the current study, each facility is nested in and operates in the context of the provider company that owns it. Historically, nested data structures were addressed by either ignoring the nested structure or by aggregating individual data to the

group level (Luke, 2004; Seibert, Silver, & Randolph, 2004). Both approaches led to problems. Ignoring the nested structure can result in the ecological fallacy, or making conclusions about individuals based upon group data. Conversely, aggregating data into groups loses much of the variation that exists at the individual level and leads to the atomistic fallacy, or making conclusions about groups based upon observations of individuals (Luke, 2004). Thus, inappropriately addressing the nested structure of data can lead to serious issues when drawing conclusions. For instance, in the present study, the operational scores for each juvenile facility could be aggregated into provider companies. As a result, Provider X may have a very high mean score on program management; however, one could not then conclude that every facility managed by Provider X was good at program management.

The second way to justify MLM is statistical. It is logical to assume that individuals nested in a group may be more akin to one another than they are to individuals in another group. As a result, the individual observations are not independent of one another, violating the independence assumption of many traditional statistical analyses. Single level analyses will tend to underestimate errors, resulting in a higher probability of Type I error. For example, in the current study, individual facilities are nested within their respective provider companies. Facilities owned by Provider X are influenced by the policies and procedures of Provider X. As a result, the operational scores of Provider X may cluster together and their subsequent error terms may be highly correlated. The same is true for Provider Y facilities, but as Provider Y may have different policies and procedures, the operational scores may cluster around a different point.

MLM relaxes the assumption of independence. MLM can model individual and group variance (rather than one or the other) on individual level outcomes (Seibert, 2004). Error terms are estimated for both the group and the individual level, thus accommodating the extra error that occurs in a multilevel data structure (Krull and MacKinnon, 2001). In addition, MLM uses significance tests that are more appropriate to nested structures (Luke, 2004).

The last way to justify MLM is empirical. Before the multivariate analyses, it will be shown that the groups (in the current example, provider companies) vary across the dependent variable (recidivism) and that the groups vary across the dependent variable on the independent variable (ownership). One way to empirically justify MLM is the intra-class correlation coefficient (ICC). The ICC, denoted as rho ( $r$ ), shows the percent variability in the dependent variable that is explained by the group (Hayes, 2006; Luke 2004). An ICC of zero would indicate that the group variable had no impact on the outcome variable and as such, MLM would not be needed. However, there is not an agreed upon threshold for what size ICC indicates a need for MLM (Hayes, 2006). Many researchers assert that average group size must be considered along with ICC when determining the need for MLM (Barcikowski, 1981; Hayes, 2006; Kreft & de Leeuw, 1998); in some cases, an ICC of 0.05 will greatly bias the results of a single level model (Hayes, 2006). Barcikowski (1981) found that for an average group size of 10, an ICC of 0.05 would inflate the p value in a single level model to 0.11, more than doubling the chance of Type I error.

For the current study, the ICC will show how much variability in the operational variables and recidivism can be explained by provider company. With an average group size of about 13, an ICC of more than 0.05 will indicate the need for MLM. Should the empirical

investigation show that the data are not significantly nested, the study will proceed with single-level analyses.

**Multilevel regression.** Regression analysis is a statistical technique used to measure the explanatory or predictive connection between two or more variables. The simplest form is the linear regression, where the relationship between the variables is basically linear. A regression equation is a mathematical representation of the relationship between the variables. The explanatory variables each have a coefficient (slope) that shows the strength of its relationship to the dependent variable. The slope indicates how much change is expected in the dependent variable for a single unit change in an independent variable. The regression equation also has an intercept, which can be interpreted as the expected value of the dependent variable with the independent variables all have a value of zero. The equation will also have an error term to represent the difference between the expected value of the dependent variable and the actual value. Single level regression treats slopes and intercepts as fixed.

In a multilevel data structure, intercepts and slopes can be treated as random; in other words, each group may have a unique effect on the dependent variable. In the current study, Provider X may have policies and procedures that impact the baseline recidivism outside the variables being measured. Perhaps Provider X requires special certifications or certain work experience with juveniles that other companies do not require; as such, their baseline recidivism may be lower than that of other facilities before the operational variables are even considered (i.e. the intercept of the equation is lower than that for other facilities). As such, the error in prediction will be greater for facilities run by Provider X. A single level regression analysis will

thus underestimate the error, increasing the likelihood of erroneously rejecting the null (Type I error).

In the simplest multilevel regression, the intercept is treated as random. The random intercept is the fixed intercept plus an error term to represent the unique effect of the group in which a particular observation occurs. So, in this simple case, with no group level predictors, the main difference between a single level regression and a multilevel regression is the introduction of the group level error term. This simple model (all predictors on the individual level) is the model utilized in the current study.

**Power and sample size.** In a multilevel analysis, the number of groups is more important than the number of individuals; a large number of groups is preferable (Heck & Thomas, 2000; Luke, 2004). In multilevel regression analyses, 30 groups is a large number (Luke, 2004). In terms of the size of the groups, it is necessary to have an average of at least 5-10 individuals per group (Heck & Thomas, 2000). The current study has 42 groups and an average of about 13 cases per group, satisfying both conditions outlined above.

Furthermore, in a study examining the performance of multilevel mediation models as compared to single level mediation models, Krull and MacKinnon (2001) found that their 1-1-1 model (where the predictor, dependent, and mediating variables are all on the individual level) was only mildly biased by the nested structure of the data. Bias was greatest when the ICC was high for the mediator, when the ICC was high for the outcome variable, and when the group size was larger. However, even in these cases the bias was not severe (i.e. about 10%). The current study will utilize the 1-1-1 model as all the study variables are individual level variables. There are a number of rules of thumb for sample size in single level regression analyses. First, for

regressions using more than six predictors, the minimum number of subjects required is 10 cases per predictor variable in the model and 30 per predictor variable if the effect size is small (Harris, 1985). The current study has about 35 cases per predictor, surpassing Harris's requirement for even a small effect size. Furthermore, with regard to multiple regression, Green (1991) posited the formula  $N \geq 50 + 8m$ , where  $m$  is the number of predictors. Using Green's formula, the current study, with 18 predictors, would need at least 194 cases; thus, this requirement has been met because the current sample has 548 cases. Assuming the 1-1-1 model is similar to a single level model, the current study also more than meets the single level requirements for sample size.

It is important to note that the current study uses individual facilities multiple times in the sample. This was previously justified based upon the theory and focus of the current study. However, because measurements from the same facility may be similar, it is possible that using the facilities multiple times may reduce variation in the data (if their performance remained fairly constant across years) and thus reduce the effect size. However, as shown above, the current sample ( $n = 548$ , with 42 groups and an average of 13 cases per group) exceeds the minimum requirements for sample size ( $n=194$ , with minimum size = 30 groups, with an average of 10 cases per group) and thus will have more power to detect a smaller effect size.

**Research questions 1-3.** Research questions 1-3 were tested using multilevel regression analysis. The choice of regression model type to use depends upon the distribution of the dependent variables.<sup>20</sup> If the dependent variables are normally distributed, linear regression is appropriate. However, if the data are skewed, Poisson or negative binomial regression may be more appropriate (Piza, 2012).

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<sup>20</sup> Research question 1 has the operational variables as the dependent variables; research questions 2 and 3 both have recidivism as the dependent variable.



In order to determine their distribution, the skewness and kurtosis of the dependent variables were examined. Skewness is a measure of a distribution's symmetry (Pallant, 2007) while kurtosis can be thought of as a measure of the slope of a distribution's peak and the shape of its tails (DeCarlo, 1997). A value of zero for both skewness and kurtosis indicate a normal distribution (Pallant, 2007). There exist no definite thresholds for determining when skewness and kurtosis statistics indicate a distribution has a serious violation of normality (Curran, West, & Finch, 1996), however, a number of scholars have suggested rules of thumb. Lee (2008) lists rules of thumb of  $\pm 1$  or  $\pm 2$  for skewness and  $\pm 3$  for kurtosis. Curran et al. (1996) state that skewness approaching 2 and kurtosis approaching 7 will lead to suspect results when there is an assumption of normality. Kline (2005) suggests thresholds of 3 and 10 for skewness and kurtosis, respectively. The skewness of the dependent variables in the model ranged from -0.791 to 0.181 and kurtosis ranged from -0.321 to 2.003. Based upon even the most conservative of the thresholds discussed above, there are no serious deviations from normality. In addition, examination of histograms and Q-Q plots of the dependent variables also showed no serious deviations from normality. Therefore, the study analyses will utilize multilevel linear regression.

**Research question 4.** Research question 4 can be answered using multilevel mediation analysis. Mediation is when “the influence of an antecedent variable is transferred to a criterion” (Mathieu & Taylor, 2007, p. 142). In other words, the predictor variable does not impact the dependent variable directly; rather, it impacts another variable (the mediator) that in turn impacts the dependent variable. In the current study, ownership is hypothesized to impact the operational variables (the mediators), which in turn impact recidivism (see Figure 3).

In a simple single level mediation analysis, the mediator is regressed on the predictor variable and the dependent variable is regressed on both the mediator and the predictor variable, resulting in three separate regressions. If any one of the individual relationships fails to achieve significance, mediation is not supported; if all three achieve significance, investigation of mediation can continue.

Measurement of the mediation effects is typically done using either the product of coefficients method or the difference of coefficients method (Zhang, Zyphur, & Preacher, 2009). In a model with more than one mediator (in the current study, there are multiple operational variables that are hypothesized mediators), these two methods are interpreted differently (Zhang et al., 2009). The difference of coefficients method represents the total mediation effect while the product of coefficients method is interpreted as the mediation effect unique to a particular mediator (Krull & MacKinnon, 1999).

Basically, if the presence of the mediator reduces the impact of the predictor variable on the dependent variable, a Sobel test is conducted to determine if the reduction in the influence of the predictor variable is significant. Should the Sobel statistic have a significant p value, the extent of the mediation can be investigated. If full mediation has occurred, the presence of the mediator will result in the relationship between the predictor and the dependent variable no longer being significant. If the relationship between the predictor and the dependent variable is still significant but has weakened, partial mediation has occurred (Mathieu & Taylor, 2007).

The simplest multilevel mediation model is the 1-1-1 model, where the predictors, mediators, and outcomes are all measured at the individual level (Krull & MacKinnon, 2001); the data for the current study are nested in this manner. As mediation analysis is essentially a

series of regressions, it is not surprising that multilevel mediation analysis is different from single level mediation analysis in the same way multilevel regression is different from individual level. As discussed above with multilevel regression modeling, multilevel mediation analysis allows for random (rather than fixed) intercepts in the regression equations (Krull & MacKinnon, 2001). Thus, in the current study, which will utilize random intercepts, each group may have a unique effect on each dependent variable in the model.

The mediation analysis will regress operations on facility ownership and will also regress recidivism on each operational variable. All analyses was conducted in Stata 13.0. Stata software can perform a variety of different multilevel regression analyses depending upon the structure of the data.

## CHAPTER 5: FINDINGS

The current study has a number of research goals, the first of which is to perform an exploratory examination of the impact of ownership type on facility operations. In addition, this study seeks to conduct an exploratory examination of the impact of facility operations on juvenile recidivism. Still another goal of the study is to examine the impact of ownership type on recidivism, an impact that the few empirical studies have supported (Bayer & Pozen, 2005; Terry et al., 1997). Moreover, while there has been much debate and speculation about the differences among public and for-profit organizations (and to a lesser extent, non-profit organizations), empirical research has not focused on whether these differences exist and why ownership type may impact recidivism. As such, the final goal of the current study is to examine the possibility that facility operations mediate the relationship between ownership type and recidivism. The findings of the analyses are below.

### **Descriptive analyses**

The results of the descriptive analyses<sup>21</sup> for the control variables can be found in Table 6. As can be seen, 77% of the facilities were male and over one-half were moderate risk. In terms of region, 42% were in the North region and 34% were in the Central region of the state. The regions for the study are those defined by FDJJ, which made the North region larger than the other two regions. It is important to use the FDJJ regions because, as stated before, under cybernetic systems theory, how FDJJ views these facilities is important to how the feedback loops will work. In addition, given that the North region borders other states, unlike the other

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<sup>21</sup> The collinearity statistics showed that the Tolerance of the study variables ranged from 0.131 to 0.929 and the VIF ranged from 1.077 to 7.627; a Tolerance below 0.10 or a VIF above 10 indicate issues with multicollinearity (Pallant, 2007). Thus, multicollinearity is not a problem.

two regions, and because it is partially cut off from the rest of the state because of the panhandle, the North region facilities are more likely to resemble one another than they are the facilities of the other two regions. Finally, most (93%) of the facilities did not experience a change in provider.

Table 6  
*Descriptive statistics for control variables*

	n	%			
<b>Gender</b>					
Female	112	20.40			
Male	422	77.00			
Coed	14	2.60			
<b>Risk Level</b>					
Low	61	11.10			
Moderate	325	59.30			
High/Max	162	29.60			
<b>Region</b>					
North	229	41.80			
Central	186	33.90			
South	133	24.30			
<b>Provider Change</b>					
No change	509	92.90			
Change	39	7.10			
	Mean	SD	Min	Max	Range
APS	20.87	8.43	6.8	60.00	53.20
Percent Black	46.13	17.06	0	100.00	100.00
Average Age	16.16	1.05	12	19.80	7.80
Number of Beds	56.48	47.59	0	350.00	350.00

Furthermore, the mean for APS<sup>22</sup> was 20.87 meaning that on average, juveniles in a facility had at least three prior charges; the minimum was 7, which could indicate having a number of minor charges. The mean for percent black was 46%, indicating that, on average, the

<sup>22</sup> A Welch test was performed to determine if APS varied across ownership types. The results indicated that non-profit facilities had significantly lower APS scores than either for-profit or public facilities. These results further support the inclusion of the APS as a control variable.

juvenile population of a facility was nearly one-half black. The average age of juveniles housed in the facilities was 16, with most juveniles being between the ages of 15 and 17. These numbers coincide with the average age of juveniles generally in residential facilities nationally (Hockenberry, 2013). Finally, the size of the facilities varied a great deal as shown in Table 6. Facilities ranged in size from 6 bed facilities to 350 bed facilities. Descriptive analyses of ownership type are presented below in Table 7. As can be seen, most facilities in the sample were privately run and there were similar numbers of non-profit and for-profit facilities.

Table 7  
*Frequencies for ownership type*

	Frequency	Percent
Public	84	15.3
Non-profit	228	41.6
For-profit	236	43.1

Table 8  
*Descriptive statistics for operational and outcome variables*

	Mean	SD	Min	Max	Range
Operational					
Program Management	61.90	11.85	13.89	99.42	85.53
Admissions	65.47	12.05	17.78	100.00	82.22
Mental Health/Substance Abuse	57.75	17.90	8.83	100.00	91.17
Health Care Services	62.87	13.31	9.09	92.93	83.84
Food Services	67.04	13.18	0.00	100.00	100.00
Security	59.60	11.22	17.78	90.00	72.22
Intervention Management	61.08	14.15	8.33	99.28	90.95
Outcome					
Recidivism	38.79	14.83	0.00	100.00	100.00

In addition, the results of the descriptive analyses of the operational variables and recidivism can be seen in Table 8. As shown, the operational variables had means between 57 and 68, which would be considered failing scores. The standard deviations of the scores placed

most facilities as scoring between 50 and 80 on a scale of 100. The largest variability can be seen in mental health and substance abuse services, followed by intervention management. As shown at the bottom of Table 8, most facilities had 25-50% of juveniles who completed the program recidivate; some facilities had no juveniles recidivate while a few others had all recidivate.

### **Bivariate Analyses**

Theoretically, as higher risk facilities are designed for more serious offenders (FDJJ, 2011; Siegel & Senna, 2000), more serious offenders should go to the higher risk level facilities. Therefore, it is possible that APS and facility risk level are redundant variables and, for parsimony's sake, both need not be included in the final model. Bivariate analysis was performed to see if APS was significantly different across facility risk levels; specifically, it was predicted that higher risk facilities would have higher APS scores. The results of the Welch ( $F(2)=115.41, p<0.001$ ) and Brown-Forsythe ( $F(2)=160.40, p<0.001$ ) tests<sup>23</sup> indicate that mean APS scores differed significantly across risk levels in the expected direction. As predicted, low risk facilities had the lowest APS, maximum and high risk facilities have the highest APS, and moderate risk facilities have a mean APS score in between the other two. As a result, only one of them will be retained in the final model. Ordinal variables, such as risk level, collapse a range of scores into a single category, eliminating the variability in that range. Therefore, continuous variables generally contain more information about the concept being measured than categorical variables. Thus, the two dummy variables for risk level were removed from the analyses and the

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<sup>23</sup> These data violated the ANOVA assumption of equality of variances as tested through Levene's test, so Welch and Brown-Forsythe tests, more rigorous F tests, were used instead of a regular ANOVA. Just as with ANOVA, p values below 0.05 indicate a significant difference across groups.

single continuous APS variable was retained in the final model. Table 9 shows the results of the ANOVAs conducted to examine differences between ownership types on each of the operational variables. Contrary to the hypothesis of the current study, ownership types did not show much difference across the operational variables. Health care services was the only operational variable that was significantly related to ownership ( $F(2)=8.819$ ,  $p<0.001$ ).

Table 9  
*Results of ANOVA of operations across ownership type*

	Operational mean (SD)			F-test
	Public	Non-profit	For-profit	
Program management	61.33 (11.04)	62.41 (11.44)	61.61 (12.52)	F(2)=0.379
Admissions	64.78 (11.80)	65.32 (12.12)	65.86 (12.11)	F(2)=0.277
Mental health/ Sub.Ab.	58.76 (17.74)	57.45 (18.29)	57.68 (17.62)	F(2)=0.168
Health care	66.59 (13.48)	60.27 (13.51)	64.06 (12.61)	F(2)=8.819*
Food	68.47 (12.47)	66.88 (11.47)	66.67 (14.89)	F(2)=0.642
Security	59.64 (11.69)	58.68 (10.54)	60.47 (11.65)	F(2)=1.485
Intervention man.	60.69 (11.87)	62.14 (14.45)	60.19 (14.15)	F(2)=1.138

\* $p<0.001$

To determine how health care services varied across ownership type, a Tukey post hoc test was performed.<sup>24</sup> The results showed that non-profit facilities had significantly lower quality health care services than public (mean difference = -6.32, SE=1.68,  $p<0.01$ ) or for-profit facilities (mean difference = -3.79, SE=1.22,  $p<0.01$ ). Public and for-profit facilities did not differ with regard to health care services (mean difference = 2.53, SE=1.67). This partially supports the hypothesis that public facilities will have higher quality health care services than

<sup>24</sup>Health care services had equal variances across the ownership groups (as tested by Levene's test) so the Tukey HSD test can be used.



private facilities; in this case, however, public was not better than all private facilities, just the non-profit facilities.

Table 10 shows the correlation matrix for the operational variables and recidivism. The table shows that the operational variables were correlated with one another. Furthermore, none of the relationships were negative, indicating that, as one operational variable improved the other operational variable also improved. This relationship would be contrary to the assumption that a facility can have high quality operations in some areas but low quality in other areas.

Furthermore, as shown in the bottom row, recidivism was only correlated with four of the operational variables: program management ( $r = -0.08$ ,  $p < 0.05$ ), health care services ( $r = -0.09$ ,  $p < 0.05$ ), security ( $r = -0.16$ ,  $p < 0.01$ ), and intervention management ( $r = -0.10$ ,  $p < 0.05$ ). All four relationships were negative, indicating that the higher score a facility received on an operation, the lower the recidivism for that facility. Admissions, mental health and substance abuse, and food services were not significantly correlated with recidivism.

Table 10  
*Correlation matrix for operational variables and recidivism*

	Prog. Man.	Admissions	MH/SA	Health	Food	Security	Int. Man.
Program Man.	1						
Admissions	0.539**	1					
Mental Health/SA	0.509**	0.398**	1				
Health Care	0.466**	0.413**	0.45**	1			
Food Services	0.292**	0.265**	0.097*	0.356**	1		
Security	0.574**	0.476**	0.286**	0.432**	0.332**	1	
Int. Man.	0.671**	0.610**	0.618**	0.478**	0.302**	0.494**	1
Recidivism	-0.084*	-0.058	-0.005	-0.089*	-0.046	-0.163**	-0.099*

\* $p < 0.05$

\*\* $p < 0.01$

Table 11 shows the results of the ANOVA examining differences in recidivism across ownership types.<sup>25</sup> The results showed that recidivism did not significantly differ across ownership types at the .05 level ( $F(2)=2.31, p=0.10$ ). Given the, albeit small, differences found across the mean values of recidivism, post hoc testing was used to identify any small differences across the facilities. The results showed that non-profit facilities had the highest recidivism ( $\bar{x}=40.35$ ), which is contrary to the hypothesis that non-profits would have the lowest recidivism. While not significant, the post hoc test does show that for-profit had the lowest recidivism ( $\bar{x}=37.41$ ), again contrary to the hypothesized relationship between ownership and recidivism.

Table 11  
*Results of equality of means tests for recidivism across ownership type*

Ownership type	Mean recidivism (SD)	F-test statistic
Public	38.45 (14.66)	F(2)=2.31, p = 0.10
Non-profit	40.35 (13.89)	
For-profit	37.41 (15.67)	

Although the bivariate analyses showed fewer and different relationships than were hypothesized, some significant relationships were identified across the bivariate models. Regarding research question 1, the multivariate analysis examined whether ownership impacted health care services, the only variable that was found to be significantly related to ownership at the bivariate level. For research question 2, four operational variables were found to have significant relationships with recidivism: program management, health care services, security, and intervention management. Therefore, these four operational variables were included in the multivariate analyses. With regard to research question 3, while ownership and recidivism were

<sup>25</sup> Levene's test indicated the assumption of equality of variances had not been violated.

not found to be statistically significant at the traditional  $p < .05$  level, prior research has found a link between ownership and recidivism. In addition, a number of scholars have questioned the use of the threshold of 0.05 for a significant p-value (Altman & Bland, 1995; Anderson, Burnham, & Thompson, 2000; Hackshaw & Kirkwood, 2011; Johnson, 1999). One of the chief arguments against the 0.05 threshold for a significant p-value is the arbitrary nature of how it was established (Hackshaw & Kirkwood, 2011), thus questioning the belief that a p-value above 0.05 indicates null results. Thus, due to the exploratory nature of the current study, the multivariate analyses with ownership and recidivism were still performed.

### **Multivariate analyses**

**Intraclass correlations.** The first step in MLM is to establish a need for MLM by showing that there is variation across groups. As discussed above, the ICC and average group size are used to determine how much variation in the dependent variable is accounted for by the group variable (in this case, provider company). Thus, for each model, the dependent variable was regressed on each individual independent variable using MLM and the ICCs were examined. The ICCs ranged from 0.19 to 0.22, indicating that provider company accounted for about 19 to 22% of the variation in the dependent variable. Taking into account the average group size of 13, according to Barcikowski (1981), these ICCs indicate that the data are nested, and as a result, the use of MLM techniques was warranted.

**Research question 1-ownership and operations.** The results of the multilevel regression of health care services on ownership are shown in Table 12 below. The rho indicates that provider company accounted for about 15% of the variation in health care services for this model. The likelihood ratio (LR) test statistic was significant, indicating the multilevel model

was a significant improvement over the single level model. Thus, accounting for provider company significantly improved the model.

Table 12  
*Results of regressing health care services on ownership type*

	$\beta$	SE
For-profit	-2.17	5.53
Non-profit	-6.19	5.48
Gender		
Male	6.53	3.74
Female	5.39	3.89
Region		
North	3.30*	1.51
South	1.15	1.71
Provider change	-1.50	2.18
APS	0.16*	0.08
Black	-0.09**	0.04
Age	0.44	0.60
Beds	0.02	0.01
Constant	50.86***	11.68
rho	0.15	0.05
Log Likelihood	-2158.34	
LR test statistic	25.80**	

\*  $p < 0.05$

\*\*  $p < 0.01$

\*\*\*  $p < 0.001$

As can be seen, ownership was not a significant predictor of health care services. Both for-profit and non-profit had negative coefficients, indicating these facilities had lower scores on health care services than public facilities, as hypothesized; however, the relationship was not significant ( $p < .05$ ). A number of the control variables were significant predictors of health care services. Facilities in the North region had higher scores on health care services than those in the reference category (Central region). In addition, facilities having a higher average prior

seriousness score tended to have higher scores on health care services. Facilities housing a higher percentage of black youth tended to have lower scores on health care services.

**Research question 2-operations and recidivism.** The results of the five multilevel regression models of operations on recidivism are shown in Table 13. Only the four operational variables that were significant in the bivariate analysis were included in these models. To examine which operational variables are the most important, the fifth model includes all four operational variables in one model. The rhos for the models indicate that provider company accounted for about 13 to 15% of the variation in recidivism for the different models. The LR test statistics were significant for all five models, so accounting for provider through multilevel regression improved all the models over their single level models.

Model 1 regressed recidivism on program management. Higher scores on program management were significantly related to reduced recidivism, as hypothesized. Model 2 regressed recidivism on health care services. Higher scores on health care services were significantly related to lower recidivism scores (as expected). Model 3 regressed recidivism on security. As expected, higher quality security was related to lower recidivism scores. Model 4 regressed recidivism on intervention management. As hypothesized, intervention management had a significant inverse relationship with recidivism. High scores on intervention management were significantly related to lower scores on recidivism. The final model, Model 5, regressed recidivism on program management, health care services, security, and intervention management. In Model 5, only health care services and security achieved significance, suggesting that once health care services and security are accounted for, the impact of program management and intervention management on recidivism is reduced.

Several of the control variables were significant in these models. Across all five models, facilities housing males had higher recidivism scores than coed facilities, the reference category. In addition, facilities housing a greater proportion of black youth, younger youth, and facilities with more beds had higher scores on recidivism. All of these relationships are in agreement with previous literature on these variables (Bayer & Pozen, 2005; Farrington & Nuttall, 1980; Moffitt, 1994; Reiseg, Bales, Hay, & Wang, 2007). Finally, facilities housing more serious offenders (APS) tended to have significantly higher recidivism scores.

Table 13  
Results of regressing recidivism on operational variables

	Model 1		Model 2		Model 3		Model 4		Model 5	
	$\beta$	SE	$\beta$	SE	$\beta$	SE	$\beta$	SE	$\beta$	SE
Program man.	-0.09*	0.05	-	-	-	-	-	-	0.03	0.06
Health care	-	-	-0.13***	0.04	-	-	-	-	-0.10*	0.05
Security	-	-	-	-	-0.16***	0.05	-	-	-0.12*	0.06
Int. man.	-	-	-	-	-	-	-0.08*	0.04	-0.001	0.05
Gender										
Male	10.0**	3.51	10.86**	3.49	9.46**	3.49	10.14**	3.51	10.28**	3.48
Female	-4.89	3.64	-4.09	3.62	-5.11	3.62	-4.72	3.64	-4.31	3.60
Region										
North	-0.69	1.41	-0.41	1.40	-0.57	1.40	-0.62	1.41	-0.23	1.39
South	-2.02	1.62	-1.89	1.60	-2.23	1.61	-1.99	1.62	-1.93	1.59
Prov. change	1.79	2.05	2.03	2.03	1.93	2.03	1.77	2.05	2.29	2.04
APS	0.13	0.08	0.16*	0.08	0.17*	0.08	0.13	0.08	0.18*	0.08
Black	0.17***	0.03	0.16***	0.03	0.16***	0.03	0.17***	0.03	0.16***	0.03
Age	-4.12***	0.56	-4.10***	0.55	-4.07***	0.55	-4.13***	0.56	-4.04***	0.55
Beds	0.03*	0.01	0.03*	0.01	0.02*	0.01	0.03*	0.01	0.03*	0.01
Constant	92.71***	9.94	93.74***	9.73	96.28***	9.88	92.30***	9.86	98.74***	11.04
rho	0.14	0.05	0.14	0.05	0.14	0.05	0.15	0.05	0.13	0.05
Log Likelihood	-2125.98		-2122.34		-2122.23		-2125.69		-2119.00	
LR test statistic	221.39***		228.69***		228.89***		221.99***		235.37***	

\*p<0.05

\*\*p<0.01

\*\*\*p<0.001

**Research question 3-ownership and recidivism.** The results of the multilevel regression of recidivism on ownership can be seen in Table 14. Ownership type was not a significant predictor of recidivism. The rho indicates that provider company accounted for about

13% of the variation in recidivism for this model. The LR test statistic was significant, indicating that the multilevel model was an improvement over the single level model. Four of the control variables were significant predictors of recidivism. Male facilities, facilities housing a higher percentage of black youth, facilities with younger youth, and larger facilities tended to have higher levels of recidivism.

Table 14  
*Results of regressing recidivism on ownership type*

	$\beta$	SE
Ownership		
For-profit	-3.43	4.79
Non-profit	-0.56	4.74
Gender		
Male	10.06**	3.51
Female	-4.62	3.64
Region		
North	-0.73	1.40
South	-1.89	1.61
Provider change	2.55	2.06
APS	0.13	0.08
Black	0.17***	0.03
Age	-4.13***	0.56
Beds	0.03*	0.01
Constant	88.45***	10.76
rho	0.13	0.05
Log Likelihood	-2126.79	
LR test statistic	220.34***	

\*  $p < 0.05$

\*\*  $p < 0.01$

\*\*\*  $p < 0.001$

**Research question 4-mediation.** In the multivariate analysis, ownership was not shown to be related to either health care services or recidivism. Therefore, further investigation of mediation was not supported. The failure of the individual relationships to achieve significance indicates that operations do not mediate the relationship between ownership and recidivism, as there is no relationship to mediate.<sup>26,27</sup>

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<sup>26</sup> For exploratory purposes, the models from research question 2 were reanalyzed while including ownership. The coefficients, standard errors, and p-values were virtually unaltered.

<sup>27</sup> To further explore the relationship between ownership, operations, and recidivism, exploratory analyses were conducted using total QA score in place of the individual operational variables. While the hypotheses for the current study looked at how ownership and recidivism were related to operations individually, it is possible there was a relationship with the overall operations as a whole. Results of analyses using total QA score were similar to those with individual operational scores. Ownership was not significant in predicting total QA score, although provider company accounted for about 25% of the variance in total QA score ( $\rho=0.25$ ). In a model which excluded ownership, total QA score was a significant predictor of recidivism ( $\beta=-0.16$ ,  $SE=0.06$ ,  $p<0.01$ ), as was percent black ( $\beta=0.16$ ,  $SE=0.03$ ,  $p<0.001$ ), age ( $\beta=-4.12$ ,  $SE=0.56$ ,  $p<0.001$ ), and number of beds ( $\beta=0.03$ ,  $SE=0.01$ ,  $p<0.05$ ) with provider company explaining about 14% of the variance in recidivism. As with the models with individual operational scores, adding ownership to this model had little to no impact on the relationship between total QA score and recidivism.



## CHAPTER 6: DISCUSSION

The current study found a number of important relationships among juvenile residential facility ownership, operations, and recidivism, some in accordance with and some that contradicted the hypotheses that guided this study. Due to the exploratory nature of this study and the lack of prior research in the area of juvenile justice privatization, the contradictions are not entirely surprising. In addition, although there has not been much empirical research on this topic, some previous thought has suggested that for-profits and non-profits may differ in operations and outcomes. However, when the private category was disaggregated into for-profit and non-profit facilities in the current study, no significant differences across these ownership types were found across operations or outcomes.

One explanation for the similarity between for-profit and non-profit facilities with regard to operations and recidivism is that, contrary to prior speculation, for-profit and non-profit facilities may have the same goals. For example, both for-profits and non-profits may pursue profit through cost minimization; they may just differ in how they distribute their profits. Thus, if for-profits and non-profits have the same goals, they may achieve them through the same operations and subsequently achieve the same outcomes. It is also possible that non-profits have been subject to the mimetic isomorphism proposed by DiMaggio and Powell (1983), causing them to become more like for-profit facilities. Mimetic isomorphism suggests that when conditions become uncertain, organizations will mimic other successful organizations (DiMaggio & Powell, 1983). Thus, as the for-profit sector entered the juvenile justice system in the mid-1990s (Washburn, 2002), market conditions became uncertain and non-profits mimicked the operations of for-profits (or vice versa) in order to compete. A third possibility is that the QA

evaluations resulted in for-profits and non-profits become more alike as they sought to meet the QA standards, through the process of coercive isomorphism. Coercive isomorphism is change in one organization brought about by pressures or mandates from another organization (in the current case, the FDJJ) upon which the first is dependent (DiMaggio & Powell, 1983). Given these findings, the current study does contribute to the existing body of literature by addressing the concerns of some scholars that non-profit facilities may not perform as well as for-profit or public organizations by showing no difference in performance across ownership type. These findings also laid some groundwork for future research on the potential differences between for-profit and non-profit organizations.

Furthermore, the findings of the study as a whole not only have implications for future practice but also suggest paths for future research. A detailed discussion of these implications is provided below.

### **Research question 1-ownership and operations**

First, bivariate analyses found a significant relationship between ownership and health care services, with non-profit facilities having significantly lower health care services than either public or for-profit facilities. This relationship was in partial agreement with study hypothesis 1, which proposed that public facilities would outperform for-profit and non-profit facilities with regard to health care services. Although public facilities did outperform non-profits, there was no difference between public and for-profit facilities at the single level of analysis. However, the relationship between ownership type and health care services that was found at the single level was no longer significant when the analysis accounted for provider company (and the other control variables) through multilevel regression analysis.

These findings with regard to health care services are in contrast with the findings discussed previously of Gallagher and Dobrin (2007), who concluded that public facilities were more likely to report high levels of health care service provision. This disparity may be a result of Gallagher and Dobrin not addressing the clustering of private detention facilities within provider companies; doing so may have eliminated the significance of the relationship Gallagher and Dobrin found between ownership and health care services.

In addition to finding no relationship between ownership and health care services, no significant relationship was identified between ownership and operations for any of the other operational variables. This may seem in contrast to the finding of Armstrong (2001), who found that private facilities had a longer admissions process, but, as discussed in the literature review, a longer process does not equate to a higher quality process. However, similar to the current findings, Armstrong (2001) reported no difference between ownership types in youth to staff ratio, which is an aspect of the security variable used in the current study. As such, contrary to the study hypotheses, the current study failed to find a significant relationship between ownership type and operations.<sup>28</sup> The absence of this relationship may be explained in a number of ways, including both methodological and theoretical reasons, as discussed below.

For example, as far as mental health and substance abuse services, Yazzie's (2011) results suggest that the current study may have found no difference between ownership types with regard to mental health and substance abuse services because all of the services were aggregated into one variable. Yazzie found, for instance, that private facilities had better

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<sup>28</sup> It should also be noted that facility operations were all positively correlated with one another; thus if one operation was good, it was likely the others were as well. As such, even if ownership had been found to have a significant impact on operations, it would be unlikely that an ownership type would have high scores on one operation and low scores on another, which is also contrary to the study hypotheses.

counseling services while public facilities had better drug and suicide treatment. Given the fact that all of the operations in the current study were positively related to one another, it is probable that different types of mental health services would also be positively related with one another; thus, separating them would likely not change the results.<sup>29</sup>

Another explanation is that, although different ownership types may have different priorities and goals, the differing priorities and goals were achieved through the same processes (in the current case, achieving high scores on the QA evaluation each year). For example, administrators of public JRFs may pursue the political goals of improved public opinion and strengthened government legitimacy by doing well on the QA evaluations. Non-profit administrators, who may have more humanitarian goals, may seek to achieve better youth outcomes by having high quality facility operations, resulting in high QA scores. Finally, for-profit administrators may seek the economic goals of contract renewal and increased market share by establishing a track record of good performance; thus, for-profit facilities achieve their goals by receiving high scores on the QA evaluations.

An alternate explanation may be that, in reality, different ownership types do not have different priorities and goals and thus they will use the same processes. Public, for-profit, and non-profit management may place the same emphasis on funding, contract renewal, market share, youth outcomes, and other goals. Indeed, a goal common to organizations in general is that of maintaining the organization itself (Scott & Davis, 2007). As contract termination and renewal is tied to QA scores, QA scores are thus tied to organizational survival. Therefore, to achieve the ubiquitous organizational goal of survival, administrators from any ownership type

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<sup>29</sup> Another caveat with Yazzie's findings is the lack of control variables in her study as well as the fact that she did not account for the clustering of data. As stated previously, data clustering may result in Type I error.

will pursue high QA scores. Future research may benefit from examining differences in the goals and priorities across ownership types.

In addition, cybernetic systems theory states that feedback loops are used to regulate the system. The QA evaluations, which function as one of the feedback loops in the Florida juvenile justice system, may have regulated the system, causing facilities to improve their operational performance. As a result, there would be less variation in QA scores across ownership types. Moreover, hearkening back to the principal-agent problem of moral hazard, the agent may hide its behavior from the principal. In the current case, facilities, knowing that the QA evaluation is approaching, may “prepare” by temporarily improving their operations for the evaluation. Finally, the contract between FDJJ and the facility may also play a role in reducing the variation in operations across ownership types by tying incentives to QA scores. The implication of this study’s findings regarding the impact of ownership on recidivism is that, in the debate over who should run juvenile residential facilities, less emphasis should be placed on ownership type and more focus should be placed on the role of the contract and how it can be utilized to regulate the behavior of the contracted organization. In addition, the results suggest that a system for monitoring the contracted agent, such as the QA, may be useful in regulating behavior.

### **Research question 2-operations and recidivism**

The bivariate analyses found four operational variables to be correlated with recidivism: program management, health care services, security, and intervention management. When examined individually using MLM, the relationships remained. As proposed by study hypothesis 2, facilities with higher scores on an operation had lower recidivism scores. However, it was hypothesized that intervention management would have the strongest

relationship with recidivism; in fact, intervention management was the least important predictor of recidivism among the four significant operational variables. These findings have definite implications for practice.

Program management involved regular review of policies and procedures, having policies for staff behavior, and the facility administrator working with management to improve programming. Conscious efforts to improve programming, policies, and procedures would help the facility run more smoothly, allowing staff to focus on their jobs and on youth. Policy review and improvement means that when problems arise, there is already a plan in place to handle the issue quickly and effectively, rather than letting a situation get worse while staff determine how to address it. In addition, ensuring appropriate staff behavior could foster a therapeutic, rather than abusive, environment. Again, according to Lipsey (2009), a therapeutic, rather than control, environment is a critical factor in reducing recidivism. The implications of these findings are that juvenile facility administrators should be encouraged or required to improve overall program management by implementing more rehabilitative practices and programs.

Health care services also had an inverse relationship with recidivism, even when accounting for provider. This finding coincides with the results of Kim et al. (1997), who found that provision of adequate health care was related to a reduction in recidivism. The relationship between health care services and recidivism found by the current study may exist for a number of reasons. First, the juvenile justice system may be the only contact that youth have had with appropriate health care services (Golzari et al., 2006). For example, in a study of the health status of juveniles, Feinstein et al. (1998) found that two-thirds of juveniles entering a juvenile detention center reported no regular access to medical care; more than half were unwilling or

unable to assist with ensuring proper medical follow-up, and only about one-fifth reported having a regular physician. Studies examining the relationship between chronic illness and youth outcomes have found a link between chronic illness<sup>30</sup> and delinquency (Woods, Farineau, & McWey, 2013) and chronic illness<sup>31</sup> and behavior problems (Gortmaker, Walker, Weitzman, & Sobel, 1990). Woods et al. (2013) hypothesized that chronic health problems impaired emotional well-being, caused stress, and impaired behavior, thus resulting in delinquency. In addition, some scholars have proposed that chronic illness prevents children from engaging in developmentally appropriate behaviors, negatively impacts school performance, and harms interpersonal relationships, resulting in delinquency (Lubkin & Larsen, 2006).

Moreover, lack of physical activity and exercise are health issues that have been connected to delinquency. For example, Segrave (1995) found that youth who engaged in athletic activities had lower levels of delinquency. Furthermore, Rowland (1990) theorized that exercise reduced delinquency because it expends excess energy, eliminates boredom, and provides thrills that would otherwise be sought through delinquency. Dealing with neglected physical health problems may result in the youth's improved day-to-day functioning and help the youth engage with staff and respond to intervention programming. In addition, health care services also included the provision of health care education. Thus, youth attending facilities with high quality health care would be equipped with the skills to maintain improved health once released from the facility, perhaps improving their behavior in the community. Moreover, health care services allow staff to show concern for youth and foster a therapeutic environment,

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<sup>30</sup> Caregivers were asked if their child had any health conditions that lasted a long time or returned repeatedly. Conditions included asthma, persistent bowel problems, diabetes, sickle cell anaemia, etc.

<sup>31</sup> Only conditions present for more than three months and were uncured were included. Conditions included arthritis, asthma, cancer, cardiac disease, diabetes, deformed body part, epilepsy, deafness, etc.

subsequently reducing recidivism. Therefore, juvenile facility administrators should make efforts to improve health care services.

High scores on the quality of facility security were also found to be related to lower rates of recidivism. One aspect of security was staffing, including policies for appropriate staffing,<sup>32</sup> maintaining an appropriate youth to staff ratio, and searches for contraband or weapons. Having appropriate staffing allows for youth to be effectively monitored, creating fewer opportunities for misbehavior and disorder within the facility. Indeed, some have argued that problems in the prison environment, such as lapses in security, inadequate supervision, and youth access to contraband, provide ideal opportunities for violence and misbehavior within the institution (Wortley & Summers, 2013). Institutional misconduct has been linked to increased recidivism outside the facility (Trulson, DeLisi, & Marquart, 2011; Trulson, Haerle, DeLisi, & Marquart, 2011; Valentine, 2012). Violent behavior, an aspect of institutional misconduct, has also been linked to increased delinquency (Cisler et al., 2012), assaultive behavior (Patchin, Huebner, McCluskey, Varano, & Bynum, 2006) and childhood violence (Stewart, Simon, & Conger, 2002). However, there is little research about how and why institutional misconduct may increase recidivism (Valentine, 2012).

A possible explanation, posited by Nagin, Cullen, and Jonson (2009), is that the prison environment provides opportunities for criminal learning. Inmates may learn criminal techniques and may have their criminal attitudes reinforced by other inmates in the facility (Nagin et al., 2009; Valentine, 2012). In fact, in a study of peer influence within a juvenile

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<sup>32</sup> Policies for appropriate staffing refers to scheduling policies, including having contact information for staff when additional coverage was needed, policies for shift rotation, having at least one staff on duty who was the same gender as the youth served, and making sure schedules are posted where staff can see them.



residential environment, Bayer, Hjalmarsson, and Pozen (2009) found that youth were more likely to commit certain offenses when they had been exposed to peers with a prior history of those same offenses; Bayer et al. suggested a possible reinforcement effect, as per social learning theory, to explain their results. Another possible explanation for institutional misconduct increasing recidivism is a possible labeling effect, with misconduct within the facility increasing the stigma that has already been placed on a juvenile (Valentine, 2012). A third explanation is that juvenile misconduct may result in victimization of other juveniles, victimization also being related to increased recidivism (Chang, Chen, & Brownson, 2003). As such, appropriate supervision and removal of contraband within a JRF may reduce institutional misconduct, subsequently limiting delinquent learning opportunities, lessening delinquency-inducing stigma, and preventing victimization, resulting in the facility having a lower level of recidivism.

In addition, it is possible that the disorder and violence that may result from poor facility security will decrease the effectiveness of any delinquency intervention programs offered by the facility. While there is little literature connecting prison disorder with facility outcomes, some research has found that neighborhood and school danger negatively impact school performance (Bowen & Bowen, 1999) and school disorder increases student misbehavior (Haller, 1992). It may be that these relationships also exist in an institutional environment-disorder and fear within the facility impacts juvenile's ability to effectively engage in facility programming. Greater supervision and lack of weapons within the facility may allow youth to feel safer and to more optimally respond to facility programming, resulting in less recidivism once they exit the facility. Thus, juvenile facility administrators should ensure that policies are in place to maintain appropriate staffing and ratios, and that the facility is monitored for contraband. However,

administrators should be careful that these measures do not result in an overly controlling environment because a controlling environment may result in increased recidivism (Lipsey, 2009).

Finally, intervention management was also found to have an inverse relationship with recidivism. Intervention management involved having individualized and monitored treatment, promoting family involvement, and providing social and life skills education. Indeed, numerous scholars have found that individualized treatment programs result in better juvenile outcomes, including recidivism (Andrews et al., 1990; Henggeler, Melton, & Smith, 1992; Pullman et al., 2006). In addition, the promotion of family involvement could foster a therapeutic environment that helps reduce recidivism (Lipsey, 2009). Promotion of family involvement may also result in some diffusion of benefits, allowing the family unit to benefit from any positive effects experienced by the youth. As such, the family unit may function better once the youth is returned to the community, resulting in improved supervision of the youth, better conflict resolution within the family, and greater insulation of the youth against peer pressure to commit delinquent acts, ultimately resulting in reduced recidivism.

In addition, as stated above, while it was hypothesized to be the strongest predictor of recidivism, the results indicated that intervention management was in fact one of the least important significant predictors in the model.<sup>33</sup> This may be because intervention management does not measure the fidelity of treatment that research has found to be essential to reducing recidivism (Lipsey, 2009). While the provision and monitoring of treatment services, the

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<sup>33</sup> Table 13 shows the standardized coefficients for the regression equations predicting recidivism; intervention management has the smallest coefficient (-0.001) of any of the variables in Model 5. Indeed, it has the smallest coefficient (-0.08) of any of the operational variables in their individual models; in Model 4 only facility size has a smaller coefficient than intervention management.

inclusion of family, and the use of restorative principals all play a role in rehabilitation, they do not play as strong a role as other facility variables. In fact, the results indicated that the control variables seem to be better predictors of recidivism than any of the operations, as discussed in more detail below.

While program management, health care services, security, and intervention management were individually related to recidivism, when analyzed together in one model (Model 5, Table 13), only health care services and security remained significant predictors of recidivism; program management and intervention management were no longer significantly related to recidivism. This finding is again in contrast with study hypothesis 2, which proposed that operations as a whole would be inversely related to recidivism; in fact, including all the significant operations from previous models eliminated the significance of two of the operations. While, as previously stated, there is little literature on operations as a whole that might help explain this finding, there are a number of possible explanations for the relationship found in Model 5. First, health care services may account for the concern for youth that is a part of intervention management and facility security may represent the concern and monitoring of youth as well as the appropriate staffing that is also a part of program management and intervention management. As such, program and intervention management would no longer be significant in predicting recidivism.

In addition, it is possible that if an individual operation is managed well, overall program management is no longer important. This would suggest that overseeing individual operations need not be heavily emphasized in the facility director's job. While supervising operations is important to avoid a breakdown in services, the different operations need not be micromanaged.

Periodic reviews by the facility director may be sufficient to maintain the quality of operations if directors/managers of individual operational components are effective.

With regard to the loss of significance of intervention management, one explanation is that addressing the physical and security needs of a youth may allow them to better cope with higher level problems, such as conflict resolution, strain, and other criminogenic issues, rendering intervention management a less important factor in predicting recidivism. The idea that basic needs must be satisfied before higher level needs has been discussed in the literature for quite some time. For example, Abraham Maslow (1943) suggested that “the basic human needs are organized into a hierarchy of relative prepotency” (p. 375), meaning that a human’s higher level needs could not be addressed until lower level needs were satisfied. According to Maslow, the most basic needs were physiological needs, or needs of the physical body, while the next level up was the need for safety, which involved the security of the body and a preference for routine. Above these needs are needs for love, esteem, and self-actualization (Maslow, 1943). Clearly health care services would address some of a youth’s physical needs. Security would address at least some of a youth’s need for safety, for example, through the restriction of youth access to weapons in the facility and to other, more serious violent offenders. Thus, it could be that health care services and security address at least some of a youth’s most basic physical and psychological needs and thus will improve his or her behavior regardless of the quality of intervention management. Indeed, research has shown that delinquent behavior is related to socioeconomic status (Larzelere & Patterson, 1990; Warner 2003), with delinquent behavior occurring more often among youth from lower socioeconomic backgrounds. Such youth are also more likely to have inadequate health care (Golzari et al, 2006) and come from

dangerous neighborhoods (Fagan & Davies, 2004). These correlations support the idea that the failure to address juveniles' basic needs may have played a role in their initial delinquent behavior.

Of the seven operational variables, while four operational variables were related to recidivism, bivariate analyses found three of the operational variables were unrelated to recidivism: admissions, food services, and mental health and substance abuse services. This result is in contrast with study hypothesis 2, which stated that each of the operations would be related to recidivism. The lack of relationships between these operations and recidivism may be for a number of reasons. For example, the main elements of admissions were classification and orientation to the facility. As shown in Table 6 in the Findings section, the minimum APS was 6.8, indicating that most juveniles were not first time offenders. As such, they may have already spent time in a juvenile facility and already knew the rules of a juvenile facility, rendering orientation unimportant. In addition, the juvenile court, in a sense, classifies the youth prior to their admission to a facility by selecting the program to which the youth is sent, making classification during the admission process unimportant in predicting recidivism. Furthermore, the individualized treatment plan that is developed for each youth (as per intervention management) may reduce the importance of classification, because no matter where classification places a youth, he or she will receive treatment tailored to their needs. In addition, provision of three meals a day and a clean kitchen and dining area may not be related to recidivism. While food is a basic need just like health care, youth do receive food in the community, whether or not it is high quality food. Health care, however, may not be provided in

the community, so addressing it in juvenile residential facilities may have a larger impact on the youth and their outcomes than food services.

The unimportance of mental health and substance abuse services is surprising, given the importance of health care services. One explanation of this finding is that combining mental health and substance abuse into one category may mask an underlying process. For example, variations within a facility with regard to the quality of mental health services and substance abuse services (i.e. a facility having high quality mental health services but low quality substance abuse services) may reduce the variation between facilities on mental health and substance abuse services overall. This explanation is unlikely, given the fact that all the operational variables were positively correlated with one another; facilities generally did not score high on one operation and low on another operation.

The more likely explanation for the unimportance of mental health and substance abuse in predicting recidivism is that some facilities in the sample specifically addressed mental health and substance abuse issues. The QA assessment establishes standards for the operation of mental health and substance abuse services that all JRFs must meet; however, mental health/substance abuse facilities may manage and provide mental health and substance abuse services above and beyond the standards established by the QA assessments, especially if the more severe mental health and substance abuse cases are sent to those facilities. The mental health and substance abuse operations of these facilities that are outside the QA assessment would thus not be measured in the current study. While the mental health and substance abuse services measured in the QA assessment may not predict recidivism, the unmeasured operations in the mental health and substance abuse facilities may be related to recidivism. Unfortunately,

the study was unable to incorporate a control for facility type into the study, so the impact of the mental health and substance abuse facilities in the sample remains unknown.

According to systems theory, a cybernetic system will self-regulate, using feedback loops to alter processes to achieve desired outcomes. The caveat here is that the processes that are evaluated must be related to the desired outcomes. While there may be other outcomes to which the QA assessments are tied, such as maintaining an ethical system or overall juvenile well-being, the results of the current study indicate that the processes that are being evaluated through the QA assessment are not all tied to recidivism. The policy center of the system (in the current case, FDJJ) may wish to identify what operations are most closely tied to future juvenile delinquency and evaluate these as well to more optimally reduce recidivism.

### **Research question 3-ownership and recidivism**

While study hypothesis 3 proposed that ownership type would impact recidivism, a significant relationship between ownership type and recidivism was not supported. Based upon the results of the previous research questions, the theoretical framework for this study can explain the lack of relationship between ownership type and recidivism. Cybernetic systems theory would support the assertion that different processes would lead to different outcomes. A cybernetic system self-regulates, transmitting information via feedback loops to alter processes in order to achieve desired outcomes. If the operations center is not producing the desired outcome, information is sent via a feedback loop to the control center, which in turn sends new instructions to the operations center to alter its processes accordingly, thus achieving the appropriate outcome. In the current study, the QA evaluation serves as the feedback loop back to the control center. If there is no difference between ownership types in their QA scores

(operations), it would follow from cybernetic system theory that the outcome of those ownership types would be the same.<sup>34</sup> As such, it is not surprising that the current study did not find a relationship between ownership and recidivism, given that the study also found that the ownership types did not differ in their processes (operations).

Although the current study found no relationship between ownership and recidivism, prior research has (Bayer & Pozen, 2005; Terry et al., 1997). One explanation for this difference is that rigorous review, through the QA evaluations, has improved outcomes, such as recidivism rate, across all ownership types in the current sample. Cybernetic systems theory asserts that the feedback loops (in the current example, the QA evaluations) are meant to regulate the system to achieve desired outcomes (i.e., lower recidivism). In addition, the QA evaluations, coupled with contractual influence, may have influence performance by promoting and/or incentivizing high performance while concurrently weeding out any low performers. Furthermore, while the current study found no relationship between ownership type and recidivism, it is possible that ownership types differed with regard to other outcomes not measured here, such as youths' improved quality of life, higher self-esteem among youth exiting the program, better educational performance, a longer time to re-offense, or even less severe offending.

The findings with regard to the research questions have a number of implications for practice. For example, based upon the study findings, in conjunction with prior research and theory (Lipsey, 2009; Maslow, 1943), organizations with management of a juvenile residential facility should be careful to craft their organizational processes in a way that produces a therapeutic environment and ensures that the most basic needs of juveniles are being addressed.

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<sup>34</sup> The caveat for this theory is that the operations that the policy center has chosen to evaluate are actually related to the desired outcomes. Research question 2 evaluates this relationship.



Moreover, program directors can maximize their time by hiring high quality managers and allowing them to manage their individual sector within the organization with less oversight from the program director.

In addition, the findings of the current study have important implications for administrators and policy makers, both in Florida and beyond. For states with totally privatized juvenile justice systems (such as Florida), the current study shows that for-profit and non-profit organizations show no difference in either their operations or recidivism, indicating that type of ownership is not an important factor in choosing a contractor for JRF management. In addition, states considering privatization due to budget constraints or public pressure may be reluctant to contract out to private providers due to concerns over their ability to control the provider and the provider's subsequent performance. This study may alleviate their concerns by showing that, with appropriate contracts and evaluations systems, private facilities are no different from public facilities with regard to operations or recidivism.

Although the findings regarding the first three research questions are interesting, the current study also unearthed some remarkable similarities across the different models that have compelling implications for the field of juvenile justice.

### **Similarities across models**

**Importance of provider company.** In every model analyzed, the rho and log likelihood ratio tests indicated that the data were clustered. This clustering indicates that, despite the unimportance of ownership types, individual provider companies have a consistent impact on the quality of facility operations as well as facility outcomes. In fact, the impact of provider company remains even without controlling for the content of the contracts between the providers

and FDJJ. One might expect that the contract, through performance requirements and constraints on facility behavior, would cause facilities managed by different providers to operate in a similar manner, reducing the variability between providers and limiting the impact of provider company. The same may be said for the QA evaluations. Rigorous standards-based evaluation would be expected to reduce variation between providers and subsequently reduce the impact of provider company. Yet, despite any influence from the contract and the QA evaluations, the impact of provider company remained throughout the analyses.

These results imply that the debate over privatization may have created a false dichotomy by focusing on public versus private, suggesting that ownership type should play a lesser role in the debate over privatization than the role of the individual provider. In addition, although largely not empirically tested, some previous thought has suggested that for-profits and non-profits may differ in operations and outcomes. For-profits were thought to cut corners on services in order to lower costs and increase profits (Low, 2003). While non-profits were thought to be more humanitarian and less willing to cut corners (Low, 2003), the quality and effectiveness of their services has been questioned (Brooks, 2006). These propositions guided the hypotheses for the current study. It was believed that separating for-profit and non-profit facilities in the analysis in this study would reveal the differences between these two ownership types. However, distinguishing between for-profit and non-profit facilities did not expose any significant relationships with either operations or recidivism. Although bivariate analysis found public facilities to have higher quality health care services than non-profit facilities, this relationship disappeared when accounting for provider company. Thus, across public, for-profit,

and non-profit organizations, there are high performers and low performers,<sup>35</sup> suggesting the importance of focusing on the operations and outcomes of provider organizations from each sector rather than on the operations and outcomes of the sectors themselves.

One reason some organizations perform better than others is that managers may “implement strategies that put their organizations in better positions with respect to their competitors” (Scott & Davis, 2007, p. 310). One such strategy could be to hire and retain high quality employees. This strategy might include a company paying higher salaries or offering more benefits to attract more qualified applicants or requiring more training of their employees than the FDJJ requires; both strategies may result in higher quality employees, leading to improved outcomes. The non-profit corporations considered to have the best employers have in common the strategy of empowering employees to create their own solutions to problems faced by the organization (Hrywna, Sullivan, & Daks, 2014). In fact, prior research has linked empowering employees with improved employee and organizational outcomes, such as more creativity among employees (Zhang & Bartol, 2010), improved job satisfaction, more commitment to the organization, and fewer turnover intentions (Siebert, Wang, & Courtright, 2011).

Another strategy implemented by a provider might be to have agreements with suppliers to obtain goods and services at a lower cost, or even to produce goods in-house, allowing money for supplies to be spent elsewhere. For example, Corrections Corporation of America (CCA), which owns and/or runs both adult and juvenile correctional facilities, has its own team of

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<sup>35</sup> This may help to explain some of the mixed findings in the literature on privatization in adult corrections (Bales et al., 2005; Crants, 1991; Lanza-Kaduce & Maggard, 2001; Lanza-Kaduce et al. 1999; Pratt & Maahs, 1999; Sellers, 1989) and child welfare (Blackstone et al., 2004; Petr & Johnson, 1999; Steen & Smith, 2012; Yampolskaya et al., 2004; Zullo, 2002): different studies may have included different provider companies who all performed with differing quality.

“industry-leading experts,” which not only develops and delivers programming, but also conducts research and continuous evaluation of their programming (CCA, 2013, para. 9). Thus, rather than contracting for inmate programming, CCA develops, implements, and evaluates their programming in-house. Policy makers, researchers, and government administrators may want to give close attention to which providers have a track record of good performance and examine what these providers are doing that results in high performance.

Thus, instead of asking whether the public, for-profit, or non-profit sector should be running juvenile facilities, a more productive question centers around what practices will result in the desired processes and outcomes. Indeed, when Lipsey (2009) examined juvenile intervention studies, one of the three factors he identified as most important in reducing juvenile recidivism was the quality of implementation of the intervention. Quality of implementation included staffing issues, dropout, poor staff training, and proxies for attention and concern for program fidelity. Thus, fidelity to the proscribed process is important to obtain desired outcomes. A variety of other researchers have found that quality of implementation is important to achieve desired outcomes (Blakely et al., 2008; Durlak & DuPre, 2008; McHugo, Drake, Teague, & Xie, 1999). The importance of fidelity could easily cut across operating sectors, limiting the impact of ownership type on outcomes.

As such, for cybernetic systems theory, individual provider companies may need to replace ownership type in the control center of the model for the current study. Goals and plans are transmitted to individual facilities. Subsequently, as per principal-agent theory, the individual facilities interpret and alter those goals and plans through the lens of their parent company’s goals, mission, culture, strategies, etc. This alteration of goals and plans, in turn,

results in differing processes between facilities under different providers and ends with differing outcomes. Therefore, to address the principle-agent problem, the contract becomes very important. The contract, by stipulating standards and benchmarks, providing incentives, and outlining conditions for termination, is a critical means by which a facility's integrity to the goals and plans of the principle may be enforced and the clientele of the facility may be better served.

As stated in the literature review, privatization has the potential to be a powerful tool that can be utilized by the government to aid in juvenile rehabilitation, provided it does not lead to lower quality services, poorer results, or other ethical issues. The current study found no difference between public, for-profit, and non-profit juvenile facilities with regard either to operations or to recidivism; thus, the assertion that for-profit companies will cut corners on services to save money and subsequently have poorer results is not supported by the results of the current study. In addition, these results suggest that the concern over the questionable quality and effectiveness of non-profit organizations may be unwarranted. Rather than selecting the appropriate ownership type, a greater concern is selecting the appropriate provider company, as discussed above. As such, based upon the findings of this study, privatization represents a valid tool for the juvenile justice system, under the condition that the government selects the appropriate provider company. Writing an appropriate contract may promote optimal performance among private providers. Indeed, some of the ethical issues of privatization (i.e. promoting transparency, placing limits on lobbying, etc.) may be addressed through the contract. Furthermore, as non-profits were just as effective as for-profits, strong public objections to generating profit through punishment may be addressed by utilizing high performing non-profit providers (Lloyd, 1990).

**Importance of clientele.** In every model that was analyzed, the control variables were significant predictors of recidivism, even when accounting for provider. The most important control variables in the analyses were those that described characteristics of the juveniles housed in a facility: male gender, average prior seriousness, percent black, and average age at admission. Regarding research question 1, percent black had a significant inverse relationship with health care services, indicating that facilities that house a greater proportion of black youth also had lower quality health care services. In addition, in regard to research question 2, age had a significant inverse relationship with recidivism while male gender, APS, and percent black had significant positive relationships to recidivism. Thus, facilities that housed males, more serious offenders, and younger juveniles, as well as those facilities that housed a higher proportion of black youth, had higher recidivism rates.

Indeed, previous research has found that males have higher recidivism rates (Bayer & Pozen, 2005), so the findings of the current study are not surprising. One implication of the impact of gender on recidivism is that facility administrators provide gender specific programming to juveniles in their facilities. Research has found that boys and girls travel different paths to delinquency (Bright & Jonson-Reid, 2008; Topitzes, Mersky, & Reynolds, 2011) and that effective programming cannot ignore the fact that boys and girls have different needs with regard to delinquency intervention (Garcia & Lane, 2013). However, there is little empirical research on the effectiveness of male interventions with females (Bloom & Covington, 2001; Cooney, Small, & O'Connor, 2008; Hipwell & Loeber, 2006). Of the research that has been done, some have found interventions designed specifically for females are effective with females (Hipwell & Loeber, 2006), while others have found that interventions designed for

males were less effective with females (Gorman-Smith, 2003). One study indicated that aggression replacement training effective for both males and females, but the number of males housed in the facility was important in predicting the effectiveness of the treatment for males (Nugent, Bruley, & Allen, 1999), indicating the importance of facility level variables in treatment effectiveness across genders. When drafting contracts, juvenile justice administrators may want to consider including provisions for gender specific programming, whether they require it and thus include the provision of gender specific programming in facility evaluations, or they simply provide incentives for providing it.

In addition, the current study found that facilities housing more serious offenders had higher rates of recidivism. APS was measured through both the number and seriousness of prior arrests. Past research has found that having more prior arrests was associated with higher delinquency in the future (McMackin, Tansi, & Lafratta, 2004) and that chronic offenders (those who continue in their delinquency) commit more crimes and more serious crimes than other juvenile delinquents (Wright & Wright, 1994). Some research shows that serious offenders may need to be addressed differently than other offenders. For example, McMackin et al. (2004) found that chronic offenders who were in residential placement for more than 11 months were less likely to recidivate than chronic offenders who were placed for a shorter period. However, Fagan (1990) found that fidelity to appropriate programming was effective for serious violent juvenile offenders. Fidelity to programming and program type were factors Lipsey (2009) found to be related to lower recidivism without regard to the seriousness of the offender. Taken together, the findings of Lipsey and Fagan suggest that no matter the seriousness of the offender, fidelity to the right program is critical.

Thus, prior research and the current study suggest that more serious offenders present a special problem; this problem may require more resources and represent a greater risk of failure to the facility. As discussed earlier, facilities attempting to “cream” clients, or select only less serious offenders for their facilities, may be an issue when privatizing juvenile justice services. Thus, juvenile justice administrators will need to address the housing and treatment of serious offenders, perhaps by providing incentives or greater funding (to both public and private facilities) for housing serious offenders.

Moreover, research has shown that black males are more likely than whites to be incarcerated (Hartney & Vuong, 2009) and to recidivate (Reisig et al., 2007), so, as with the impact of gender and seriousness, the current findings with regard to the relationship between percent black and recidivism are not surprising. The higher recidivism rate for facilities housing a greater proportion of black youth may suggest the need for culturally specific programming (CSP). However, CSP has been the focus of much debate (Wilson, Lipsey, & Soydan, 2003) as addressing the needs of black and other minority offenders can present an intricate problem. For example, in comparing universal programming<sup>36</sup> effects across races, studies have found some differences in treatment effectiveness across race (Allen & Philliber, 2001; Haggerty, Skinner, MacKenzie, & Catalano, 2007; Ludwig & Pittman, 1999), while others have found universal treatment programs to be equally effective across racial groups (Usher & Stewart, 2014; Wilson et al., 2003) or even more effective (Kumpfer, Alvarado, Smith, & Bellamy, 2002). It seems the impact of universal programs across racial lines remains unclear, calling into question whether CSP is even needed, especially given its greater cost (Bailey et al., 2009). However, Mishel et

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<sup>36</sup> In the literature also called “generic” or “traditional” programming, referring to programs not specifically tailored to a particular racial or cultural group.



al. (2005) asserted that, while universal programs may be just as effective with minorities as CSPs, research has failed to provide evidence for the long-term effects of universal versus CSP. CSP may result in longer lasting effects by integrating treatment with a participant's cultural identity.

Nevertheless, there has not been much systematic review of CSP (Metzger, Cooper, Zarrett, & Flory, 2013). One study found that family therapy was more effective in reducing recidivism among African American male youth when it incorporated culturally sensitive elements (Jackson-Gilfort, Liddle, Tejada, & Dakof, 2001). A number of other studies have also found culturally sensitive programming to be more effective with minority participants (Bailey et al., 2009; Botvin & Kantor, 2000; Botvin, Schinke, Epstein, & Diaz, & Botvin, 1995; Rolstad, Mahoney, & Glass, 2005; Springer et al., 2005) than is universal programming. In contrast, other studies have found that culturally sensitive programming is no more effective than universal programming (Botvin, Schinke, Epstein, & Diaz, 1994); indeed, Kumpfer et al. (2002) assert that culturally specific programming increases retention of minority participants, but, in terms of outcomes, is less effective with those clients than is universal programming, indicating the complexity of disproportionate minority contact.

The mixed findings of the impact of CSP may be because modern cultures are becoming increasingly blended and "post-ethnic," with youth being less likely to identify with a single cultural identity (Kotkin & Tseng, 2003). With traditional cultural molds exerting less influence on behavior, it becomes more important to consider socioeconomic and other social factors and their impact on delinquency. Indeed, Reisig et al. (2007) emphasize the importance of accounting for social context when examining recidivism. For example, they assert that African

Americans are more likely to come from communities with fewer economic opportunities, which may help explain both their higher rates of juvenile delinquency and their higher levels of recidivism.

Thus, higher recidivism among minorities may involve both cultural and socioeconomic factors that make prevention and intervention a complex task. Indeed, disproportionate minority contact is an ongoing problem for both the criminal and juvenile justice systems. Juvenile justice administrators should address housing and intervention of minority youth within the contract and in evaluations. Intervention with minority youth, as with gender and seriousness, should be tailored to that population, keeping in mind that the needs of the population may change from region-to-region.

Finally, the current study found a negative relationship between average age at admission to a facility and recidivism. This is not surprising, given that more serious and long-term offenders usually started offending at an early age (Moffitt, 1994). In fact, age of onset of delinquency is a critically important predictor of persistent delinquency, with those who start offending earlier recidivating at a higher rate (Wright & Wright, 1994). The importance of average age at admission, as well as the other significant control variables, underscores the importance of primary prevention programs to prevent juvenile delinquency by addressing criminogenic problems early. Primary prevention programs are aimed at preventing delinquency among at-risk populations before it starts (Satcher, 2001). As with delinquency intervention, primary prevention should also be tailored to the target clientele. If age, race, and gender are important in predicting delinquency, then primary prevention should be tailored to groups based upon these factors. In addition, when considering the findings of Reisig et al. (2007) regarding

social context and recidivism, primary prevention should be aimed at populations from lower socioeconomic backgrounds.

In addition, the findings of the current study have important ethical and legitimacy implications. As stated above, facilities that housed a greater proportion of black youth had poorer health care operations. This is in contrast with the Gallagher and Dobrin (2007) finding that facilities that served a greater proportion of black youth were more likely to report high health care service provision. This seeming incongruity may be a result of their studying detention centers rather than longer term residential facilities. Juvenile detention centers serve a greater number of juveniles and for a shorter period than residential facilities and are thus seen as a critical point within the juvenile justice process to provide health care services (Gallagher & Dobrin, 2007). As such, different mechanisms may be operating to determine the amount and quality of health care services provided by detention facilities. For example, the fact that detention centers serve more youth than JRFs may make them visible to administrators and the public; thus, they may be hyper-vigilant with regard to ethical issues such as racial discrimination. Nevertheless, it is critical to determine why a racial disparity exists (evidenced in both the current study and in the Gallagher and Dobrin study), for racial bias, or even the semblance of racial bias, can seriously damage the legitimacy of the juvenile justice system and the government as a whole. Moreover, as health care services were tied to recidivism, it becomes more important to make sure youth housed in JRFs are receiving high quality health care, if only to reduce future delinquency. In addition, the disparity in health care services may help to explain the higher rates of recidivism among black youth.

While the current study did not identify why this relationship between race and health care services exists, funding issues are one logical reason. For example, it is possible that the contract between FDJJ and the contracted facility includes incentives or penalties that are tied to performance. As stated above, the proportion of black youth in a facility was related to higher levels of recidivism. Thus, facilities with a higher proportion of black youth are more likely to have higher recidivism rates, i.e. have poorer performance. Facilities with poorer performance may be penalized by receiving less funding and, subsequently, due to lack of funding, perform more poorly. These results again underscore the importance of more fully understanding the contract in FDJJ's contracting process, its requirements, stipulations, incentives, and its subsequent impact on operations and outcomes.

### **Limitations**

The FDJJ has endeavored to focus on evaluation of its programming and has received national recognition for its evaluation process. As such, it may represent a special case. The state's thorough evaluation process and corrective action procedures could cause facilities to perform at a higher level than they normally would. Thus these results may not apply to public, for-profit, and non-profit juvenile residential facilities in other states. Moreover, this study is unable to control for the organizational structure and size of the companies that own each facility. In addition, the recidivism measure used for this study does not include recidivism that occurred in another state; this is especially important with regard to facilities that lie along the border of other states. Finally, as mentioned a number of times throughout this study, it is also important to note that this study is unable to control for the content of the contracts between

FDJJ and the providers. Different contracts may specify different requirements or goals and thus may impact how a facility chooses to operate.

In addition, staff turnover (Lipsey, 2009) and facility overcrowding (Farrington & Nutall, 1980) are facility level variables that have been found to have a positive relationship with recidivism, possibly due to high staff turnover and overcrowding being detrimental to a therapeutic environment. It is possible that, because facility security included measures for staffing procedures, the influence of security on recidivism would be diminished by the inclusion of a variable measuring turnover. In addition, turnover might reduce the impact of intervention management-if turnover is reduced, bonds between staff and juveniles have time to strengthen. This strengthened relationship may result in a mentoring effect and thus reduce the importance of intervention management were turnover included in the analyses. Moreover, operational variables may not have the same impact if overcrowding is controlled. For example, when a facility is housing more juveniles than it was designed to house, facility resources, including staff, must be allocated more carefully, making program management and security more important to the overcrowded facility. Thus, had the study included overcrowding, these variables may have lost significance. In addition, public facilities are more likely to be overcrowded than private facilities (Elrod & Ryder, 2011; Hockenberry et al., 2009). As such, public facilities may have a greater strain on their resources, negatively impacting their performance. Thus, if the study had been able to control for overcrowding, public facilities may have outperformed private facilities and subsequently, ownership type may have seen greater significance. However, the necessary information could not be obtained to include these variables in the current study.

Furthermore, while all facilities offered mental health and substance abuse services, some facilities in the sample specifically addressed mental health and substance abuse issues. Thus, there is a possibility of mental health and substance abuse operations that went unmeasured. Unfortunately, the necessary information could not be obtained to include these variables in the current study.

Finally, while the QA evaluations may report the quality of services, they do not report the amount of services provided by a facility. Having to expend resources across a greater number of services may cause operational quality to fall. While FDJJ provides information about the services offered by current facilities, information on services offered by facilities during the study period was not available. The impact of this limitation may be lessened by the control variables risk level, facility size, and APS accounting for some differences in the number of services offered.

### **Future research**

The results of the current study suggest a number of avenues for future research. Due to the dearth of past research in this area, researchers interested in juvenile justice privatization may greatly benefit from the use of qualitative research. Qualitative research can help explain the context within which participants operate, identify unanticipated consequences, assist in understanding processes in a system, and aid in developing causal explanations and theories (Maxwell, 2005, pp. 22-24); as such it is well-suited for fields with little prior research and theory.

Qualitative research, for example, would be helpful in examining the goals of each of the ownership types. While the results of the current study did not support a relationship between

ownership type and operations, ownership types may still have different goals and priorities, as discussed above. Prior discourse on privatization has outlined some goal differences between different ownership types (Baruch & Ramalho, 2006; Besley & Ghatak, 2001; Dimaggio & Anheier, 1990; Goldsmith & Eggers, 2004; James & Ackerman, 1986; Rainey et al., 1976; Scott & Falcone, 1998; Spechbacher, 2003), but there is little empirical research to support these assertions, especially with regard to non-profit organizations. Understanding the goals of the different ownership types is important because it can aid policy makers and administrators in crafting contracts. If research concludes that different ownership types in fact do have different goals and priorities, then incentives and punitive measure outlined in the contract can be geared towards the goals and priorities of each ownership type.

Although knowing the goals of the different ownership types may be helpful in incentivizing performance, the results of the current study suggest that future research should place greater emphasis on provider companies rather than on specific ownership types. As stated above, individual provider company was important in all of the models analyzed. Thus, it is important to research the practices of different providers and see how high performing providers differ from low performing providers. Issues such as organizational communication, leadership and motivational methods may all play a role in the performance and subsequent outcomes of organizations. Organizational culture impacts the decision making, policy, and strategies of an organization (Schein, 1992), so organizational culture may also be a characteristic of individual providers that may impact the management of juvenile facilities. Another course for future research would be to compare the written policies of different providers and examine their impact on performance and outcomes.

Finally, features of the provider such as organizational structure, age, resources, and size should also be examined. Some organizational structures work better in some environments and not well in others (Scott & Davis, 2007). For example, provider companies with flatter organizational hierarchies will place decision makers organizationally closer to line workers. This structure may not only improve communication, but also may keep decision makers informed about issues that need to be addressed. In the current study, a flat hierarchy might allow administrators from Provider A to communicate the mission, goals, and culture of the organization to facility A; conversely, the program manager from facility A could easily communicate issues with resources or local community involvement to Provider A. In addition, older, more established organizations may have the resources and experience to better perform the management of a juvenile facility. Moreover, larger organizations with an established reputation and access to needed resources may have more ability to attract and pay highly qualified applicants who want to build a career in such organizations. As such, these organizations may have employees with more education, training, and experience.

Another critical area for research is the role of the contract in the privatization process. Future research should examine the language used in contracts and how it is related to subsequent behavior on the part of both the government actor and the contracted actor. Given the finding that individual providers have more impact on operations and recidivism than the ownership type under which they fall, it is critical to know what stipulations will shape the behavior of contracted organizations to achieve the best outcomes. Requirements for operations, recidivism goals, incentives for above average performance, and fidelity to intervention programming are all aspects of the contract the effects of which must be explored, with an eye to



ensuring the contract is not so strict it prevents innovation, a potential problem when writing a contract (Unruh & Hodgkin, 2004).

The impact of the environment (i.e. legislature, public opinion, the juvenile court, etc.) on juvenile residential facilities and their performance is another avenue for future research, and was part of the cybernetic system theory framework that was not directly addressed in the current study. As an open system, juvenile justice systems are impacted by their environments. For example, public outcry over juvenile crime may result in stricter laws and a greater influx of juveniles into JRFs, creating possible issues with facility capacity. In addition, juvenile justice systems are part of a hierarchy of control in that they are themselves agents of their respective state. For example, in the current study, FDJJ is itself an agent of the State of Florida. Sappington and Stiglitz (1987) outline a number of special issues related to monitoring contracted agencies when the principal is itself an agent. For instance, the system has multiple principals whose needs might not coincide. Thus, based upon whatever outcome they desire, different principals may have different definitions of effectiveness. Authority over different parts of the system may be in the hands of different actors, resulting in inefficiencies in the system (Sappington & Stiglitz, 1987). For example, in the juvenile justice system, the state legislature actors may promote a retributive philosophy toward juveniles in order to satisfy public opinion; the juvenile justice system may conversely emphasize rehabilitation due to the child-saving roots of this organization. Thus, goals will conflict and may become confused in practice. As such, the impact of the environment on JRFs is essential to understanding how and why they operate as they do.

Funding may also be tied to operations and, subsequently, outcomes; therefore, the role of funding should also be examined. Regional and jurisdictional issues may play a role in funding, with some regions receiving less funding due to regional and population characteristics. Public opinion, and what groups are seen as valued in society, may also have impact on funding. It may be that public opinion drives more funding to first time offenders rather than serious offenders who are seen as incorrigible and a waste of resources. In fact, focusing on more serious offenders is one effective method of seeing the highest reductions in recidivism (Lipsey, 2009).

Staffing may also play a role in facility operations and outcomes. As Lipsky (1980) asserted, policy implementation is carried out by front-line workers, and as such, fidelity to organizational policy and programming depends upon their discretion. In addition, program management and security, both of which include staffing issues, were both found to be related to recidivism. Staffing should be investigated in more detail to see how it impacts juvenile facility operations and outcomes. Prior research has shown that turnover reduces the impact of intervention programming (Lipsey, 2009). One possibility for turnover's negative impact is that fostering appropriate bonds between staff and youth will help reinforce a therapeutic, rehabilitative, caring environment. Facilities with high levels of staff turnover may not have these bonds because staff/youth bonds are severed every time a staff member leaves. In addition, the amount of training received by staff may also impact operations and outcomes. Staff members who have more training are better equipped to perform their duties. For example, research has shown that police officers with higher educational attainment are able to perform their duties more effectively and receive fewer citizen complaints (Berg, 1990). While their

employment requirements may vary by state, by provider company, and even by facility, residential facility staff may benefit from higher levels of education in the same manner as police officers. Like police, residential facility staff are responsible for the supervision of individuals and may be called upon to exert coercive force. Moreover, Robinson, Porporino, & Simourd, (1997) found that correctional officers who had higher educational attainment were more likely to support a rehabilitative ideal. Different provider companies may have different requirements for staff training and experience. Employing staff who perform their duties appropriately and who support rehabilitation may help foster a therapeutic environment and reduce recidivism.

It is also important to look at which standard indicators are really tied to recidivism. For example, while health care services was related to recidivism in the current study, it may be that the health care services indicator, which represented the provision of health education to youth, may have a greater impact on recidivism than the indicator representing youth health records being kept physically separate from youth administrative records. Thus, a greater and more detailed investigation of operations and their impact on outcomes is needed in the area of juvenile privatization. In addition, future research can examine privatization as it relates to different outcomes, such as higher quality of life for juveniles, improved educational performance; researchers may even examine different measures for recidivism, such as time to re-offense and re-offense severity.

## **Conclusion**

Juvenile justice privatization has not received much scholarly attention, yet private providers have been widely used in the juvenile justice system throughout its history. The current study sought to add to the privatization literature by examining public vs. private for-

profit and non-profit institutions in the juvenile justice system. The findings of this study did not support a relationship between public, for-profit, and non-profit ownership and either operations or juvenile recidivism, indicating there was no mediating relationship. In addition, health care services and security were the only operational variables tied to juvenile recidivism. However, the study did find that provider company and characteristics of the juveniles served were important in every model that was analyzed. These results indicate that the debate over privatization should place less emphasis on the operating sector in which the management of a facility falls and focus on the provider company that manages the facility, as well as the clientele served. Juvenile justice administrators may want to choose contractors based upon a provider's track record of success and what they do rather than based upon operating sector. Prevention and intervention services should also be crafted to cater to the clientele to which they will be targeted.

Juvenile justice privatization is currently an open field for research. The widespread use of a tool such as privatization without a foundation of research on its implementation and impact in juvenile justice is troubling. The way the government chooses to deal with juveniles has important consequences, both for the outcomes of the juveniles served, but also for the legitimacy and ethical behavior of the government itself. Therefore, much more research on juvenile justice privatization is needed to understand the benefits and limitations of privatization.

**APPENDIX A: FULL SAMPLE COMPARED TO MISSING REMOVED SAMPLE**

Table 15

*Full sample compared to missing removed sample*

	Full sample		Missing removed	
	n	%	n	%
Review Year				
2003	131	20.2	127	23
2004	130	20.5	128	23.2
2005	130	20.5	127	23
2006	128	20.7	122	22.1
Provider Change	41	6.5	39	7.1
Ownership				
Public	90	14.2	84	15.2
For Profit	273	43.1	238	43.2
Non Profit	270	42.7	229	41.6
Gender Served				
Male	489	77.3	424	77
Female	129	20.4	112	20.3
Coed	15	2.4	15	2.7
Region				
North	275	43.4	231	41.9
Central	208	32.9	187	33.9
South	150	23.7	133	24.1
Risk Level				
Low	68	10.7	61	11.1
Moderate	383	60.5	327	59.3
High/Max	182	28.8	163	29.6
	Mean	SD	Mean	SD
APS	20.64	9.04	20.91	8.44
Percent Black	46.35	17.55	46.39	17.11
Average Age	16.17	0.86	16.17	1.04
Number of Beds	50.21	37.5	55.41	47.89

**APPENDIX B: FACILITIES BY RISK AND FISCAL YEAR**

Table 16  
*Facilities by risk and fiscal year*

Low risk facilities	Fiscal year				
	02-03	03-04	04-05	05-06	06-07
Alligator Creek Stop Camp	x	x	x		
Blackwater STOP Camp		x	x	x	
Brevard Group Treatment Home		x	x	x	x
Dade Group Treatment Home		x	x	x	x
Eckerd Youth Academy		x	x	x	
Escambia River Outward Bound	x	x	x	x	
First Step Adolescent Services III	x				
First Step Adolescent Services IV		x	x	x	
Florida Youth Academy Low Risk	x	x			
Forestry Youth Academy		x	x	x	
Jonathan Dickenson STOP Camp		x	x	x	
LEAF Broward Group Treatment		x			
Manatee Wilderness Camp		x			
Peace River Outward Bound	x	x		x	x
Project Step		x	x	x	x
South Pines	x	x	x	x	
Vision Quest Warrington	x	x	x	x	
White Foundation Family Treatment Homes	x	x	x	x	
Withlacoochee JRF	x	x		x	x
<hr/>					
Moderate risk facilities					
Adolescent Residential Campus	x	x	x	x	
Adolescent Treatment Center	x	x	x		
Adolescent Treatment Center Sub.Ab.	x	x	x		
Alachua JRF	x	x	x	x	
Avon Park Youth Academy	x	x	x	x	
Bassin House		x	x	x	x
Bay Point Schools-Kennedy	x	x	x	x	
Bay Point Schools-North	x	x	x	x	
Big Cypress Wilderness Institute	x		x		x
Bowling Green New Beginnings				x	
Bowling Green New Beginnings			x		x
Bowling Green Youth Academy	x	x		x	x
Bristol Youth Academy		x	x	x	x
Britt HWH	x	x	x	x	
Camp E-How-Kee		x			
Camp E-Kel-Etu		x	x	x	x



Moderate risk facilities	Fiscal year				
	02-03	03-04	04-05	05-06	06-07
Camp E-Ma-Chamee	x	x	x	x	
Camp E-Nini-Hassee	x	x	x	x	
Camp E-Tu-Makee	x	x		x	x
Character House	x		x	x	x
Columbus JRF			x	x	
Crossroads Wilderness Institute	x	x		x	x
Desoto Dual Diagnosis		x	x	x	x
Desoto JCF	x	x	x	x	x
Duval JRF		x	x	x	
Duval Start JRF	x	x			
Eckerd Intensive HWH		x	x		x
Eckerd Youth Challenge Program			x	x	x
Falkenburg Academy		x		x	x
First Step Adolescent Services II		x			
First Step Adolescent Services III			x	x	
Florida City Youth Center	x	x	x		
Florida Environmental Institute		x	x	x	x
Fort Walton	x	x		x	
Frances Walker HWH	x	x	x		x
GATE		x	x		
GOALS		x	x	x	x
Greenville Hills Academy		x	x	x	
Grove Unique Youth Services (GUYS)	x	x		x	x
Gulf Academy		x	x	x	x
Gulf Coast Youth Academy		x		x	x
Hamilton HWH	x				
Hastings Youth Academy HWH			x	x	x
Hendry HWH	x				
Hendry Youth Development Academy	x				
HOPE Program	x	x	x	x	
Impact House	x	x	x	x	
Jefferson HWH		x	x	x	x
JoAnn Bridges Academy		x	x	x	
Juvenile Unit for Specialized Treatment		x	x	x	x
Kelly Hall HWH	x		x		
Kingsley HWH	x	x	x	x	
Lake Academy		x	x		x
LEAF Recovery		x			
Leslie Peters HWH		x	x	x	

Moderate risk facilities	Fiscal year				
	02-03	03-04	04-05	05-06	06-07
Liberty Wilderness Crossroads Camp		x	x	x	x
Lighthouse JRF	x	x	x	x	
Live Oak Girls JRF	x	x	x	x	
Madison HWH		x	x	x	x
Manatee Adolescent Treatment Services	x	x	x	x	
Mandala Adolescent Treatment Program		x		x	x
Marion Youth Development Center	x	x	x	x	
MERIT		x	x	x	x
Miami HWH		x	x	x	x
Milton Girls JRF		x	x	x	
Nassau HWH	x		x	x	
Oaks JRF		x	x	x	x
Okaloosa HWH		x	x	x	x
Okaloosa Youth Academy		x	x		
Okeechobee Redirection Camp		x	x	x	
Panther Success Center	x	x	x	x	
Pensacola Boys Base		x	x	x	
Pines JRF		x	x	x	x
Polk HWH		x	x	x	x
Polk JCF				x	
Polk STAR Program					x
Price HWH		x	x	x	x
RAM-C I and II		x	x	x	x
Riverside Academy	x	x	x	x	
San Antonio Boys Village	x		x	x	x
Santa Rosa JRF		x	x	x	
Sawmill Academy for Girls	x	x	x	x	
Seminole Work and Learn		x	x	x	
South Pines Academy	x	x	x	x	
Southern Glades Youth Camp	x	x		x	
Space Coast Marine Institute	x	x	x	x	
St John's JRF		x	x		
Taylor HWH		x	x	x	x
Thompson Academy		x	x	x	
Union JRF		x		x	x
Vision Quest Blue Water Program	x	x	x	x	
Volusia HWH		x	x	x	
West Florida Wilderness Institute	x		x	x	x
Wilson Youth Academy		x	x	x	

Moderate risk facilities	Fiscal year				
	02-03	03-04	04-05	05-06	06-07
WINGS for Life South Florida		x	x	x	x
Youth Development Academy	x				
Youth Environmental Services	x	x	x	x	
<hr/>					
High risk facilities					
Adolescent Residential Campus SHOP	x	x	x		
Bartow JCF	x	x	x		
Bartow SHOP		x	x		
Broward Intensive HWH		x	x	x	
Cypress Creek JOCC		x	x	x	x
DeSoto					x
Desoto Dual Diagnosis	x	x	x	x	x
DeSoto JCF	x	x	x	x	x
DeSoto JCF Dual Diagnosis	x	x	x	x	x
Dozier SOP		x	x		x
Dozier Training School for Boys		x	x	x	x
Eckerd Youth Development Center		x	x		x
Elaine Gordon Treatment Center	x	x		x	
Everglades Youth Development Center	x	x	x	x	
First Step Adolescent Services II			x		x
Florida Institute for Girls		x	x	x	
Florida Youth Academy	x				
Florida Youth Academy High Risk		x			
Hastings Youth Academy HWH		x	x	x	
Hillsborough Academy		x	x	x	x
Jackson JOCC					x
Jackson Juvenile Offender Corrections SOP	x	x	x	x	
Kissimmee JCF		x	x	x	
Manatee Adolescent Treatment Services	x	x	x	x	
Manatee Youth Academy	x		x	x	x
Marion County Intensive Treatment	x	x	x	x	x
Monticello New Life		x	x	x	x
NAFI Intensive HWH		x		x	x
NAFI SHOP	x		x	x	x
Okaloosa Intensive HWH		x	x	x	x
Okeechobee JOCC SOP	x	x	x	x	
Orange Intensive HWH		x	x	x	x
Polk JCF	x	x	x		x
Sago Palm Academy Mental Health Overlay				x	

High risk facilities	Fiscal year				
	02-03	03-04	04-05	05-06	06-07
Sago Palm Academy Trailblazers				x	
Sago Palm Pathfinders	x	x	x	x	
Sago Palm SOP	x	x	x		
Sago Palm Youth Development Center	x	x	x	x	
St John's JRF			x	x	x
Three Springs			x	x	x
Tiger Success Center	x	x	x	x	
Umatilla JRF				x	
Vernon Place		x	x	x	
<hr/>					
Maximum risk facilities					
Cypress Creek JOCC	x				
Desoto Dual Diagnosis Correctional Facility					x
Florida Institute for Girls		x	x	x	
Jackson JOCC					x
Okeechobee JOCC	x	x	x	x	
Omega Juvenile Prison	x		x	x	x

**APPENDIX C: IRB APPROVAL LETTER**



University of Central Florida Institutional Review  
Board Office of Research & Commercialization  
12201 Research Parkway,  
Suite 501 Orlando, Florida  
32826-3246  
Telephone: 407-823-2901, 407-882-2012 or 407-882-  
2276 [www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

From : **UCF Institutional Review Board #1  
FWA00000351, IRB00001138**

To : **Katherine Elaine Hancock**

Date : **February 28, 2014**

Dear Researcher:

On 02/28/2014 the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review: Not Human Research Determination  
Project Title: The privatization of Florida juvenile residential facilities  
Investigator: Katherine Elaine Hancock  
IRB ID: SBE-14-09982  
Funding Agency:  
Grant Title:  
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 02/28/2014 01:04:35 PM EST

A handwritten signature in black ink that reads 'Joanne Muratori'.

IRB Coordinator

## LIST OF REFERENCES

- Adams, K., & Ferrandino, J. (2008). Managing mentally ill inmates in prisons. *Criminal Justice and Behavior*, 35: 913-927.
- Allen, J.P., & Philliber, S. (2001). Who benefits most from a broadly targeted prevention program? Differential efficacy across populations in the Teen Outreach Program. *Journal of Community Psychology*, 29(6): 637-655.
- Altman, D.G., & Bland, J.M. (1995). Absence of evidence is not evidence of absence. *BMJ*, 311: 485. Retrieved March 28, 2014, from <http://pubmedcentralcanada.ca/pmc/articles/PMC2550545/pdf/bmj00606-0027.pdf>
- Anderson, D. R., Burnham, K. P., & Thompson, W. L. (2000). Null hypothesis testing: Problems, prevalence, and an alternative. *Journal of Wildlife Management*, 6: 912-923.
- Andrews, D., Feit, M.D., & Everett, K. (2011). Substance abuse treatment in United States prisons: A social work perspective. *Journal of Human Behavior in the Social Environment*, 21(7): 744-751.
- Andrews, D.A., Zinger, I., Hoge, R.D., Bonta, J., Gendreau, P., Cullen, F.T. (1990). Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology*, 28(3): 369-404.
- Argyris, C. (1977). Organizational learning and management information systems. *Accounting, Organizations, and Society*, 2(2): 113-123.
- Armstrong, G.S. (2001). *Private vs. public operation of juvenile correctional facilities*. New York: LFB Scholarly Publishing, LLC.
- Auerbach, C., McGowan, B.G., Ausberger, A., Strolin-Goltzman, J., & Schudrich, W. (2010).

- Differential factors influencing public and voluntary child welfare workers' intention to leave. *Children and Youth Services Review*, 32: 1396-1402.
- Austin, J., & Coventry, G. (2001). *Emerging issues on privatized prisons* [NCJ 181249]. Washington, DC: Bureau of Justice Assistance, National Council on Crime and Delinquency.
- Bailey, E., Cates, C., Kruske, S., Morris, P., Brown, N., & Chang, A. (2009). *Culture-specific programs for children and adults from minority groups who have asthma*. Cochrane Database of Systematic Reviews (Online), (2), CD006580.  
doi:[10.1002/14651858.CD006580.pub4](https://doi.org/10.1002/14651858.CD006580.pub4).
- Bales, W.D., Bedard, L.E., Quinn, S.T., Ensley, D.T., & Holley G.P. (2005). Recidivism of public and private state prison inmates in Florida. *Criminology & Public Policy*, 4(1): 57-82.
- Barcikowski, R.S. (1981). Statistical power with group mean as the unit of analysis. *Journal of Educational Statistics*, 6(3): 267-285.
- Baruch, Y., & Ramalho, N. (2006). Communalities and distinctions in the measurement of organizational performance and effectiveness across for-profit and non-profit sectors. *Nonprofit and Voluntary Sector Quarterly*, 35(1): 39-65.
- Barzi, F., & Woodward, M. (2004). Imputations of missing values in practice: Results from imputations of serum cholesterol in 28 cohort studies. *American Journal of Epidemiology*, 160 (1): 34-45.
- Batten, Ken (2006). *Offender reentry: An examination of drug treatment programs needed to*



- ensure successful reentry*. Testimony before House of Representatives, House Committee on the Judiciary. February 8, 2006.
- Bayer, P., Hjalmarsson, R., & Pozen, D. (2009). Building criminal capital behind bars: Peer effects in juvenile corrections. *The Quarterly Journal of Economics*, 124(1): 105-147.
- Bayer, P., & Pozen, D.E. (2005). The effectiveness of juvenile correctional facilities: Public versus private management. *Journal of Law and Economics*, 48(2): 549-589.
- Behn, R.D. (1978). Closing a government facility. *Public Administration Review*, 38(4): 332-338.
- Benton, D. (2007). The impact of diet on anti-social, violent and criminal behavior. *Neuroscience and Biobehavioral Reviews*, 31: 752-774.
- Berg, B. (1990). Who should teach police? A typology and assessment of police academy instructors. *American Journal of Police*, 9: 79-100.
- Besley, T., & Ghatak, M. (2003). *Incentives, choice, and accountability in the provision of public services* [IFS Working Papers, 03/08]. London: Institute for Fiscal Studies.
- Bishop, D. (2000). Juvenile offenders in the adult criminal justice system. *Crime and Justice*, 27: 81-167.
- Blackstone, E. A., Buck, A. J., & Hakim, S. (2004). Privatizing adoption and foster care: Applying auction and market solutions. *Children and Youth Services Review*, 26, 1033–1049, doi:10.1016/j.childyouth.2004.08.004.
- Blakely, C.R., Bumphus, V.W. (2004). Private and public sector prisons: A comparison of select characteristics. *Federal Probation*, 68(1): 4-15.
- Blakely, C.H., Mayer, J.P., Gottschalk, R.G., Schmitt, N., Davidson, W.S., Roitman, D.B.,

- Durlak, J.A., & DuPre, E.P. (2008). Implementation matters: A review of research on the influence of implementation and the factors affecting implementation. *American Journal of Community Psychology*, 41: 327-350.
- Bloom, B.E., & Covington, S.S. (2001). *Effective gender-responsive intervention in juvenile justice: Addressing the lives of delinquent girls*. Paper presented at the Annual Meeting of the American Society of Criminology, Atlanta, GA, November 7-10, 2001.
- Boris, E.T. (2006). Nonprofit organizations in a democracy: Roles and responsibilities. In E.T. Boris & C.E. Steuerle (Eds.) *Nonprofits and government: Collaboration and Conflict* (2<sup>nd</sup> ed.) (pp. 2-35). Washington, DC: The Urban Institute.
- Bortolotti, B., & Siniscalco, D. (2004). *The challenges of privatization: An international analysis*. New York: Oxford University Press.
- Botvin, G.J., & Kantor, L.W. (2000). Preventing alcohol and tobacco use through life skills training: Theory, methods, and empirical findings. *Alcohol Research & Health*, 24(4): 250-257.
- Botvin, G.J., Schinke, S.P., Epstein, J.A., & Diaz, T. (1994). The effectiveness of culturally-focused and generic skills training approaches to alcohol and drug abuse prevention among minority youth. *Psychology of Addictive Behavior*, 8: 116-127.
- Botvin, G.J., Schinke, S.P., Epstein, J.A., Diaz, T. , & Botvin, E.M. (1995). Effectiveness of culturally focused and generic skills training approaches to alcohol and drug abuse prevention among minority adolescents: Two-year follow-up results. *Psychology of Addictive Behaviors*, 9(3): 183-194.
- Boulding, K.E. (1956). General systems theory: The skeleton of science. *Management Science*,

2(3): 197-208.

- Bowen, N.K., & Bowen, G.L. (1999). Effects of crime and violence in neighborhoods and schools on the school behavior and performance of adolescents. *Journal of Adolescent Research*, 14(3): 319-342.
- Bright, C.L., & Jonson-Reid, M. (2008). Onset of juvenile court involvement: Exploring gender-specific associations with maltreatment and poverty. *Child Youth Services Review*, 30(8): 914-927.
- Brooks, A.C. (2006). Efficient nonprofits? *The Policy Studies Journal*, 34(3): 303-312.
- Buckles, J.R. (2002). The case for the taxpaying good Samaritan: Deducting earmarked transfers to charity under federal income tax law, theory, and policy. *Fordham Law Review*, 70: 1328-1329.
- Bureau of Quality Improvement (2012). *Introduction to quality improvement*. Tallahassee, FL: Bureau of Quality Improvement, Florida Department of Juvenile Justice.
- Camp, S.D. (2005). Private prisons and recidivism. *Criminology & Public Policy*, 4(1): 55-56.
- Camp, C., & Camp, G. (2000). *The 2000 correctional yearbook: Private prison*. Connecticut: Criminal Justice Institute, Inc.
- Camp, S.D., Gaes, G.G., Langan, N.P., & Saylor, W.G. (2003). *The influence of prisons on inmate misconduct: A multilevel investigation*. Washington, DC: Office of Research and Evaluations, Federal Bureau of Prisons. Retrieved November 12, 2013, from [http://www.bop.gov/news/research\\_projects/published\\_reports/prison\\_mgmt/oreprcamp\\_mis.pdf](http://www.bop.gov/news/research_projects/published_reports/prison_mgmt/oreprcamp_mis.pdf)
- Campbell, M. C. (2009). *Agents of change: Law enforcement, prisons, and politics in Texas and*

California. University of California, Irvine. *ProQuest Dissertations and Theses*, 216-n/a.

Retrieved from

<http://ezproxy.net.ucf.edu/login?url=http://search.proquest.com/docview/304850029?accountid=10003>. (304850029).

- Cecile, M., & Born, M. (2009). Intervention in juvenile delinquency: Danger of iatrogenic effects? *Children & Youth Service Review*, 31(12): 1217-1221.
- Chang, J.J., Chen, J.J., & Brownson, R.C. (2003). The role of repeat victimization in adolescent delinquent behaviors and recidivism. *Journal of Adolescent Health*, 32(4): 272-280.
- Chen, M.K., & Shapiro, J.M. (2007). Do harsher prison conditions reduce recidivism? A discontinuity-based approach. *American Law and Economics Review*, 9(1): 1-29.
- Cisler, J.M., Begle, A.M., Amstadter, A.B., Resnick, H.S., Danielson, C.K., Saunders, B.E., & Kilpatrick, D.G. (2012). Exposure to interpersonal violence and risk for PTSD, depression, delinquency, and binge drinking among adolescents: Data from the NSA-R. *Journal of Traumatic Stress*, 25(1): 33-40.
- Clements, C.B. (1982). The relationship of offender classification to the problems of prison overcrowding. *Crime & Delinquency*, 28: 72-81.
- Cohen, S., & Eimicke, W. (1998). *Tools for innovators: Creative strategies for managing public sector organizations*. San Francisco, CA: Jossey-Bass Publishers.
- Cooney, S.M., Small, S.A., & O'Connor, C. (2008). Girls in the juvenile justice system: Toward effective gender-responsive programming. *What Works, Wisconsin-Research to Practice Series*, Issue 7. University of Wisconsin.
- Corrections Corporation of America (2013). *Providing proven reentry programs*. Nashville, TN:

- CCA. Retrieved April 2, 2014, from <http://cca.com/providing-proven-re-entry-programs>
- Cotton, D., & Coleman, T.G. (2010). Canadian police agencies and their interactions with persons with a mental illness: A systems approach. *Police Practice & Research*, 11(4): 301-314.
- Coupet, S.M. (2000). What to do with the sheep in wolf's clothing: The role of rhetoric and reality about youth offenders in the constructive dismantling of the juvenile justice system. *University of Pennsylvania Law Review*, 148(4): 1303-1346.
- Craig, S. (2010). Management within a correctional institution. In R. Muraskin (Ed.) *Key correctional issues* (2<sup>nd</sup> ed.), pp. 67-82. Upper Saddle River, NJ: Prentice Hall.
- Crank, J.P., & Giacomazzi, A. (2009). A sheriff's office as a learning organization. *Police Quarterly*, 12(4): 351-369.
- Crants, D.R. (1991). Private prison management: A study in economic efficiency. *Journal of Contemporary Criminal Justice*, 7(1): 49-59.
- Curran, P.J., West, S.G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1): 16-29.
- DeCarlo, L.T. (1997). On the meaning and use of kurtosis. *Psychological Methods*, 2(3): 292-307.
- DeMichele, M., & Payne, B.K. (2012). Measuring community corrections' officials perceptions of goals, strategies, and workload from a systems perspective: Differences between directors and nondirectors. *Prison Journal*, 92(3): 388-410.
- Dempsey, J. (2007). Culture change ensures safety for staff and youths in juvenile corrections.

- Corrections Today*, 69(4): 88-89.
- Desai, R.A., Goulet, J.L., Robbins, J., Chapman, J.F., Migdole, S.J., & Hoge, M.A. (2006). Mental health care in juvenile detention facilities: A review. *The Journal of the American Academy of Psychiatry and the Law*, 34: 204-214.
- DiMaggio, P.J., & Anheier, H.K. (1990). The sociology of nonprofit organizations and sectors. *Annual Review of Sociology*, 16: 137-159.
- DiMaggio, P.J., & Powell, W. (1983). "The iron cage revisited: Institutional isomorphism and the collective rationality in organizational fields. *American Sociological Review*, 48: 147-160.
- Donabedian, A. (1966). Evaluating the quality of medical care. *The Milbank Memorial Fund Quarterly*, 44(3): 166-206.
- Elgie, R. (2002). The politics of the European Central Bank: principal-agent theory and the democratic deficit. *Journal of European Public Policy*, 9(2), 186-200.
- Elliott, D.S., & Mihalic, S. (2004). Issues in disseminating and replicating effective prevention programs. *Prevention Science*, 5(1): 47-54.
- Elrod, P., & Ryder, S. (2011). *Juvenile justice: A social, historical and legal perspective* (3<sup>rd</sup> ed.). Sudbury, MA: Jones & Bartlett Learning.
- Emmert, M., & Crow, M. (1988). Public, private and hybrid organizations: An empirical examination of the role of publicness. *Administration and Society*, 20: 216-244.
- Emshoff, J.G. (1987). The fidelity-adaptation debate: Implications for the implementation of public sector social programs. *American Journal of Community Psychology*, 15(3): 253-268.

- England, E. (2011). Privatization: Analyzing the process of privatization in theory and practice. *Student Pulse*, 3(8): 1-6.
- Fagan, J. (1990). Treatment and re-integration of violent juvenile offenders: Experimental results. *Justice Quarterly*, 7: 233-263.
- Fagan, J., & Davies, G. (2004). The natural history of neighborhood violence. *Journal of Contemporary Criminal Justice*, 20(2): 127-147.
- Farrington, D.P., & Nuttall, C.P. (1980). Prison size, overcrowding, prison violence, and recidivism. *Journal of Criminal Justice*, 8(4): 221-231.
- Feeley, M.M., & Simon, J. (1992). The new penology: Notes on the emerging strategy of corrections and its implications. *Criminology*, 30(4): 474-449-
- Feinstein, R.A., Lampkin, A., Lorish, C.D., Klerman, L.V., Maisiak, R., & Oh, M.K. (1998). Medical status of adolescents at time of admission to a juvenile detention center. *Journal of Adolescent Health*, 22(3): 190-196.
- Feld, B.C. (1990). The punitive juvenile court and the quality of procedural justice: Disjunctions between rhetoric and reality. *Crime & Delinquency*, 36(4): 443-466.
- Finckenauer, J.O. (1982). Scared Straight and the panacea phenomenon. *Annals of the New York Academy of Sciences*, 347, 213-217.
- Fishbein, D., & Pease, S.E. (1995). Diet, nutrition, and aggression. *Journal of Offender Rehabilitation*. 21(3-4): 117-144.
- Florida Department of Juvenile Justice (2006a). *2006 outcome evaluation*. Tallahassee, FL: Author. Retrieved October 18, 2012, from <http://www.djj.state.fl.us/research/reports/car>
- Florida Department of Juvenile Justice (2006b). *Comprehensive accountability report: 2005-*

2006. Tallahassee, FL: Author. Retrieved April 28, 2013, from <http://www.djj.state.fl.us/research/reports/car>
- Florida Department of Juvenile Justice (2010). *Comprehensive accountability report: 2009-2010*. Tallahassee, FL: Author. Retrieved May 11, 2013, from <http://www.djj.state.fl.us/research/reports/car>
- Florida Department of Juvenile Justice (2011). *Comprehensive accountability report: 2010-2011*. Tallahassee, FL: Author. Retrieved October 18, 2012, from <http://www.djj.state.fl.us/research/reports/car>
- Florida Department of Juvenile Justice (2012). Contracting. Retrieved January 11, 2013, from <http://www.djj.state.fl.us/partners/contracting>
- Florida Department of Juvenile Justice (2013). *Fiscal year 2010-11 annual report*. Retrieved May 11, 2012, from <http://www.djj.state.fl.us/docs/about-us/djj-annual-report.p>
- Frydman, R., Gray, C., Hessel, M., & Rapaczynski, A. (1999). When does privatization work? The impact of private ownership on corporate performance in the transition economies. *Quarterly Journal of Economics*, 114(4): 1153-1191.
- Gaes, G.G. (2012). *The current status of prison privatization research on American prisons*. Unpublished manuscript, College of Criminology and Criminal Justice, Florida State University, Tallahassee, FL. ExpressO. Available at: [http://works.bepress.com/gerald\\_gaes/1](http://works.bepress.com/gerald_gaes/1)
- Gaes, G.G., & Camp, S.D. (2009). Unintended consequences: experimental evidence for the criminogenic effect of prison security level placement on post-release recidivism. *Journal of Experimental Criminology*, 5: 139-162.



- Gaes, G.G., Camp, S.D., & Saylor, W.G. (1998). The performance of privately operated prisons: A review of research. In McDonald, D., Fournier, E., Russell-Einhorn, M., & Crawford, S. (Eds.), *Private prisons in the United States: An assessment of current practice* (app. 2, pp. 1-40). Cambridge, MA: Abt Associates, Inc.
- Gallagher, C.A., & Dobrin, A. (2007). Can juvenile justice detention facilities meet the call of the American Academy of Pediatrics and National Commission on Correctional Health Care? A national analysis of current practices. *Pediatrics*, 119(4): 991-1001.
- Garcia, C.A., & Lane, J. (2013). What a girl wants, what a girl needs: Findings from a gender-specific focus group study. *Crime & Delinquency*, 59(4): 536-561.
- Gil, A.G., Wagner, E.F., & Tubman, J.G. (2004). Culturally sensitive substance abuse intervention for Hispanic and African American adolescents: empirical examples from the Alcohol Treatment Targeting Adolescents in Need (ATTAIN) project. *Addiction*, 99(Suppl. 2): 140-150.
- Goldsmith, S., & Eggers, W.D. (2004). *Governing by network: The new shape of the public sector*. Washington, DC: Brookings Institution Press.
- Goldson, B. (2014). Research-informed youth justice? In Taylor, W., Earle, R., & Hester, R. (Eds.), *Youth justice handbook: Theory, policy and practice* (pp. 64-70). New York: Routledge.
- Goldstein, H (1987). *Multilevel models in educational and social research*. New York: Oxford University Press.
- Golzari, M., Hunt, S.J., & Anoshiravani, A. (2006). The health status of youth in juvenile detention facilities. *Journal of Adolescent Health*, 38: 776-782.

- Gorman-Smith, D. (2003). Prevention of antisocial behavior in females. In Farrington, D.P., & Coid, J.W. (Eds.), *Early prevention of adult antisocial behavior* (pp. 292-317). New York: Cambridge University Press.
- Gortmaker, S.L., Walker, D.K., Weitzman, M. & Sobol, A.M. (1990). Chronic conditions, socioeconomic risks, and behavioral problems in children and adolescents. *Pediatrics*, 85: 267–276.
- Gray, W., Cochran, D., & Gray, L.R. (1976). General systems theory in psychotherapy. *International Journal of Offender Therapy & Comparative Criminology*, 20(2): 107-116.
- Gray, W., & Gray, L.R. (1974). Court clinic therapy: Theory and practice. *International Journal of Offender Therapy & Comparative Criminology*, 18(2): 143-152.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26 (3): 499-510.
- Hackshaw, A., & Kirkwood, A. (2011). Interpreting and reporting clinical trials with results of borderline significance. *BMJ 2011*, 343: 1-5. doi: 10.1136/bmj.d3340
- Haggerty, K.P., Skinner, M.L., MacKenzie, E.P., Catalano, R.F. (2007). A randomized trial of Parents Who Care: Effects on key outcomes at 24-month follow-up. *Prevention Science*, 8: 249-260.
- Haller, E. J. (1992). High school size and student indiscipline: Another aspect of the school consolidation issue? *Educational Evaluation and Policy Analysis*, 14(2): 145-156.
- Handler, E. (1975). Social work and corrections. *Criminology*, 13(2): 240-254.
- Hanes, M. (2010). *How OJJDP is forming partnerships and finding solutions: 2010 annual*

- report* [NCJ237051]. Office of Juvenile Justice and Delinquency Prevention.  
Washington, D.C.: U.S. Department of Justice.
- Harris, R. J. (1985). *A primer of multivariate statistics* (2nd ed.). New York: Academic Press.
- Harris, P.W., Lockwood, B., & Mengers, L. (2009). A CJCA white paper: Defining and measuring recidivism. Braintree, MA: Council of Juvenile Correctional Administration.  
Retrieved November 10, 2013, from <http://cjca.net/attachments/article/55/CJCA-Recidivism-White-Paper.pdf>
- Hartney, C., & Vuong, L. (2009). *Racial and ethnic disparities in the US criminal justice system*. Oakland, CA: National Council on Crime and Delinquency.
- Hayes, A.F. (2006). A primer on multilevel modeling. *Human Communication Research*, 32: 385-410.
- Heck, R.H., & Thomas, S.L. (2000). *An introduction to multilevel modeling techniques*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Henggeler, S.W., Melton, G.B., & Smith, L. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology*, 60(6): 953-961.
- Henggeler, S.W., & Sohoenwald, S.K. (2011). Evidence-based interventions for juvenile offenders and juvenile justice policies that support them. *Sharing Child and Youth Development Knowledge*, 25(1): 1-28.
- Hiller, M.L., Knight, K., & Simpson, D.D. (2002). Prison-based substance abuse treatment, residential aftercare and recidivism. *Addiction*, 94(6): 833-842.
- Hipwell, A.E., & Loeber, R. (2006). Do we know which interventions are effective for delinquent

- and disruptive girls? *Clinical Child and Family Psychology Review*, 9 (3-4): 221-255.
- Hockenberry, S. (2013). *Juveniles in residential placement, 2010 [NCJ241060]*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Hockenberry, S., Sickmund, M., & Sladky, A. (2009). *Juvenile residential facility census, 2006: Selected findings [NCJ228128]*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Hockenberry, S., Sickmund, M., & Sladky, A. (2011). *Juvenile residential facility census, 2008: Selected findings [NCJ231683]*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Hoffman, M.B. (2002). The rehabilitative ideal and the drug court reality. *Federal Sentencing Reporter*, 14(3-4): 172-178.
- Hollingsworth, L. D., Bybee, D., Johnson, E. I., & Swick, D. C. (2010). A comparison of caseworker characteristics in public and private foster care agencies. *Children and Youth Services Review*, 32, 578–584, doi:10.1016/j.childyouth.2009.12.004.
- Hough, L. (2012, December 20). Program director at girl's detention facility accused of excessive force. *Santa Rosa Press Gazette*. Retrieved October 23, 2013, from <http://www.nwfdailynews.com/local/program-director-at-girl-s-detention-facility-accused-of-excessive-force-1.67920>
- Hrywna, M., Sullivan, P., & Daks, M.C. (April 1, 2014). NPT's best nonprofits to work for 2014. *The Non Profit Times*, 28(5), retrieved April 2, 2014, from <http://www.thenonproffitimes.com/news-articles/npts-best-nonprofits-to-work-for-2014/>
- Jackson-Gilfort, A., Liddle, H.A., Tejada, M.J., & Dakof, G.A. (2001). Facilitating engagement

- of African American male adolescents in family therapy: A cultural theme process study. *Journal of Black Psychology*, 27: 321–340.
- James, E., & Rose-Ackerman, S. (1986). *The nonprofit enterprise in market economies*. New York: Taylor & Francis.
- Jayarathne, S., & Faller, K. C. (2009). Commitment of private and public agency workers to child welfare: How long do they plan to stay? *Journal of Social Service Research*, 35, 251–261, doi: 10.1080/01488370902900972.
- Johnson, D. H. (1999). The insignificance of statistical significance testing. *Journal of Wildlife Management*, 63: 763-772.
- Joubert, P.E. (1981). Social structure, crime & imprisonment: A causal analysis. *Criminology*, 19(3): 344-359.
- Kast, F.E., & Rosenzweig, J.E. (1972). General systems theory: Applications for organizational management. *The Academy of Management Journal*, 15(4): 447-465.
- Kelman, S.J. (2002). Contracting. In Salamon, L.M. (Ed.) *The tools of government: A guide to the new governance*, pp. 282-318. New York: Oxford University Press.
- King, G., Honaker, J., Joseph, A., & Scheve, K. (2001). Analyzing incomplete political science data: An alternative algorithm for multiple imputation. *American Political Science Review*, 95(1): 49-69.
- Kim, J.Y. et al. (1997). Successful community follow-up and reduced recidivism in HIV positive women prisoners. *Journal of Correctional Health Care*, 4: 5-17.
- Kline, R.B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford Press

- Kotkin, J., & Tseng, T. (2003, June 8). Happy to mix it all up; for young America, old ethnic labels no longer apply. *The Washington Post*, p. B01.
- Kreft, I.G., & de Leeuw, J. (1998). *Introducing multilevel modeling*. Thousand Oaks, CA: Sage.
- Krisberg, B. (1995). The legacy of juvenile corrections. *Corrections Today*, 57(5): 122-125.
- Krull, J.L., & MacKinnon, D. P. (1999). Multilevel mediation modeling in group based intervention studies. *Evaluation Review*, 33: 418-444.
- Krull, J.L., & MacKinnon, D.P. (2001). Multilevel modeling of individual and group level mediated effects. *Multivariate Behavioral Research*, 36: 249-277.
- Kubrin, C.E., Squires, G.D., & Stewart, E.A. (2007). Neighborhoods, race, and recidivism: The community-reoffending nexus and its implications for African Americans. *Race Relations Abstracts*, 32(1): 7-37.
- Kumpfer, K. L., Alvarado, R., Smith, P., & Bellamy, N. (2002). Cultural sensitivity and adaptation in family-based prevention interventions. *Prevention Science*, 3(3): 241–246.
- Kupchik, A. (2007). The correctional experiences of youth in adult and juvenile prisons. *Justice Quarterly*, 24(2): 247-270.
- Kupers, T.A. et al. (2009). Beyond supermax administrative segregation: Mississippi's experience rethinking prison classification and creating alternative mental health programs. *Criminal Justice and Behavior*, 36(10): 1037-1050.
- Laffont, J.J., & Martimort, D. (2002). *The theory of incentives: The principal-agent model*. Princeton, NJ: Princeton University Press.

- Lahm, K.F. (2009). Inmate assaults on prison staff: A multilevel examination of an overlooked form of prison violence. *The Prison Journal*, 89(2): 131-150.
- Lanza-Kaduce, L., & Maggard, S. (2001). The long term recidivism of public and private prisoners. Unpublished paper presented at the *National Conference of the Bureau of Justice Statistics and Justice Research and Statistics Association*. New Orleans.
- Lanza-Kaduce, L., Parker, K.F., Thomas, C.W. (1999). A comparative recidivism analysis of releases from private and public prisons. *Crime & Delinquency*, 45: 28-47.
- Larsen, R. (2011). Missing data imputation versus full Information Maximum Likelihood with second-level dependencies. *Structural Equation Modeling*, 18(4): 649-662.
- Larzelere, R.E., & Patterson, G.R. (1990). Parental management: Mediator of the effect of socioeconomic status on early delinquency. *Criminology*, 28(2): 301-324.
- Lazarus, A.A. (1996). The utility and futility of combining treatments in psychotherapy. *Clinical Psychology: Science and Practice*, 3(1): 59-68.
- Lee, J.H., & Huber, J. (2011, September). Multiple imputation with large proportions of missing data: How much is too much? Presentation at the *2011 UK Stata Users Group Meeting*, London, UK.
- Lee, M. (2008). *Identification of clinical and economic effectiveness of nursing care for the hospitalized clients with total hip replacement* (Doctoral thesis). University of Iowa. Retrieved from UMI (3340268), March 8, 2014, from [http://books.google.com/books?id=BF8gu5\\_62egC&pg=PA63&lpg=PA63&dq=Kline+skewness+kurtosis+2005&source=bl&ots=txunxPybYf&sig=5U6R1g6IQwvqQOyAxrZh](http://books.google.com/books?id=BF8gu5_62egC&pg=PA63&lpg=PA63&dq=Kline+skewness+kurtosis+2005&source=bl&ots=txunxPybYf&sig=5U6R1g6IQwvqQOyAxrZh)

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Lipsey, M.W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and Offenders*, 4: 124-47.

Lipsey, M.W., Howell, J.C., Kelly, M.R., Chapman, G., & Carver, D. (2010). *Improving the effectiveness of juvenile justice programs: A new perspective on evidence-based practice*. Center for Juvenile Justice Reform, Georgetown Public Policy Institute.

Lipsey, M.W., Wilson, D.B., & Cothorn, L. (2000). *Effective intervention for serious juvenile offenders* [NCJ181201]. Washington, DC: OJJDP Serious and Violent Juvenile Offending Series. Retrieved November 8, 2013, from <https://www.ncjrs.gov/txtfiles1/173409.txt>

Lipsky, M. (1980). *Street-level Bureaucracy: Dilemmas of the individual in public services*. New York: Russell Sage Foundation.

Livsey, S., Sickmund, M., Sladky, A. (2009). *Juvenile residential facility census, 2004: Selected findings* [NCJ222721]. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention. Retrieved November 11, 2013, from <https://www.ncjrs.gov/pdffiles1/ojjdp/222721.pdf>

Lloyd, P.C. (1990). The relationship between voluntary associations and state agencies in the provision of social services at the local level. In H.K. Anheier & W. Seibel (Eds.) *The third sector: Comparative studies of nonprofit organizations*, pp. 241-253. Berlin, Germany: de Gruyter.



- Locke, T.P., Johnson, G.M., Kirigin-Ramp, K., Atwater, J.D., & Gerrard, M. (1986). An evaluation of a juvenile education program in a state penitentiary. *Evaluation Review*, 10: 281-298.
- Logan, C.H. (1990). *Private prisons: Cons and pros*. New York: Oxford University Press.
- Logan, C.H. (1991). *Well kept: Comparing quality of confinement in a public and a private prison*. Washington, DC: National Institute of Justice.
- Low, D.L. (2003). Nonprofit private prisons: The next generation of prison management. *New England Journal on Criminal and Civil Confinement*, 29: 1-66.
- Lubkin, I.M., & Larsen, P.D. (2006). *Chronic illness: Impact and interventions*. Sudbury, MA: Jones and Bartlett Learning.
- Lublin, N. (2010). *Zilch: The power of zero in business*. New York: Penguin Group.
- Ludwig, K.B., & Pittman, J.F. (1999). Adolescent prosocial values and self-efficacy in relation to delinquency, risky sexual behavior, and drug use. *Youth Society*, 30(4): 461-482.
- Luke, D.A. (2004). *Multilevel modeling*. Thousand Oaks, CA: Sage Publications.
- Lukemeyer, A., & McCorkle, R.C. (2006). Privatization of prisons: Impact on prison conditions. *American Review of Public Administration*, 36(2): 189-206.
- Mackenzie, D.L. (2000). Evidence-based corrections: Identifying what works. *Crime & Delinquency*, 46(4): 457-471.
- Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, 50(4): 370-396.
- Mason, D.E. (1984). *Voluntary nonprofit enterprise management*. New York: Plenum Press.
- Mathieu, J.E., & Taylor, S.R. (2007). A framework for testing meso-mediational relationships in organizational behavior. *Journal of Organizational Behavior*, 28(2): 141-172.

- Maxfield, M., & Babbie, E.R. (2011). *Research methods for criminal justice and criminology*. Belmont, CA: Wadsworth Cengage Learning.
- Maxfield, M., & Babbie, E.R. (1995). *Research methods for criminal justice and criminology*. Belmont, CA: Wadsworth Cengage Learning.
- Maxwell, J.A. (2005). *Qualitative research design: An interactive approach* [2<sup>nd</sup> ed.]. Thousand Oaks, CA: Sage.
- McHugo, G.J., Drake, R.E., Teague, G.B., & Xie, H. (1999). Fidelity to assertive community treatment and client outcomes in the New Hampshire dual disorders study. *Psychiatric Services*, 50(6): 818-824.
- McKibbin, K.A. (1998). Evidence-based practice. *Bulletin of the Medical Library Association*, 86(3): 396-401.
- McMackin, R.A., Tansi, R., & Lafratta, J. (2004). Recidivism among juvenile offenders over periods ranging from one to twenty years following residential treatment. *Journal of Offender Rehabilitation*, 38(3): 1-15.
- Metzger, I., Cooper, S.M., Zarrett, N., & Flory, K. (2013). Culturally sensitive risk behavior prevention programs for African American adolescents: A systematic analysis. *Clinical Child and Family Psychology Review*, 16: 187-212.
- Michigan Department of Corrections (1967). *A six month follow-up of juvenile delinquents visiting the Ionia Reformatory* [Research Report 4]. Lansing: Michigan Department of Corrections.
- Miller, J.G. (1998). *Last one over the wall: The Massachusetts experiment in closing reform schools*. Columbus, OH: Ohio State University Press.

- Mishel, M.H., Germino, B.B., Gil, K.M., Belyea, M., Laney, I.C., Stewart, J., Porter, L., & Clayton, M. (2005). Benefits from an uncertainty management intervention for African-American and Caucasian older long-term breast cancer survivors. *Psych-Oncology*, 14: 962-978.
- Moffitt, T. (1994). Natural histories of delinquency. In Weitekamp, E. & Kerner, H.J. (Eds.), *Cross-national longitudinal research on human development and criminal behavior* (pp. 3-65). Dordrecht, Netherlands: Kluwer.
- Moore, J. (1999). Juvenile corrections: A public view of private sector. *Corrections Management Quarterly*, 3(3): 43-56.
- Mosley, J.E., & Ros, A. (2011). Nonprofit agencies in public child welfare: Their role and involvement in policy advocacy. *Journal of Public Child Welfare*, 5: 297-317.
- Myner, J., Santman, J., Cappelletty, G.G., & Perlmutter, B.F. (1998). Variables related to recidivism among juvenile offenders. *International Journal of Offender Therapy and Comparative Criminology*, 42(1): 65-80.
- Nagin, D.S., Cullen, F.T., & Jonson, C.L. (2009). Imprisonment and reoffending. *Crime and Justice*, 38(1): 115-200.
- Nightengale, D.S., & Pindus, N.M. (1997). *Privatization of public social services: A background paper* [DOL Contract No. J-9-M-5-0048, #15]. Washington, DC: The Urban Institute & the U.S. Department of Labor. Retrieved March 6, 2014, from <http://www.urban.org/publications/407023.html>
- Norusis, M. (2011). *IBM SPSS missing values 20*. New York: International Business Machines Corporation.

- Nugent, W. R., Bruley, C., & Allen, P. (1999). The effects of aggression replacement training on male and female antisocial behaviour in a runaway shelter. *Research on Social Work Practice, 9* (4): 466–482
- Nutley, S., Walter, I., & Davies, H.T.O. (2009). Promoting evidence-based practice: Models and mechanisms from cross-sector review. *Research on Social Work Practice, 19*(5): 552-559.
- Orchowsky, S., & Taylor, K. (1981). *The insiders juvenile crime prevention program: An assessment of a juvenile awareness program*. Richmond, VA: Virginia Department of Corrections.
- Osgood, D.W. (2000). Poisson based regression analysis of aggregate crime rates. *Journal of Quantitative Criminology, 16* (1): 21-44.
- Pallant, J. (2007). *SPSS survival manual* (3<sup>rd</sup> ed.). New York: McGraw Hill, Open University Press.
- Patchin, J.W., Huebner, B.M., McCluskey, J.D., Varano, S.P., Bynum, T.S. (2006). Exposure to community violence and childhood delinquency. *Crime & Delinquency, 52*(2): 307-332.
- Paternoster, R., & Brame, R. (1997). Multiple routes to delinquency? A test of developmental and general theories of crime. *Criminology, 35*: 45-84.
- Peters, M., Thomas, D., & Zamberlan, C. (1997). *Bootcamps for juvenile offenders: Program summary*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice. Retrieved November 10, 2013, from <https://www.ncjrs.gov/pdffiles/164258.pdf>
- Petr, C. G., & Johnson, I. C. (1999). Privatization of foster care in Kansas: A cautionary

- tale. *Social Work*, 44, 263–267.
- Petrosino, A., Turpin-Petrosino, C., & Finckenauer, J.O. (2000). Well-meaning programs can have harmful effects! Lessons from experiments of programs such as scared straight. *Crime & Delinquency*, 46(3): 354-379.
- Pickel, A. (2006, July). *Salvaging systems from General Systems theory: Systemic ontology and mechanism-based explanation for the social sciences*. Presented at the ISA XVIth World Congress of Sociology Quality of Social Existence in a Globalizing World, Durban, South Africa.
- Pilson, T., & Forstater, J. (2005). Examining the planning, design, and operational components of juvenile detention. *Corrections Today*, 67(2): 116-121.
- Piza, E.L. (2012). *Using Poisson and negative binomial regression models to measure the influence of risk on crime incident counts*. Rutgers Center on Public Security. Retrieved October 20, 2013, from [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC0QFjAA&url=http%3A%2F%2Fwww.rutgerscps.org%2Fdocs%2FCountRegressionModels.pdf&ei=nH9kUpjJGZTC9gSRtIDgDw&usg=AFQjCNHx\\_hJPfsJWA6-0VCW3PCqZzx2i0A](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC0QFjAA&url=http%3A%2F%2Fwww.rutgerscps.org%2Fdocs%2FCountRegressionModels.pdf&ei=nH9kUpjJGZTC9gSRtIDgDw&usg=AFQjCNHx_hJPfsJWA6-0VCW3PCqZzx2i0A)
- Platt, A.M. (1977). *The child savers: The invention of delinquency* (2<sup>nd</sup> ed.). New Brunswick, NJ: Rutgers University Press.
- Pratt, T.C., & Maahs, J. (1999). Are private prisons more cost-effective than public prisons? A meta-analysis of evaluation research studies. *Crime & Delinquency*, 45(3): 358-371.
- Price, B.E. (2006). *Merchandizing prisoners: Who really pays for prison privatization?*

Westport, CN: Praeger Press.

Pullman, M.D., Kerbs, J., Koroloff, N., Veach-White, E., Gaylor, R., & Sieler, D. (2006).

Juvenile offenders with mental health needs: Reducing recidivism using wraparound.

*Crime & Delinquency*, 52(3): 375-397.

Rainey, H., Backoff, R., & Levine, C. (1976). Comparing public and private organizations.

*Public Administration Review*, 36(2): 236-237.

Reisig, M.D., Bales, W.D., Hay, C., & Wang, X. (2007). The effect of racial inequality on black

male recidivism. *Justice Quarterly*, 24(3): 408–434. [doi:10.1080/07418820701485387](https://doi.org/10.1080/07418820701485387)

Rhule, D.M. (2005). Take care to do no harm: Harmful interventions for youth problem

behavior. *Professional Psychology: Research and Practice*, 36(6): 618-625.

Roberts, A. (2007). Predictors of homicide clearance by arrest: An event history analysis of

NIBRS incidents. *Homicide Studies*: 11(2): 82-93.

Robinson, D., Porporino, F.J., & Simourd, L. (1997). The influence of educational attainment on

the attitudes and job performance of correctional officers. *Crime & Delinquency*, 43(1):

60-77.

Rolstad, K., Mahoney, K., Glass, G.V. (2005). The big picture: A meta-analysis of program

effectiveness research on English language learners. *Educational Policy*, 19(4): 572-594.

Ross, S.A. (1973). The economic theory of agency: The Principal's problem. *The American*

*Economic Review*, 63(2): 134-139.

Rowland, T.W. (1990). *Exercise and children's health*. Champaign, England: Human Kinetics.

Rubin, D.B. (1996). Multiple imputation after 18+ years. *Journal of the American Statistical*

*Association*, 91(434): 473–489.

- Rubin, D.B. (2004). *Multiple imputation for nonresponse in surveys*. New York: Wiley.
- Ryan, W.P. (2002). The new landscape for nonprofits. In Futter, V., Cion, J.A., & Overton, G.W. (Eds.) *Nonprofit governance and management*, pp. 13-25. Chicago, IL: American Bar Association.
- Salamon, L.M. (2002). The new governance and the tools of public action: An introduction. In L.M. Salamon, (Ed.) *The tools of government: A guide to the new governance*, pp. 1-47. New York: Oxford University Press.
- Sappington, D.E.M., & Stiglitz, J.E. (1987). Privatization, information, and incentives. *Journal of Policy Analysis and Management*, 6(4): 567-582.
- Satcher, D. (2001). *Youth violence: A report of the surgeon general*. Washington, DC: Office of the Surgeon General.
- Savas, E. (2000). *Privatization and public-private partnerships*. New York: Seven Bridges Press, LLC.
- Schafer, J.L. (1997) *Analysis of incomplete multivariate data*. London: Chapman & Hall.
- Schein, E.H. (1992). *Organizational culture and leadership* (2<sup>nd</sup> ed.). San Francisco, CA: Jossey-Bass.
- Schoenthaler, S.J. (1983). Diet and crime: An empirical examination of the value of nutrition in the control and treatment of incarcerated juvenile offenders. *International Journal of Biosocial Research*, 4(1): 25-39.
- Schwartz, E.S. (2007). *Effective privatization of a community agency: Assessing and developing*

- to change*. (Doctoral dissertation). Retrieved from UMI (3283141), March 6, 2014, from [http://books.google.com/books?id=UsforPHoldsC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](http://books.google.com/books?id=UsforPHoldsC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false)
- Scott, W.R., & Davis, G.F. (2007). *Organizations and organizing: Rational, natural, and open system perspectives*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Scott, P., & Falcone, S. (1998). Comparing public and private organizations: An exploratory analysis of three frameworks. *American Review of Public Administration*, 28: 126-145.
- Segrave, J.O. (1995). Sport and juvenile delinquency. *Exercise and Sport Sciences Review*, 11(1): 181-209.
- Seibert, S.E., Silver, S.R., & Randolph, W.A. (2004). Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *The Academy of Management Journal*, 47(3): 332-349.
- Seibert, S.E., Wang, G., & Courtright, S.H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. *Journal of Applied Psychology*, 96(5): 981-1003.
- Sellers, M.P. (1989). Private and public prisons: A comparison of costs, programs, and facilities. *International Journal of Offender Therapy and Comparative Criminology*, 33: 241-256.
- Sherman, L.W. (1999). *Evidence-based policing. Ideas in American policing*. Washington, DC: The Police Foundation.
- Shleifer, A. (1998). State versus private ownership. *The Journal of Economic Perspectives*, 12(4): 133-150.



- Siegel, L., & Senna, J. (2000). *Juvenile delinquency: Theory, practice, and law* (7<sup>th</sup> ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Siegel, L.J., & Worrall, J.L. (2013). *Essentials of criminal justice* (8<sup>th</sup> ed.). Belmont, CA: Cengage Learning.
- Snyder, H.N. (2000). *Sexual assault of young children as reported to law enforcement: Victim, incident, and offender characteristics. A NIBRS statistical report*. Pittsburgh, PA: National Center for Juvenile Justice.
- Snyder, H.N., & Sickmund, M. (2006). *Juvenile offenders and victims: 2006 national report*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Sobel, J. (1993). Information control in the principal-agent problem. *International Economic Review*, 34(2): 259-269.
- Speckbacher, G. (2003). The economics of performance management in nonprofit organizations. *Nonprofit Management and Leadership*, 13(3): 267-281.
- Springer, J.F., Sale, E., Hermann J., Sambrano, S., Kasim, R., & Nistler, M. (2004). Characteristics of effective substance abuse prevention programs for high-risk youth. *The Journal of Primary Prevention*, 25(2): 171-194.
- Springer, J.F., Sale, E., Kasim, R., Winter, W., Sambrano, S., & Chipungu, S. (2005). Effectiveness of culturally specific approaches to substance abuse prevention. *Journal of Ethnic and Cultural Diversity in Social Work*, 13(3): 1-23.
- Steen, J.A., Smith, S. (2012). An organizational view of privatization: Is the private foster care

- agency superior to the public foster care agency? *Children and Youth Services Review*, 34: 851-858.
- Stephan, J.J. (2008). *Census of state and federal correctional facilities, 2005* [NCJ 222182]. Washington, DC: Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice.
- Steward, M.D., & Andrade, A. (2004). The Missouri Division of Youth Services' innovative approach to juvenile corrections staffing. *Corrections Today*, 66(5): 100-103.
- Stewart, E.A., Simons, R.L., & Conger, R.D. (2002). Assessing neighborhood and social psychological influences on childhood violence in an African-American sample. *Criminology*, 40(4): 801-830.
- Studenmund, A.H. (2001). *Using econometrics: A practical guide* (4<sup>th</sup> ed.). New York: Addison Wesley Longman.
- Tanenhaus, D.S. (2004). *Juvenile justice in the making*. New York: Oxford University Press.
- Terry, W.C., Stolzenberg, L., & D'Alessio, S.J. (1997). Private versus public placements: A study of recidivism among adjudicated juvenile offenders. *Juvenile and Family Court Journal*, Fall, 33-41.
- Thompson, M.P., Saltzman, L.E., & Bibel, D. (1999). Applying NIBRS data to the study of intimate partner violence: Massachusetts as a case study. *Journal of Quantitative Criminology*, 15(2): 163-180.
- Topitzes, J., Mersky, J.P., & Reynolds, A.J. (2011). Child maltreatment and offending behavior: Gender specific effects and pathways. *Criminal Justice and Behavior*, 38(5): 492-510.
- Trulson, C.R., DeLisi, M., & Marquart, J.W. (2011). Institutional misconduct, delinquent

- background, and rearrest frequency among serious and violent delinquent offenders. *Crime & Delinquency*, 57(5): 709-731.
- Trulson, C.R., Haerle, D.R., DeLisi, M., & Marquart, J.W. (2011). Blended sentencing, early release, and recidivism of violent institutionalized delinquents. *The Prison Journal*, 91(3): 255-278.
- Unruh, J.K., & Hodgkin, D. (2004). The role of contract design in privatization of child welfare services: The Kansas experiment. *Children and Youth Services Review*, 26(8): 771-783.
- Usher, A.M., & Stewart, L.A. (2014). Effectiveness of correctional programs with ethnically diverse offenders: A meta-analytic study. *International Journal of Offender Therapy and Comparative Criminology*, 58(2): 209-230.
- Valentine, C.L. (2012). *Unraveling the age, prison misconduct, and recidivism relationship* (Doctoral dissertation). Retrieved from Electronic theses, treatises and dissertations. (Paper 5243)
- Vaughan, D. (1996). *The Challenger launch decision: Risky technology, culture, and deviance at NASA*. Chicago, IL: The University of Chicago Press.
- Walters, G.D. (2012). Relationship among race, education, criminal thinking, and recidivism: Moderator and mediator effects. *Assessment*: 1-10. DOI: 10.1177/1073191112436665. Retrieved January 30, 2014, from <http://asm.sagepub.com/content/early/2012/02/08/1073191112436665>
- Warner, B. (2003). The role of attenuated culture in social disorganization theory. *Criminology*, 41(1): 73-97.
- Warner, M., & Hefetz, A. (2001). *Privatization and the market role of local government: Small*

- growth in contracting underscores dominance of service provision by public employees*  
[Briefing Paper]. Washington, DC: Economic Policy Institute.
- Washburn, J. (2002). The at-risk youth industry. *Atlantic Monthly*, 290(5): 38-40.
- Wilson, S.J., Lipsey, M.W., & Soydan, H. (2003). Are mainstream programs for juvenile delinquency less effective with minority youth than majority youth? A meta-analysis of outcomes research. *Research on Social Work Practice*, 13(1): 3-26.
- Winn, R.G. (1996). Ideology and the calculation of efficiency in public and private correctional enterprises. In G.L. Mays & T. Gray (Eds.) *Privatization and the provision of correctional services: Context and consequences*, pp. 21-30. Cincinnati, OH: Anderson Publishing Company.
- Witko, C. (2011). Campaign contributions, access, and government contracting. *Journal of Public Administration Research and Theory*, 21(4): 761-778.
- Woods, S.B., Farineau, H.M., & McWey, L.M. (2013). Physical health, mental health, and behavior problems among early adolescents in foster care. *Child: Care, Health, and Development*, 39(2): 220-227.
- Wortley, R., & Summers, L. (2013). Reducing prison disorder through situational prevention: The Glen Parva experience. In Smith, M.J., & Tilley, N. (Eds.) *Crime Science* (pp. 85-103). New York: Routledge.
- Wright, K.A. (2010). Strange bedfellows? Reaffirming rehabilitation and prison privatization. *Journal of Offender Rehabilitation*, 49(1): 74-90.
- Wright, K., & Wright, K. (1994). *Family life, delinquency, and crime: A policymaker's guide*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

- Yampolskaya, S., Paulson, R. I., Armstrong, M., Jordan, N., & Vargo, A. C. (2004). Child welfare privatization: Quantitative indicators and policy issues. *Evaluation Review*, 28, 87–103, doi: 10.1177/0193841X03258359.
- Yarrow, G., King, M., Mairesse, J., & Melitz, J. (1986). Privatization in theory and practice. *Economic Policy*, 1(2): 323-377.
- Yazzie, R.A. (2011). Availability of treatment to youth offenders: Comparison of public versus private programs from a national census. *Children and Youth Services Review*, 33: 804-809.
- Yuan, Y.C. (2000). Multiple imputation for missing data: Concepts and new developments. In proceedings of the Twenty-fifth annual SAS Users Group International Conference (Paper No. 267). Cary, NC: SAS Institute.
- Zhang, X, & Bartol, K.M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53(1): 107-128.
- Zhang, Z., Zyphur, M.J., & Preacher, K.J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, 12(4): 695-719.
- Zullo, R. (2006). Public-private contracting and political reciprocity. *Political Research Quarterly*, 59(2): 273-281.
- Zullo, R. (2002). Private contracting of out-of-home placements and child protection case management outcomes. *Children and Youth Services Review*, 24: 583–600, doi: 10.1016/S0190-7409(02)00209-8.