

EFFECTIVENESS OF CASE MANAGEMENT INTERVENTION TO IMPROVE
TREATMENT OUTCOMES: A STUDY USING SECONDARY DATA ANALYSIS TO
COMPARE OUTCOMES FOR JUVENILE SEX OFFENDERS

by

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ABSTRACT

This study reviewed two consecutively offered treatment programs to compare “treatment only” to treatment with the addition of case management services in a community-based treatment program for juvenile sex offenders. The two programs were operated using the same model of cognitive behavioral therapy and provided services for youth in both diversion and post-residential circumstances. A secondary data analysis utilizing a pre- and post-test quasi-experimental design without random assignment was used. The sample included data for 144 clients from the comparison group (treatment only) and 171 clients from the case management group. Only clients who were terminated by 2/1/2012 were considered in order to allow for observations from the four-year follow-up period. Analyses were conducted using primarily multiple logistic regression to test hypotheses. Case management was a statistically significant ($p = 0.011$) predictor of non-sexual re-offense for diversion youth. Program completion was a statistically significant predictor of non-sexual re-offense for both diversion ($p = 0.003$) and post-residential ($p = 0.032$) youth, as well as, sexual re-offense for diversion ($p = 0.043$) youth. While case management was not a statistically significant predictor of program completion, the case management group had a higher rate of program completion which may be clinically significant for the program evaluation. The case management group experienced a 14.3% non-sexual re-offense rate which was decreased from 28.6% in the comparison group. Both the case management and the comparison groups had a very small rate of sexual re-offense and the change between the two groups was not statistically significant. However, the change may have clinical significance as the case

management group had a 2.9% sexual re-offense rate as opposed to the comparison group rate of 7.6%

DEDICATION

I dedicate this in memory of Dr. Raymond O. Sumrall. His mentorship, unwavering confidence, and wisdom were instrumental in the lives of many, including my own. His legacy will endure through our work.

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CHAPTER I

INTRODUCTION

This chapter begins with a general introduction to adolescent sexual offending. Next, the overview of the study begins with a description of systemic issues that impact the effective treatment of adolescent sexual offenders and concludes with an introduction to study specific information. The chapter is completed with a description of the purpose of the study, research questions that guided the study, and the hypotheses derived from research questions.

Adolescent sexual offending behavior encompasses a wide range of sexual behavior including both contact and non-contact (such as voyeurism and exhibitionism) offenses (Righthand & Welch, 2004). Research suggests that youth commit about 25% of all sex offenses and commit more than one-third of sex offenses against juvenile victims (Finkelhor, Ormrod, & Chaffin, 2009). Within the population of adult sex offenders, researchers found that at least 50% of adult sex offenders began their offending behavior as adolescents (Righthand and Welch, 2001) and one third of a sample of adult sex offenders, with no juvenile sex offense record, indicated that they had committed sexual offenses as adolescents (Prentky, & Burgess, 2000). Youth who sexually offend are significantly different than adults who sexually offend. Youth are much more amenable to treatment and are impacted greatly by social, family, and economic issues. Research on juvenile sex offenders suggests that they differ from their adult counterparts in a number of ways (Hunter & Lexier, 1998).

First, histories of early developmental trauma and family dysfunction appear to be more common and severe in youth with sexual behavior problems than in those of adult sexual offenders (Hunter & Becker, 1994). Second, young offenders have had less time in which to hone their sexually offending behaviors (Ryan, 1999). Therefore, juvenile sexual offenders seem less ingrained in their sexual offending behavior patterns and consequently, are more amenable to treatment. Third, one of the most obvious differences is the numerous systems involved in the lives of juveniles. Working with juvenile sexual offenders involves coordination among a myriad of agencies including juvenile court, child welfare, and educational institutions, as well as family members (Ryan, 1999). The multi-systemic nature of intervention with juvenile sexual offenders is complicated and typically requires complex treatment plans (Ryan, 1999).

A significant number of adolescents who commit sexual offenses desist after identification and intervention (Righthand & Welch, 2004). It is estimated that about 15% go on to commit detected sexual offenses within an average of five years of opportunity after their release (Caldwell, 2002; Worling & Langstrom, 2006). Understanding juvenile sexual offending behavior and providing treatment is difficult for many reasons. Two of the primary issues are the variety of behavioral patterns and variety of background histories. Juvenile sexual offenders are a heterogeneous mix of youth (Becker, 1998) who appear to resemble, in many aspects, non-sexually offending delinquents (Righthand & Welch, 2001). Consequently, the problem of understanding and providing treatment is not isolated to a particular type of youth, ethnic background, or socioeconomic level.

Juvenile sexual offenders represent a small percentage of the population of juvenile delinquents; however, their offending behavior has considerable impact for victims and society (Curwen, 2003). The recovery process for the victims of sexual violence impacts their quality of

life and burdens society with the perceived need to develop policies for handling perpetrators (Eastman, 1997). Curwen (2003) found that by the time a juvenile sexual offender comes into contact with the criminal justice system, he might have as many as four to seven victims. A juvenile sexual offender who continues an abusive pattern into adulthood may perform in excess of 370 abusive acts across his lifetime, with occurrences increasing in seriousness and severity (Abel, Becker, Mittleman, Cunningham-Rathner, Rouleau, & Murphy, 1987; Brown & Kolko, 1998; Curwen, 2003). Therefore, the impact of their offending behavior warrants intense and methodologically sound research to compare details and to examine specific aspects that might assist prosecutors, treatment providers, legislators, and families to prevent additional abuse.

Overview of the Study

Failure to complete treatment is related to sexual recidivism (Worling, Littlejohn, Bookalam, 2010) and sexual recidivism rates are lower for youth who participate in treatment than for those who do not (Gretton, et. al, 2005; Reitzel & Carbonell, 2006). A variety of issues across systems can interfere with the ability of a youth to complete treatment. By virtue of age, juveniles have little control regarding the systems in which they are involved. While progress has been made in learning about the population, there is still limited research on what therapeutic treatment interventions work best with this population of young people (Borduin, Schaffer, & Heiblum, 2009; Seto & Lalumiere, 2010). There are no clear best practices outlined in the current research (Seto & Lalumiere, 2010).

Family characteristics and family functioning are important factors for juvenile delinquency (Dryfoos, 1998; Jenson & Fraser, 2006; McWhirter, McWhirter, McWhirter, & McWhirter, 2004). Particularly important factors are divorce, low family income, family conflict, inconsistent parenting practices, poor parent-child attachment, parental psychopathology, lack of

parental involvement, and child maltreatment (Barton, 2006; Dryfoos, 1998; Jenson & Fraser, 2006, McWhirter et al., 2004). Within the literature, there are no characteristics, other than the identified sexual offense, that distinguish juvenile sexual offenders from other delinquent juveniles (Milloy, 1994; Minor & Crimmins, 1995; Becker & Hunter, 1997; Righthand & Welch, 2001; Veneziano, Veneziano, LeGrand, & Richards, 2004). Therefore, the familial risk factors for juvenile delinquency generally can be considered risk factors for juvenile sexual offenders as well.

While the focus of this study is not Multisystemic Therapy (MST), there are important findings that inform our work with this population. MST targets a comprehensive set of identified risk factors through individualized interventions that integrate empirically based clinical techniques that have historically focused on a single aspect of a youth's social ecology within a broad-based ecological framework (Borduin, Schaffer, & Heblum, 2009). In MST, caregivers are viewed as the primary medium of change. Therefore, MST focuses on empowering caregivers, linking them to resources, and helping them to establish skills that they need to be more effective with their children (Henggeler, Letorneau, Chapman, Borduin, Schewe, & McCart, 2009). One aspect of the expectations for case managers in the current study was to increase caregiver effectiveness. As caregiver effectiveness increases, guidance is provided to the parent in their efforts to prevent unwanted behavior (Henggeler, et. al, 2009). The child is viewed as one part of several systems that overlap and affect one another. A study conducted by Henggeler, Letorneau, Chapman, Schewe, Borduin, & McCart (2009) focused on the ways that MST decreased antisocial behavior and deviant sexual/risk behaviors of juvenile sex offenders. Outcomes of the study supported the premise that increasing caregiver

effectiveness reduced antisocial behavior by identifying negative peer influences, advising the child, and following through on planned discipline (Henggeler, et al, 2009).

Millions of adolescents experience serious interpersonal attacks such as being harmed by a weapon, witnessing community violence and domestic violence, or being a victim of violence (Kilpatrick, Saunders, & Smith, 2003). Recent contributions to the literature about juvenile delinquency include attention to the effects of trauma on these youth. Developmental research has begun to focus on the mental and physical effects of trauma on youth (Veneziano & Veneziano, 2002; Putnam, 2006). The literature indicates that experiences of early childhood trauma may disrupt brain development and personality development, which can impact the youth's later academic success and well being (Creeden, 2004; Ford, Chapman, Hawke, & Albert, 2007; Putnam, 2006). These effects may be most noticeable in the educational setting.

Researchers have found that there are higher rates of treatment success when families are involved in the process (Borduin & Schaeffer, 2002; Huey, Henggeler, Brodino, & Pickrel, 2000) which indicates that adolescent behavior problems are partially influenced by the family and social environments, as well as, the demands of natural development (Creeden, 2013). Families play a critical role in carrying out support functions with adjudicated youth; however, family systems are often dysfunctional and family counseling is often unavailable (Letourneau & Minor, 2005). Repetti, Taylor, and Seeman (2002) reported that the family environment has a significant impact upon the mental and physical health of adolescents based on their research. In addition, family structure can negatively impact socialization for adolescents with sexual behavior problems. Dysfunctional family structure may support the development of inappropriate or dysfunctional interaction with others outside of the family. Each of these issues creates an environment that is unstable and deleterious to the youth's

development. Youth need adequate supervision and a support structure in order to function effectively in the community and prevent re-offense (CSOM, 1999).

If we are to adequately identify and assess juvenile sexual offenders, we must consider them as members of interactive systems. We must therefore identify characteristics and behaviors of those who contribute to their understanding of the world. If we hope to prevent victimization of others by juvenile sex offenders, and intervene with the offenders themselves, we must target the systems that may hinder the progress of the youth. While issues can come from anywhere, it is most likely that they will occur in the youth's home, school, or neighborhood, as those systems are the ones that the youth interacts with primarily and therefore, have the most influence on the youth.

The current project investigates the effectiveness of case management when paired with treatment as usual on program completion, re-offense, and reduction of risk for juvenile sex offenders. Case management addresses several key issues that impact youths' ability to participate in treatment. Specific risk factors are supported in the literature as related to the likelihood that an adolescent will re-engage in the illegal or unwanted behavior. These risk factors occur within systems and are not necessarily all under the control of the youth. Case management services target difficulties within systems that may negatively impact an adolescent's ability to be successful and avoid re-engaging in the problem behavior. Systems previously discussed in this section, such as the family and education systems, require participation by the youth but may include factors that inhibit treatment. For example, a juvenile suffering from unresolved trauma may exhibit symptoms in the classroom, such as difficulty concentrating that impairs performance and leads to additional problems that may impact treatment.

The study is a post-hoc program evaluation that used existing data from an agency that provides community based treatment for juvenile sex offenders. The data were collected through the normal course of programming for reporting purposes, not for research. The agency offered treatment programming for more than fourteen consecutive years. From 2001 until 2008, the agency offered community based juvenile sex offender specific treatment. In 2008, the agency included a case management component to enhance outcomes for youth and their families involved in the treatment program. The agency provided case management services as a supplement to treatment until May 2015 when case management provision ceased due to changes in funding. Within treatment programming, two types of juvenile sex offenders were served: post-residential and diversion.

Post-residential youth may also be referred to as aftercare youth. I used the term post-residential in this study for clarity. Aftercare is defined by Altschuler and Armstrong (2001) as “reintegrative services that prepare out-of-home placed juveniles for reentry into the community by establishing the necessary collaborative arrangements with the community to ensure the delivery of prescribed services and supervision.” Aftercare is a legal term used to describe the status of a youth after release from a residential facility to indicate that the juvenile court will provide supervision during reentry to the community and ensure that appropriate services are available. Therefore, post-residential juvenile sex offenders were placed into aftercare by the committing court upon release from the residential facility.

Juvenile sex offenders are mandated by federal policy to receive specialized services in juvenile justice and mental health systems, based on the assumption that juvenile sex offenders present significant individual and family dysfunction, as well as childhood experiences that warrant specialized programs (McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010). These

tend to run much longer (i.e., 12-36 months) than those for generally delinquent juveniles (Aos, Phipps, Barnoski, & Lieb, 2001; Burton & Smith-Darden, 2001; Elliot, 1998). While criteria differ across jurisdictions, residential placements are often mandated for youth deemed unsafe to remain in the community with their families; they tend to be the most severe offenders, with numerous offenses and victims, compared to those mandated to community supervision and outpatient mental health programs. Youth in residential treatment often report severe histories of child maltreatment and trauma as well as dysfunctional family environments (Hunter, Figueredo, Malamuth, & Becker, 2003; Murphy, DiLillo, Haynes, & Steere, 2001; Zakireh, Ronis, & Knight, 2008). However, in the case of juvenile sex offenders, this may not always be the case due to the requirement for treatment and the paucity of community based treatment providers. If there are no qualified community based treatment providers available in a geographical area, regardless of risk to the community, residential treatment programming may be required. Therefore, while risk to the community is usually the primary factor in determining whether a youth requires residential treatment, there may be no other less restrictive option. Residential treatment programs are often paid for by the state, with large costs attached (Justice Policy Institute, 2009).

Diversion youth are those that are redirected from further involvement with the juvenile justice system through the use of alternative solutions, such as community based treatment and supervision (Bynum & Thompson, 1996). In part, diversion programs are also designed to ameliorate the problem of overburdened juvenile courts and overcrowded corrections institutions (including detention facilities), so that courts and institutions can focus on more serious offenders.

Case management services were cut from the existing community based juvenile sex offender specific treatment program that is the subject of this study. Due to funding cuts, program administration had to restructure the program. With minimal evidence to support the resource allocation to case management, a convincing argument could not be made for the continued investment in case management for clients in addition to treatment services. However, program administration intuitively believed that case management had a positive impact for juvenile sex offenders and their families. Due to the nature of this program evaluation effort, subsequent to the implementation of programming, the data were not optimal for analysis and data for few variables were consistently collected over time. A significant part of the study was devoted to optimizing available data to answer the program administration's question about whether case management has value when used as a supplement to treatment programming for juvenile sex offenders.

Purpose of the Study

The purpose of this study was to evaluate the effectiveness of including a case management component to community based treatment for juvenile sexual offenders to reduce re-offense, both sexual and non-sexual, reduce risk level, and increase program completion. This study compared case management to usual services for juvenile sex offenders. Usual services consisted of sex offender specific treatment. Although this study is limited in scale and program evaluation in nature, it was intended to serve as an initial effort. Further studies will certainly be necessary in order to provide additional guidance regarding the usefulness of adding case management to existing treatment programs for juvenile sex offenders.

Research Questions

Primary research question.

Does case management improve outcomes for diversion and post-residential youth with sexual behavior problems in treatment?

Secondary research questions.

Do case management services increase successful program completion:

- for diversion participants?
- for post-residential participants?

Do case management services decrease assessed risk during the course of treatment:

- for diversion participants?
- for post-residential participants?

Do case management services decrease the non-sexual re-offense rate:

- for diversion participants?
- for post-residential participants?

Do case management services decrease the sexual re-offense rate:

- for diversion participants?
- for post-residential participants?

Research Hypotheses

Primary Hypothesis. Case management services will improve outcomes for youth with sexual behavior problems who are in diversion and post-residential treatment.

Secondary Hypotheses.

- 1a. Members of the diversion case management group are more likely to complete treatment than the diversion comparison group.
- 1b. Members of the post-residential case management group are more likely to complete treatment than the post-residential comparison group.
- 2a. Members of the diversion case management group are more likely to decrease risk of sexual re-offense during treatment than the diversion comparison group.
- 2b. Members of the post-residential case management group are more likely to decrease risk of sexual re-offense during treatment than the post-residential comparison group.
- 3a. Members of the diversion case management group are less likely to commit a non-sexual offense after completion of treatment than the diversion comparison group.
- 3b. Members of the post-residential case management group are less likely to commit a non-sexual offense after completion of treatment than the post-residential comparison group.
- 4a. Members of the diversion case management group are less likely to commit a sexual offense after completion of treatment than the diversion comparison group.
- 4b. Members of the post-residential case management group are less likely to commit a sexual offense after completion of treatment than the post-residential comparison group.

CHAPTER II

LITERATURE REVIEW

This chapter begins with a review of literature concerning characteristics of juvenile sex offenders. Next, treatment considerations for juvenile sex offenders are discussed. While there are a variety of treatment models implemented in programs, specific treatment models will not be discussed, as they are not the focus of this study. Rather, a description of best practices outlined in the literature and an explanation of specific concepts related to best practices are explained. The literature regarding case management is presented followed by a description of social ecological theory. Finally, case management as part of social ecological theory is presented.

Characteristics of juvenile sex offenders

This section is used to describe current research about juvenile sex offenders. Thus, this section will include information about the current state of the knowledge, arrest statistics, victim and offense statistics, and the difficulties associated with formulating a standard description of juvenile sex offenders. There is no one-size-fits-all category or description. Juvenile sex offenders are a heterogeneous group with a wide range of offense characteristics, contributing factors, and personality traits (Veneziano, & Veneziano, 2002). Current research identifies characteristics which are often present in adolescent males classified specifically as juvenile sex offenders. The following list of characteristics, developed from research conducted by Seto and Lalumiere (2010) and Veneziano and Veneziano (2002), may include but are not limited to:

- (a) a preoccupation with and confusion about sexual matters;
- (b) deficient internal controls of sexual thoughts and action;
- (c) early experimentation with various sexual practices;
- (d) exposure to abuse or abusive behaviors by parental figures or other adults;
- (e) extreme anger and poor anger control;
- (f) poor self-esteem and feelings of shame;
- (g) difficulties in establishing trusting relationships with others;
- (h) deficiencies in basic social skills;
- (i) distorting the meaning of the behavior of others;
- (j) difficulty in being empathetic toward others; and
- (k) having thinking errors and other cognitive distortions

In addition, some unique characteristics of juvenile sex offender behavior includes disengagement from familial participation, higher incidence of childhood sexual abuse, severe mental health issues, sexual identity problems, minimal peer relationships, significant social skills deficits, shyness, and less likely to abuse a substance than youth in other general delinquent categories (Righthand & Welch, 2004). More than half of offending acts involve oral-genital contact or penetration or attempted vaginal or anal penetration (Righthand, Welch, Carpender, Young, & Scouler, 2001). Female children are targeted most frequently but male victims make up about 25% of victim samples in some studies (Righthand & Welch, 2004). In most cases, the victim is known to the adolescent (Worling, 2001). Adolescents tend to be less physically violent than adults but adolescents may use intimidation, threats of violence, and physical violence to gain compliance (Righthand & Welch, 2004). Chaotic family systems and separation from parents have also been cited as common among adolescents with sexual behavior problems (Veneziano & Veneziano, 2002). Other researchers have suggested that being

sexually victimized by a male is a strong predictor of future sexual behavior problems (Hunter, Figueredo, Malamuth, & Becker, 2003).

In addition, adolescents who sexually act out against male children are more often victims of sexual abuse than those whose victims are female children, peers, or adults (Hunter, Figueredo, Malamuth, & Becker, 2003; Worling, 2001). It is important to establish a clear understanding of the range of behaviors in sexual behavior problems. Research suggests that a high percentage of adolescent male and female sex offenders have psychological issues, which may include difficulties managing their emotions (Ariga, Uehara, Takeuchi, Ishige, Nakano, & Mikuni, 2008; Barbaree & Marshall, 2006; Hendriks & Bijleveld, 2006; Rich, 2003; Righthand & Welch, 2001). Some youths' thoughts, behaviors and actions suggest that they have a problem which is addictive in nature. Others demonstrate behavioral responses that are suggestive of poor social understanding and impulse control, while some youth have a limited ability to develop a social conscience and are more criminal in their orientation (Rich, 2003; Righthand & Welch, 2001). Some adolescents with sexual behavior problems in general use denial as a mechanism to avoid taking social responsibility for their offense, including failing to accept responsibility for the hurt and trauma that usually occurs with sexual victimization (Happell & Auffrey, 1995; Kubik & Hecker, 2005; Lane & Ryan, 2010).

Treatment Considerations for Juvenile Sexual Offenders

The primary goal of treatment for adolescents with sexual behavior problems is to prevent the individual from engaging in the inappropriate or offending behavior again. In order to work toward this goal, programs that target these adolescents must use specific methods and procedures in order to change the social and psychological factors linked to the behavior. Adolescents who participate in specialized treatment are less likely to reoffend; both sexual and

nonsexual offenses (Worling, Littlejohn, and Bookalam, 2010). Additionally, Winokur and his colleagues (2010) found that there is a positive effect of treatment on the recidivism rates of juvenile sex offenders, specifically when they complete a cognitive-behavioral treatment program in either community or residential settings. According to Hanson and Yates (2004; Yates, 2002, 2003), effective and comprehensive treatment should include the following specific criteria at a minimum:

- Cognitive-behavioral orientation
- Use and application of the Risk/Need/Responsivity Model of offender intervention
- Use cognitive, behavioral, and social learning methods of intervention
- Skills and competency based
- Use effective therapeutic methods to enhance client engagement with treatment and increase motivation.

In addition, treatment should be individualized based on the developmental stage, strengths, and needs of each adolescent. It is essential to understand that, as with the general population, youth with sexual behavior problems have a vast array of needs, goals, history, and strengths. Therefore, no single approach is likely to be effective for the entire population (McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010). Adolescents are in an influential developmental period and, despite their sexual behavior problem, a sense of normal development is relevant for treatment success (Berkhart & Cook, 2010). A treatment program focused on the offense will not be sufficient in establishing positive developmental growth experience for the youth (Rich, 2003). Although the research literature indicates that juvenile sex offenders are influenced by multiple ecological systems, most current treatments focus heavily on the

assumption that there are psychosocial deficits in the individual youth (Letourneau & Borduin, 2008).

Treatment models developed based on cognitive behavioral theory emphasize improving sex offender motivation and adherence to treatment (Yates, 2002; 2003). Carpentier, Silovsky and Chaffin (2006) found that when children's sexual behavior problems were addressed through the use of cognitive behavioral therapy, only two percent of children had an additional sexual perpetration during a 10-year follow up. The primary goal of cognitive behavioral therapy use in treatment programs is to provide adolescents with sexual behavior problems with self-management skills that they can use to manage or avoid situations that increase their risk of engaging in the inappropriate or illegal behavior (Schneider & Wright, 2004). Adolescents are assisted in challenging and changing views in a more prosocial direction, paying increased attention to consequences both to themselves and others, developing a less distorted view of their behavior, gaining more acceptable responses to meet their needs and learning ways to control urges and manage risky situations (Schneider & Wright, 2004).

The principles of risk, needs, and responsivity (RNR) are integral to the successful treatment of adolescents with sexual behavior problems. The principle of risk refers to the idea that the intensity of treatment should be based on the level of risk posed by the individual client. The most intensive levels of intervention should be reserved for those clients with the highest risk and low intensity or no intervention applied to those clients with low risk. Level of risk is established through assessment. It should be noted that the level of risk recommended through an assessment is not a legal determination of risk. When clients are involved with the juvenile justice system, the presiding judge may use the assessment for informational purposes and take

into account any recommendations but the final, legal, level of risk is assigned by the judge in the case.

The principle of need refers to the idea that the most effective interventions are those that target criminogenic needs or dynamic risk factors. Dynamic risk factors can be defined as psychological vulnerabilities or mechanisms that, in addition to situational triggers, result in sexually abusive behavior (Beech & Ward, 2004). Dynamic risk factors that have been associated with sexual behavior problems include factors such as problems with sexual self-regulation, negative social influences, intimacy deficits, emotional identification with children (for those who offend against children), and problems with general self-regulation (impulsivity, poor problem solving skills) (Hanson, Harris, Scott, & Helmus, 2007). Some youth with sexual behavior problems, especially those involved in the justice system may be at risk to offend non-sexually, which may involve different risk factors such as antisocial behavior, problems with general self-regulation but may have overlap with risk factors associated with sexual behavior problems (Hanson & Morton-Bourgon, 2005). Dynamic risk factors seem to have been the subject of research far less often than static risk factors (Yates, Prescott, & Ward, 2010) because dynamic factors are amenable to change while static factors cannot be changed. For example, having a male child victim is a static factor and cannot be changed; however, the way a person thinks about their offense can be changed.

The principle of responsivity refers to the idea that interventions should be delivered in a way that is consistent with the clients' learning styles, abilities, and personal circumstances (Yates, Prescott, & Ward, 2010). For example, a client with intellectual disabilities would be treated differently and have different expectations than a client with average intelligence and abilities. There are important considerations that include language, culture, personality style or

disorders, motivation, anxiety, mental disorder, cognitive abilities, etc. These factors influence the interaction between the client and the treatment process; therefore, the interaction influences the effectiveness of the intervention for that client. In order to be more effective, intervention programs must tailor services to match individual characteristics. In essence there should be no “one size fits all” intervention.

Sex Offender Registration and Notification Act (SORNA)

Over the past two decades public concern has escalated about risk for sexual re-offense among juveniles who have committed sexual offenses (Worling & Langstrom, 2006). Due to the beliefs and feelings of the public, lawmakers experience increased pressure to pass legislation that provided intensive regulation of sex offenders (LaFond, 2005). Public concerns have been expressed, including the notion that overall rates of juvenile sexual offending are especially high (Zimring, 2004) and that juvenile sex offenders are serious delinquents who will become predatory adult sex offenders (Caldwell, 2010). While there is a lack of evidence to support these beliefs (Letourneau & Miner, 2005; Fortune & Lambie, 2006; Vandiver, 2006; Caldwell, 2002; Letorneau & Armstrong, 2008), concern has been reflected in the enactment of increasingly punitive laws for the management of juvenile sex offending (Spice, Viljeon, Latzman, Scalora, & Ullman, 2012). Policies originally created to target repeat adult sexual offenders have been extended to juveniles who sexually offend (Chaffin, 2008). These laws include options for involuntary commitment to psychiatric hospitals (Caldwell, 2007) and requiring public sex offender registration and notification requirements for juveniles (Trivits & Reppucci, 2002). In addition, updates to the Sex Offender Registration and Notification Act (SORNA), with regard to registration and notification procedures, require many juvenile sex offenders to remain on sex offender registries for the rest of their lives (Caldwell, Ziemke, & Vitacco, 2008).

The primary purpose of legislation is to deter individuals from committing sexual offenses. General deterrence varies a) by age, b) whether potential offenders are aware of the legal consequences, and c) whether sanctions are related to behaviors generally accepted as reprehensible or immoral (Wikstrom, 2008). General deterrence through current legislation may be less effective with the juvenile population due to differing developmental stages. Juvenile sexual behavior is driven by both internal factors, such as sexual desire, and external factors, such as lack of supervision (Ronis & Borduin, 2007). In addition, juveniles usually have a lack of awareness of the legal consequences of their behavior and the seriousness of their behavior. Compared with adults, juveniles have significantly less cognitive ability and are less able to think about long-term consequences both for themselves and victims (Cauffman & Steinberg, 2000), which impacts the effectiveness of general deterrence.

Letorneau, Bandyopadhyay, & Armstrong (2010) studied the effects of the sex offender registration and notification legislation in South Carolina. Policies effective in South Carolina were similar to national legislation at the time of the study. The researchers found no evidence of a general deterrent effect which would indicate that community safety was not improved through deterrence of new sex crimes by juveniles (Letorneau, Bandyopadhyay, & Armstrong, 2010). A previous study by Letorneau, Bandyopadhyay, Sinha, & Armstrong (2009) examined the effect of South Carolina's sex offender registration and notification policy on juvenile prosecution and conviction rates. Results from that study indicated that a decline in the likelihood of prosecution of juvenile sex crime cases after the policy was implemented, which would indicate that once again, community safety was not improved and may even have been compromised (Letorneau, et. al, 2009).

Case Management

According to Healey (1999), case management reduces recidivism, encourages social reintegration, and enhances public safety. The roots of the case management approach can be found in early 20th century social work but most researchers attribute its development as a distinct service delivery method to the social reform movement of the late 1960's and early 1970's (Enos, & Southern, 1996). Since its inception, case management has been defined and conceptualized in a plethora of ways. Solomon (1992) defined case management as "a coordinated strategy on behalf of clients to obtain the services that they need, when they need them, and for as long as they need these services." In 1999, Healy stated that traditional case management consists of a social or mental health worker who secure and coordinates continued social, mental health, medical, and other services for a client (Healey, 1999). The Commission for Case Manger Certification (CCMC) describes case management as "a collaborative process that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet the needs of the client's health and human service needs. It is characterized by advocacy, communication, and resource management and promotes quality and cost-effective interventions and outcomes (CCMC)." Enos and Southern (1996) identify juvenile delinquents and all sex offenders as specifically suited for case management services. However, researchers have not followed up with case management research specific to the juvenile sex offending population.

For youth, much of the growth of case management was stimulated by the Child and Adolescent Service System Program (CASSP) and the subsequent federally supported system of care demonstrations (Stroul & Friedman, 1986; Lourie, 2003). The Surgeon General's Mental Health Report emphasized the call for case management for youth with serious emotional

disorders (U.S. DHHS, 1999). That call was followed by a report that defined research, practice, and policy for children's mental health services (U.S. DHHS, 2000). In addition, community-based and intensive in-home services highlight the importance of incorporating an ecological framework within services design (Farmer, Dorsey, & Mustillo, 2004).

Many case management approaches integrate case management and therapy in models with consideration given to the developmental and contextual differences faced by children and adolescents (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). Commonly, the approaches are strength-based and individualized while promoting service coordination and continuity of care. Consequently, they are consistent with the values promoted by CASSP (Burchard, Bruns, & Burchard, 2002). However, the combination of case management and therapy make it difficult to attribute outcomes to one or the other. The most promising case management models for delinquent juveniles combine two broad approaches: strengths based and assertive (VanderWaal, McBride, Terry-McElrath, & VanBuren, 2001).

Strengths-based case management focuses on developing a service plan around a juvenile's self-identified strengths and talents that will motivate the youth to make positive life choices. Under assertive case management, the case manager is actively involved in seeking out and delivering services to the juvenile (VanderWaal, McBride, Terry-McElrath, & VanBuren, 2001). This approach is related to improved access to services, increased goal achievement, and improved outcomes when compared with standard treatment services (VanderWaal, McBride, Terry-McElrath, & VanBuren, 2001).

Despite the paucity of research, case management is supported in a variety of fields including areas in general juvenile delinquency (Dembo, Wareham, Poythress, Cook, & Schmeidler, 2006), homeless youth (Cauce, Morgan, Wagner, Moore, Sy, Wurzbacher, Weeden,

Tomlin, & Blanchard, 1994) and drug use (Rapp, Van Den Noortgate, Broekaert, & Vanderplasschen, 2014). A range of issues across systems may impact a youth's ability to participate in and complete treatment; including, family dynamics, family resistance, economics, mental health, education, general health, social skills, and non-sexual types of delinquency (Righthand & Welch, 2004; Veneziano & Veneziano, 2002). These issues are not typically part of the treatment model; however, case management services target issues both within and between systems. For example, there may be communication issues within systems; such as between parents, which may impair communication between the family system and the education system.

Particularly for juvenile sex offenders, sexual re-offense rates appear to be very low, 7.08% according to a meta-analysis conducted by Caldwell (2010). However, re-offense rates greatly increased to 43.4% for non-sexual re-offenses (Caldwell, 2010). This suggests that juvenile sex offenders may be far more likely to reoffend non-sexually than sexually. Chu and Thomas (2010) found similar results; JSOs recidivated sexually from 9.9% to 14.3% and non-sexually from 16.9% to 37.7%. Therefore, due to low base rates, sexual recidivism may be more difficult to predict than nonsexual recidivism. Some systemic factors that may directly influence non-sexual re-offense or general delinquency are inadequate supervision, chaotic family environment, difficulty in the education environment, mental health issues, difficulties with socialization, and extensive unstructured time. Case management targets these systems and coordinates services. Hence, it is possible that case management may decrease rates of non-sexual re-offense but there is no known existing published research addressing such a research question.

The majority of juvenile sex offending research has focused on factors that increase likelihood of sexual re-offense, but there is more recent recognition of the need to study factors that may *decrease* the likelihood of sexual re-offense (Farrington, 2007). Such research is critical to inform treatment interventions (Rogers, 2000), especially given that factors such as engagement in employment/education and strong attachments to prosocial others (Borum et al., 2006) have also related to decreased re-offense (Ward & Laws, 2010). One of the most recent studies to address potential factors that decrease recidivism indicated that employment decreases the rate of offending for juvenile sex offenders (van den Berg, Hendriks, & Moo-Reci, 2014). Employment addresses issues related to social skills, independence, community engagement, and responsibility. However, typical treatment models do not include assisting youth with job searches, completing applications, and practicing for interviews. Case management addresses these skills and the result of client mastery may influence a client's level of success in treatment and future avoidance of re-offense.

Ecological Theory

Typical juvenile sex offender treatment programs often do not directly target actual problems that exist outside of treatment sessions; for example, at school or in the neighborhood. In addition, services are usually located in a clinic or institutional setting. The client is expected to travel to, or reside in, a central location to gain access to assessment and treatment services. The barriers this may present to clients and their families seem to be given little consideration, even though in many cases access problems may lead to non-attendance or exclusion from the treatment program. This is of special concern given evidence that juvenile sexual offenders who begin but do not complete treatment are more likely to reoffend than are those who don't even begin treatment (Hanson & Bussiere, 1998; Worling, Litteljohn, & Bookalam, 2010). From an

individual-level perspective, treatment non-completion may be perceived as a failure of the youth, rather than as a failure of the treatment providers to account for contextual factors.

Although many programs now highlight the importance of engaging with the juvenile offender's parents or other guardians, the rationale is usually related to strengthening or supporting the focus on individual-level treatment goals, rather than to target relevant family-level factors (Smallbone, Rayment-Mchugh, & Smith, 2013). Embedding ecological systems theory into existing treatment programs to address systems level factors that influence offending behavior rather than overhauling entire program models may be more cost-effective and result in improved long-term outcomes at not only the individual and family level but also for communities and larger systems.

Specifically, Bronfenbrenner's Ecological Systems theory denotes that an individual is nested within a complex ring of systems that play an integral role in a child's development. In this theory, the child (or individual) lies in the center of an outward diagram. The first system that encompasses the child is the microsystem, which includes the systems and interactions closest to the child (i.e. family, school, and friends). This system is likely to have the most direct impact on a child's development due to their consistent and persistent interactions with these factors. According to Bronfenbrenner (1995), within this microsystem are proximal processes, complex reciprocal interactions between a person and their environment that "must occur on a fairly regular basis over extended periods of time" (620). These interactions include parent-child relationships, child-child relationships and other form of continuous patterned interaction. When proposing the idea of proximal processes, Bronfenbrenner indicated that the "form, power, content and direction" of these proximal processes is in part dictated by the "biopsychological characteristics of the developing person" (621). These propositions demonstrate the

developmental complexities of an individual within an environment dictated and determined by multiple systems and interactions. Encompassing the individual and the microsystem is the mesosystem which encompasses interactions between different parts of a person's microsystem and leads to an indirect impact on the individual at the center. The mesosystem would include interactions such as parent-teacher or parent-coach relationships. The exosystem is denoted as settings that influence the focal individual but are those in which the individual has no direct participation; this system would include educational policy by which a student would be influenced but not a direct participation in its development (Neal & Neal, 2013). The outer-most system, Bronfenbrenner notes, is the macrosystem, which includes broad cultural and social influences that have a long-term effect on the individual such as values and ideals that affect policy decisions (Neal & Neal, 2013). Finally, Bronfenbrenner alludes to an overarching chronosystem which is the greater dimension of time, change and constancy throughout a developing individual's life, which for a child would include transitions from middle to high school and puberty (Neal & Neal, 2013). Bronfenbrenner's theoretical model has been both contested and accepted by researchers for decades due to its ability to account for outside influence on childhood development.

Strengths and weaknesses. As with every great theoretical approach to development, Bronfenbrenner's Ecological Systems Theory has both strengths and weaknesses. Many researchers consider Bronfenbrenner's theory a stronghold in the context of childhood development due to its ability to address the influence of the environment on human and social development. In addition, Bronfenbrenner constantly adapted his theory across his lifetime increasing its applicability to current research. Bronfenbrenner's theory presented a groundbreaking realization, for his time, that a youth's behavior and action could be affected by

more than a choice of free will, rather the circumstances and interactions within the surrounding environment played a key role. Bronfenbrenner (1995) alludes to a study that was carried out by Drillien (1964) which assessed factors affecting the development of children with low birth weight compared to normal birth weight. Within this study Drillien found that the characteristics of the infant affect the quality of maternal care with consequential effects on developmental outcome, but the relationships between these aspects varied by the quality of the environment in which the family resided (Bronfenbrenner, 1995). This study was supplemental evidence for Bronfenbrenner's projection that a child's development is subject to alteration by both the environment and the inherent relationships within. Bronfenbrenner offered insight into the depths and complexities of development and how it should be perceived as more than a mere biological process but rather as a complex result of multiple systems and systematic relational interaction.

Most groundbreaking theories are met with critique and evaluation based off their applicability and validity. For Bronfenbrenner, many future researchers would go on to question its applicability to the big picture. Tudge, Mokrova, Hatfield and Karnik (2009) asserted that the presence of multiple versions of Bronfenbrenner's theory inhibited researchers from properly identifying which edition their follow-up derived from. In part, the researchers cite this difficulty as a result of Bronfenbrenner's lack of inclusion of "a clear methodological guide to help in the application of the theory" (Tudge, Makrova, Hatfield, & Karnik, 2009), thus resulting in convoluted and misguided follow-up theoretical research. The researchers also attest that Bronfenbrenner, himself, did not properly demonstrate how he applied an appropriate method within his own research, making the theory even more difficult to be translated in the future. Although these are not necessarily cited as flaws within Bronfenbrenner's development of an ecological theory that attests to development, they are flaws that deter proper application.

However, some researchers attest that, although, Bronfenbrenner's theory is correct and admirable at a basic level the more complex development of his theory may be slightly misguided. More specifically researchers, Neal and Neal (2013) argue that a networked approach to Bronfenbrenner's theory would be more appropriate and accurate representation than his original nested approach. The premise of their research is founded on the principle that the effect systems have on the individual "is defined in terms of the social relationships surrounding the focal individual" and that these systems relate in an "overlapping but non-nested way" (Neal & Neal, 2013). Bronfenbrenner's theory implies that systems are based on settings wherein the focal individual interacts while Neal and Neal argue that the more integral connections come from the way in which these systems interact. In considering the placement of the focal individual in Bronfenbrenner's nested system, the child is placed in the center as the center-point for all of the outward ecological systems, whereas in the networked version of theory, the child is displayed as "part of an overlapping or intersecting set of ecological systems that are linked to one another through direct and indirect social interactions" (Neal & Neal, 2013). This theory implies that child's development is more greatly affected by the interactions that occur within their environment, than just the environment itself.

Ecological Theory and Case Management

If juvenile sexual offending is caused by the interaction of individual and situational factors in the context of offenders' and victims' natural social ecologies, it makes sense that clinical assessment and intervention should focus on three aspects of the problem; individual, situational, and ecological. Typical juvenile sex offender treatment programs address the individual and situational aspects and acknowledge the impact of ecological aspects. However, treatment interventions should be individualized through assessment and all three areas should be

addressed in the conceptual model of the program. In many cases, improving attachment with a parent, enhancing and focusing guardianship, reducing involvement with antisocial peers, increasing involvement with prosocial peers, removing barriers to school engagement, or reducing exposure to specific risky situations, may be as important as achieving conventional individual-level treatment goals such as overcoming denial, increasing general or victim-specific empathy, or improving general self-regulation (Smallbone, Rayment-Mchugh, & Smith, 2013). Bronfenbrenner's Ecological Systems Theory provides a method to conceptualize juvenile sexual offending behavior that is influenced by the systems that encompass the juvenile. If interventions do not address context, the goal of individual level treatment may remain little more than trying to increase the juvenile's resistance to what may be powerful criminogenic influences.

Multisystemic therapy (MST) provides an evidence-based model for addressing individual and systemic factors associated with serious antisocial behavior (Henggeler, et al., 1998), and specifically with juvenile sexual offenders (Borduin, Schaeffer, & Heiblum, 2009; Letourneau et al., 2009). However, MST is an intensive, family-based treatment and may not be readily transferable to all settings. In addition, changing treatment models in existing programs requires substantial resources which may be prohibitive for programs that already produce positive results and merely seek to enhance outcomes. Family based treatment may also be problematic in circumstances where there are severe breakdowns in family relationships. Regardless, MST's strong conceptual and empirical foundations, which include Bronfenbrenner's Ecological Systems Theory, provides guidance on treatment model development with regard to the complex circumstances specific to juvenile sexual offenders. Specifically, case management can be used to modify existing treatment models to address ecological factors, as is the case in this study.

Case management supports the development of local partnerships that involve more than simply sharing information or the coordination of efforts; rather, the work involves focusing and systematic monitoring specific tasks according to treatment plans. (Smallbone, Rayment-McHugh, Crissman, & Shumack, 2008). Case management is generally considered an effective avenue of communication between and within systems that accounts for youth development within practice, consequently, increasing its potential value as part of an overall treatment approach. According to Bronfenbrenner (1995), the presence of chaos within the subsystems of a child's life "interrupts and undermines the formation and stability of relationships and activities that are essential for psychological growth." Within a treatment setting, case management can be utilized in an effort to facilitate positive community engagement such as engagement in prosocial activities, school attendance, and family dynamics. Many youths that experience disruption within the nested systems, fail to overcome these maladaptive interactions without proper intervention. Case management provides an opportunity for mediation between failing systems, such as between the caregiver and child, the school system and the child, or problems between the caregiver and other integral systems. The mediation between these systems has the potential to strengthen the child's ability to productively engage within their ecological environment allowing them to focus on individual development rather than systematic exchanges. Case management is designed to alleviate outside stressors so that youth can more readily focus on overcoming personal barriers and progressing within the treatment setting.

I began this chapter with a review of the research regarding the characteristics of juvenile sex offenders and followed with a discussion of treatment considerations for the population. I then provided an overview of federal legislation, which has direct implications for intervention and treatment of juvenile sex offenders. Additionally, I discuss the research literature with regard

to case management intervention and provide a theoretical framework to conceptualize the role of case management within a larger treatment model.

CHAPTER III

METHODS

This chapter includes an overview of the research study design and the research hypotheses tested. The study population, study sample, and data collection methods are discussed. The operationalization of the independent and dependent variables of the study are delineated and then the data analysis plan is discussed.

Research Design

Program evaluation is applied research and, as such, shares design and methodology in common with basic research; however, the expected use of the research differs in program evaluation (Royse, Padgett, Thyer, & Logan, 2006). This study is an example of how program evaluation may also be valuable to a larger population as is the hoped-for quality criterion with basic research. The concept of transferability (Schwandt, 2001), often talked about in relation to qualitative methods may also apply to program evaluation. This study compared two consecutively offered treatment programs to compare “treatment only” to treatment with the addition of case management services in a community-based treatment program for juvenile sex offenders. The two programs were operated using the same model of cognitive behavioral therapy and provided services for youth in both diversion and post-residential circumstances. The primary difference between the two programs, diversion and post-residential, was the addition of case management services. A secondary data analysis utilizing a pre- and-post-test quasi-experimental design without random assignment was used.

The two consecutively offered programs compared in this study offered treatment services to two subgroups; diversion and post-residential. Prior to analyzing the data, I compared the diversion and post-residential subgroups to determine if they were similar enough to be analyzed as one group. If the two groups were similar, the secondary hypotheses in the next section would have been combined into one hypothesis; for example, 1a and 1b would be combined. Diversion and post-residential clients were significantly different with regard to age; therefore, research hypotheses in the next section remained as planned in my research proposal.

Research Hypotheses

Primary Hypothesis. Case management services will improve outcomes for youth with sexual behavior problems who are in diversion and post-residential treatment. The primary hypothesis is divided into four secondary hypotheses to allow for separate analysis of each subgroup.

Secondary Hypotheses.

H_{1a}: Members of the diversion case management group are more likely to complete treatment than the diversion comparison group.

H_{1b}: Members of the post-residential case management group are more likely to complete treatment than the post-residential comparison group.

H_{2a}: Members of the diversion case management group are more likely to decrease risk of re-offense during treatment than the diversion comparison group.

H_{2b}: Members of the post-residential case management group are more likely to decrease risk of re-offense during treatment than the post-residential comparison group.

H_{3a}: Members of the diversion case management group are less likely to commit a non-sexual offense after completion of treatment than the diversion comparison group.

H_{3b}: Members of the post-residential case management group are less likely to commit a non-sexual offense after completion of treatment than the post-residential comparison group.

H_{4a}: Members of the diversion case management group are less likely to commit a sexual offense after completion of treatment than the diversion comparison group.

H_{4b}: Members of the post-residential case management group are less likely to commit a sexual offense after completion of treatment than the post-residential comparison group.

Study Population

Youth included in this project were those who were identified as having committed sexual offenses and referred to a community-based treatment program that offered specialized treatment services to post-residential youth and diversion youth. Post-residential youth completed residential treatment and were transitioning back to the community. The goals for this group of youth were to support the youth's transition and reinforce treatment concepts and integration into real world situations. Diversion youth were at lower risk to the community and therefore able to receive treatment in the community. Youth were under the age of 21 and were awaiting possible adjudication or had been adjudicated in juvenile court. Court officials were the primary referral source. Almost always, the youth came from multi-problem families experiencing issues such as poverty; drug or alcohol abuse; physical abuse, sexual abuse or neglect; parental mental illness; parental incarceration; and parental criminal activity.

Referral to community based treatment for juvenile sex offenders. Youth were referred for treatment due to sexually offending behavior by referral from the juvenile justice system. The treatment team discussed and staffed each case based on location and caseload. The community-

based treatment team was comprised of all of the therapists and case managers employed by the program, the clinical supervisor, and the agency director. Therapists obtained demographic information during the intake process. The therapist compiled a psychosocial-sexual history and assessment that included the results of the Juvenile Sex Offender Assessment Protocol- II (JSOAP-II) (described below). Upon completion of the assessment, the therapist made recommendations for treatment. If the youth was appropriate for community based treatment then they could be accepted for treatment with the COC. In cases where the referral came from a residential treatment facility, the case was assigned to a therapist at the treatment team meeting after receipt of the referral. Assessments were conducted to inform the treatment process for post-residential youth, as well.

Data Collection

The agency maintained a database of information collected during the course of treatment in the treatment program without case management and later, the treatment program with case management. The database was created using Microsoft Access. Agency support staff were responsible for maintaining the database. For the data collection for this project, the database was queried based on specific criteria that I specified. The query request included the following variables; program type, age, gender, ethnicity, index offense, pre-treatment risk, post-treatment risk, program completion (yes or no), reason for termination, re-offense, and length of time in treatment. The agency provided data for 144 clients from the comparison group (treatment only) from 1/11/2006 to 7/3/2008 and 171 participants from the treatment with case management group from 9/8/2008 to 12/22/2010 and completed the program prior to 2/1/2012 (see table 1 below). Only clients who were terminated by 2/1/2012 were considered in order to allow for observations from the four-year follow-up period.

Table 1: Distribution of sample by subgroup

	Comparison	% of total	Case Management	% of total
Diversion	56	39%	112	35%
Post-residential	88	61%	59	65%
Total	144	46%	171	54%

Study Demographics

Examination and cleaning of the available data did not reduce the sample size (n=315); therefore, no attrition analysis was necessary. I used descriptive statistics to obtain an overview of the data regarding the available demographic variables from the dataset. I then conducted descriptive and inferential statistics to establish similarity between the two groups in terms of age, time in treatment, gender, and ethnicity. Refer to Table 3 for a summary of demographics by subgroup.

Operationalization and Measures

Independent Variable. Case management was a dichotomous variable, where yes indicated that the client received case management services and a no indicated that the client did not receive case management services in addition to treatment. Case management service was a strategy that assessed and coordinated the various needs of a youth during the course of treatment (COC Methods and Procedures, 2008). The case manager worked with the therapist to continually assess the case management needs throughout the treatment process. Areas of assessment included but were not limited to: education, transition, employment, structure, supervision, peer relationships, access to resources, social development, and mental health needs. These are often identified as needs for this population; however, each youth was considered individually and may not have had needs in all of these areas. The case manager

took an active role in advocating for client's needs, coordinating efforts among staff and outside agencies, connecting clients and families with resources, and assisting clients and families with communication and support.

Dependent Variables. Program completion is a dependent variable and it was coded as yes or no. Termination from the program was labeled as successful or unsuccessful. If labeled unsuccessful, the reason was provided. Clients who completed their treatment plan were terminated as successful from the program. Clients were terminated as unsuccessful due to general delinquency, sexual re-offense, and refusal to participate.

Re-offense is another dependent variable of interest for this study. Re-offense was coded as yes or no. If yes, then data for sexual or non-sexual offense will be provided. The agency that hosted the COC program obtained this data from the Statewide Judicial Information System (SJIS) database which is maintained by the Alabama Office of the Courts (AOC). The SJIS database is a statewide repository of information from municipalities and counties within Alabama that includes offense reports. The database will not capture offense data for clients who engaged in offenses outside the State of Alabama or misdemeanors in some city jurisdictions within Alabama. While this database may not capture all offending behavior for all clients served by the program, the data obtained provides a general overview of re-offense rates for the population served. In addition, the time since the client left the program until offending, sexually or non-sexually, will be analyzed for those clients who do have a re-offense in order to determine the average amount of time between treatment completion and offending. The closed date of each client and the date the charge was filed with the respective court will provide the necessary data to determine the average length of time until re-offense for those adolescents that do re-offend, either sexually or non-sexually. Filing date rather than offense date was used to calculate

the amount of time between termination from the program and re-offense. The date of offense was not consistently available, as the date may not be known, especially in cases of sexual offenses. The filing date provided a consistent data point for calculation.

Risk level is a dependent variable measured by pre and posttest Juvenile Sex Offender Risk Assessment Protocol-II (J-SOAP II) scores. At intake, a risk level is determined as low, moderate, or high risk of re-offending sexually. The JSOAP-II is completed and used in addition to clinical judgment. The final risk is determined by re-administering the JSOAP-II in combination with a termination summary. Risk level for the purpose of registration and community notification is decided by a judge in the court system. The JSOAP-II and related research is discussed in the following section.

Psychometric Characteristics of J-SOAP II. The J-Soap is a 28 item examiner rated scale used to assist in the evaluation of risk factors empirically associated with sexual and criminal offending designed to be used with males ages 12 to 18 who have a history of sexually coercive behavior (Prentky & Righthand, 2003). The JSOAP-II was administered to youth upon admission to the treatment program and upon termination from the program. The instrument has four scales examining Sexual Drive/Preoccupation, Impulsive-Antisocial Behavior, Intervention Effects, and Community Adjustment. The first two scales measure static factors that are unlikely to change over time. The second two scales measure dynamic factors that may change over time which contributes to changes in the risk level. The J-SOAP-II items are scored using a 0 to 2 scale, with 0 always associated with the apparent absence of the item and 2 always associated with the clear presence of the item. Thus, “0” implies the apparent absence of the risk factor described by the item, and “2” implies the clear presence of the risk factor as described by the item. A score of “1” implies the presence of some information that suggests the presence of the

item, but the information is insufficient or too unclear to justify a score of “2.” Therefore, higher total scores are indicative of a higher level of risk. See Table 2 for a list of items from the JSOAP-II.

Table 2: Items from the JSOAP-II

Sexual Drive/Preoccupation Scale		
1. Prior Legally Charged Sex Offenses	0	1
2. Number of Sexual Abuse Victims	1	2
3. Male Child Victim	0	1
4. Duration of Sex Offense History	1	2
5. Degree of Planning in Sexual Offense(s)	0	1
6. Sexualized Aggression	1	2
7. Sexual Drive and Preoccupation	0	1
8. Sexual Victimization History	1	2
Impulsive/Antisocial Behavior Scale		
9. Caregiver Consistency	0	1
10. Pervasive Anger	1	2
11. School Behavior Problems	0	1
12. History of Conduct Disorder	1	2
13. Juvenile Antisocial Behavior	0	1
14. Ever Charged or Arrested Before Age 16	1	2
15. Multiple Types of Offenses	0	1
16. History of Physical Assault and/or Exposure to Family Violence	1	2
Intervention Scale		
17. Accepting Responsibility for Offense(s)	0	1
18. Internal Motivation for Change	1	2
19. Understands Risk Factors	0	1
20. Empathy	1	2
21. Remorse and Guilt	0	1
22. Cognitive Distortions	1	2
23. Quality of Peer Relationships	0	1
Community Stability/Adjustment Scale		
24. Management of Sexual Urges and Desire	0	1
25. Management of Anger	1	2
26. Stability of Current Living Situation	0	1
27. Stability in School	1	2
28. Evidence of Positive Support Systems	0	1

Current available research on the predictive validity of the JSOAP-II is inconsistent (Vitacco, Caldwell, Ryba, Malesky, & Kurus, 2009). Research studies have indicated that the JSOAP-II does not predict risk while other studies have indicated support for the JSOAP-II's ability to predict risk. Still other research studies have indicated that only one or two scales of the JSOAP-II predict risk. Elkovich, Viljoen, Scalora, and Ullman (2008) reported that scores on the JSOAP-II were unrelated to sexual recidivism in a sample of 166 male adolescents residing in a sex offender treatment facility. Caldwell et al. (2008) assessed 91 male adolescent offenders with both the JSOAP-II and the three state-developed instruments (i.e., NJ, TX, and WI) and found that none of the three state-specific instruments or the JSOAPII predicted sex offenses during an average follow-up period of 71 months. However, items from Scale 3 of the JSOAP-II (measuring low community treatment support and poor treatment progress) were significant predictors of sexual recidivism. Notably, Martinez, Flores, and Rosenfeld (2007) reported that both the JSOAP-II total score and Scale 3 significantly predicted sexual recidivism in a sample of 60 adolescents. In contrast, Parks and Bard (2006) reported that the static factors from the JSOAP-II predicted sexual recidivism in 156 male sexual offenders, while the dynamic or changeable factors (i.e., Scale 3) did not. These publications exemplify the inconsistencies found in the JSOAP-II and underscore its difficulties in clinical practice. However, this information was not widely available until after 2006. Prior to 2006, the JSOAP-II had the most clinical support for use in predicting risk of re-offense. There were few choices in risk assessment tools and even less research to support any one-assessment instrument. The JSOAP-II was a widely used assessment tool during the time of the data collection and continues to be used by many practitioners. The inclusion of the JSOAP-II data is useful for this study as my goal is short-term program evaluation rather than long-term recidivism prediction.

Case management group. Participants in the case management group received treatment as usual with the addition of case management. For a description of treatment as usual service see the following section on the comparison group. Case management was provided by a mental health professional who received training in the provision of case management services. Case managers received clinical supervision and participated in weekly treatment team meetings that included other case managers, program therapists, and the clinical supervisor. Case managers maintained a caseload of eight to twelve youths and their families at any one time. Treatment in the case management (treatment) group lasted from one to 23 months. Case managers met with clients and/or their families at least once per week in addition to specialized cognitive behavioral therapy provided by a therapist as described in the treatment only section below. Services were provided in the youth's natural environment (i.e. home, school, community). The case manager was available to the family 24 hours a day, seven days a week. The exact nature of the case management varied due to the multidimensional issues across multiple systems experienced by each client. However, case management focused on removing barriers that interfered with parental effectiveness and influencing all systems with which the youth was having difficulty (i.e. school, peer relationships).

Comparison group. Youth in the comparison group received treatment as usual that consisted of a minimum of one hour weekly sessions focused on juvenile sex offender specific therapy. Each of the therapists was a mental health professional certified or under the supervision of a professional who was certified to provide juvenile sex offender specific treatment service. Therapists maintained a caseload of 8 to 12 youth at any one time and met with the family as needed during treatment. Treatment consisted of a self-regulation model of cognitive behavioral therapy designed specifically for adolescents who have

sexual behavior problems and sexual offenses. Therapists received clinical supervision and participated in weekly treatment team meetings that included other program therapists and the clinical supervisor.

Data Analysis Procedures

I cleaned the de-identified data set and transferred it from an Excel file format into a format compatible with analysis in SPSS. Some data points needed to be transformed in order to obtain the variable needed for analysis. For example, length of time in program was computed using the open and closed dates for each participant. I used descriptive and inferential statistics to compare the comparison and case management groups to examine potential differences between the two groups with regard to gender, ethnicity, age, level of risk at intake, and number of days in treatment. In addition, I analyzed the diversion and post residential subgroups in comparison and case management groups using descriptive and inferential statistics to determine if they were statistically similar. Chi-square analysis was used to compare the two groups in terms of sex (male or female) and ethnicity (African American, Caucasian, Hispanic, or other). Independent t-tests were used to compare means between groups with regard to age and length of time in treatment.

The statistical procedures for this study primarily consisted of multiple logistic regression and χ^2 analysis of treatment data from a sample of adolescents with sexual behavior problems who received community based treatment services. Regression analyses are used to provide information about the magnitude and strength of relationships relevant to categories of variables upon outcomes and χ^2 analysis is used to determine if there is a significant association between two categorical variables. The Statistical Package for Social Sciences (SPSS), version 22 was used for all analyses.

The independent variable, case management, and the dependent variables, program completion, risk level, non-sexual re-offense, and sexual re-offense were analyzed using multiple logistic regression. Results directed me to follow-up analyses that further informed the study. Specifically, additional χ^2 simple logistic regression, or t-test analyses were used to explore results when indicated. Age was included as a covariate in the multiple logistic regression models as there was a significant difference between the two subgroups with regard to age at entry to the program.

A statistical significance level, alpha level of $p < .05$, suggests that the null hypothesis has a 0.05 or 5% probability of being true (Ruben & Babbie, 2011). I used an alpha level of 0.05 which suggests that the null hypothesis has a 0.05 or 5% probability of being true. An $\alpha = .05$ is considered an acceptable level for social services research and is most commonly used by researchers (Rosenthal, 2001).

Protection of Human Subjects

Institutional Review Board (IRB) approval was obtained for the study. The IRB approved the protocol effective August 30, 2015. Written support for the use of the data set was obtained from the Alabama Department of Youth Services and the agency. Agency staff de-identified the data before providing it to me for analysis as described in the IRB protocol.

Limitations

Threats to internal and external validity are discussed in this section in relation to the study design of this proposal. Rubin and Babbie (2011) identified seven prominent threats to internal validity. These threats include history, maturation, testing, instrumentation changes, statistical regression, selection biases, and ambiguity about the direction of causal influence.

Having both a comparison group and treatment (case management group) group helped control for threats of history and maturation. Analyses were conducted to evaluate the

similarity of the treatment and comparison groups in order to alleviate issues regarding history and maturation. Issues regarding known historical changes such as legislation regarding the population were minimized by selecting a sample during timeframes when legislation was consistent across time. Personnel changes and individual characteristics of professionals were an avenue of possible threat to internal validity. I was unable to control for these potential threats within the constraints of this study which represented a limitation that will be further discussed in chapter five. However, the presence of the same clinical supervisor who oversaw adherence to the treatment model may have minimized potential effects of personnel changes.

All youth in the study received pre and post-testing using the same measurement tools upon all administrations, controlling for the threats of instrument changes and ambiguity about the direction of the causal influence. Time periods of data inclusion during the operation of each program were selected that were consecutive and preceded any instrumentation or federal and state policy changes as discussed in the previous section entitled, “Sex offender registration and notification act (SORNA)”. Testing was not a strong threat to internal validity as the pre-post-test was completed by trained clinicians and measured level of risk for re-offense. Testing is typically a threat to internal validity when the individual completing the measure performs better on subsequent administrations due to the experience of completing the measure initially. Relying on clinicians trained in the use of the measure minimized the threat of testing.

Another potential threat to the internal validity of this study centered on the consistency of clinicians’ adherence to the model of treatment delivery and assessment, or fidelity between clinicians. Clinicians in both treatment programs were supervised by the same highly qualified clinical supervisor. The same clinical supervisor oversaw the consistent quality

of service and adherence to the treatment model. Statistical regression was not expected to be a strong threat. The comparison and case management groups have similar distributions of risk levels (low, moderate, high) with most clients at low risk and the fewest clients at high risk. See table 3 for the distribution of risk levels across groups. The two groups were statistically compared to determine if the distribution of risk levels across clients was similar.

Due to the lack of random sampling, strictly speaking, the study findings cannot be generalized past the study population, as is often the case in program evaluation. However, other researchers and practitioners may be able to apply the findings of this study to the development of other community-based treatment programs for juvenile sex offenders. In addition, the findings from this study may provide guidance to other programs seeking to increase rates of program completion or developing a plan to implement case management services. Secondary data may pose a risk to external validity as the researcher did not have control of the collection procedures. This may be especially problematic in programs where data is not collected with the intention to conduct research. However, avenues to control data reliability are usually built into programs to allow for accurate reporting to funding sources which helps to increase the trustworthiness of the data.

In this chapter, I presented the research design and hypotheses. I then described the sample and data collection procedures. Variables were operationalized and the JSOAP-II was described and psychometric properties of the measure were summarized. I explained and provided rationale for data analysis procedures. Finally, limitations with regard to internal and external validity were presented and the methods used to minimize threats were explained.

CHAPTER IV

RESULTS

This chapter presents the results of the study. Statistical analysis was completed using the Statistical Package for the Social Sciences (SPSS) version 22.0 for Windows. To conclude this chapter, a table is provided to present the secondary hypotheses and indications of statistically significant variables.

Descriptive analysis of demographic characteristics

Preliminary analysis of the data consisted of running basic descriptive statistics for the demographic characteristics of the sample. All cases ($n = 315$) who met the inclusion criteria were used. The SPSS data file was split into two groups, treatment and comparison groups, for demographic analysis. The demographic characteristics examined in the study were gender, age at entry to program, ethnicity, assessed risk level at entry to the program, and length of time in the program. This step was primarily for determining distributional properties and variability of the research variables.

There were 165 males, four females, and two were missing data for the gender variable in the case management group. The ages of youth ranged from a low of 11 years old to a high of 21 years old ($M = 16.0$, $SD = 1.90$). Ethnic characteristics of the youth in the case management group were 96 (56.1%) African American, 69 (40.4%) Caucasian, five (2.9%) Hispanic, and one (0.6%) youth designated as “other.” The sample included 141 (99.9%) males and 3 (2.1%) females in the comparison group. The ages of youth ranged from a low of 10 years old to a high

of 20 years old ($M = 15.9$, $SD = 1.95$). Ethnic characteristics of the subjects in the comparison group were 61 (42.4%) African American, 76 (52.8%) Caucasian, five (3.5%) Hispanic, and two (1.4%) participants had missing data for this variable.

The length of stay for youth in the comparison group ranged from a low of eight days to a high of 643 days ($M = 217.8$, $SD = 119.24$). Initial risk assessed at entry to the program was reported at low, medium, or high based on the youth's score on the J-SOAP II. In the comparison group, 75 (52.1%) were low risk, 29 (20.1%) were medium risk, and two (1.4%) were high risk and data was missing for 38 (26.4%). The length of time in treatment for youth in the treatment group ranged from a low of 25 days to a maximum of 687 days ($M = 194.2$, $SD = 93.57$). Initial assessed risk at entry to the program was 136 (79.5%) low risk, 23 (13.5%) medium risk, four (2.3%) high risk, and eight (4.7%) had missing data for this variable. See table 3 for a summary of group demographics.

Table 3: Study group demographics

	Comparison group	Case management group
n	144	171
M time in program (in days)	218	194
M age (in years)	15.9	16
Gender		
Male	141 (97.9%)	165 (96.5%)
Female	3 (2.1%)	4 (2.3%)
Missing	0	2 (1.2%)
Ethnicity		
African American	61 (42.4%)	96 (56.1%)
Caucasian	76 (52.8%)	69 (40.4%)
Hispanic	5 (3.5%)	5 (2.9%)
Other	0	2 (1.2%)
Missing	1 (.7%)	0
Risk level at entry		
Low	75 (52.1%)	136 (79.5%)
Medium	29 (20.1%)	23 (13.5%)
High	2 (1.4%)	4 (2.3%)
Missing	38 (26.4%)	8 (4.6%)

Analysis of difference between subgroups

Chi-square tests were used to analyze any difference between diversion and post-residential youth on gender, ethnicity, and risk at entry. Prior to the testing of hypotheses, statistical analysis was conducted to test the similarity between post-residential and diversion youth between groups. If the two populations were not statistically different with regard to the above-mentioned variables, the two populations would have been combined for analysis. Independent samples t-tests were used to analyze the difference between the mean length of time in treatment and age at entry to their respective programs.

Age in years for diversion youth in the control group ($M = 14.8$, $SD = 1.92$) was significantly lower than post-residential youth in the control group ($M = 16.6$, $SD = 1.66$), $t(df) = 142$, $p < 0.001$. Equal variance is assumed based on the results of Levene's test for equality of Variances ($p = 0.247$). Therefore, diversion and post-residential youth in the control group are significantly different with regard to age at entry to the program. Age at entry (in years) for diversion youth in the comparison group ($M = 15.8$ years, $SD = 1.99$) was significantly lower than the age for post-residential youth in the case management group ($M = 16.5$, $SD = 1.63$), $t(df) = 169$, $p = 0.014$. Equal variance is assumed based on the results of Levene's test for equality of Variances ($p = 0.056$). Therefore, diversion and post-residential youth in the comparison group are significantly different with regard to age at entry to the program.

Length of time in treatment (days) for the diversion youth in the control group ($M = 190$ days, $SD = 123.13$) was significantly different than post-residential youth ($M = 235$, $SD = 113.99$), $t(df) = 142$, $p = 0.027$. Equal variance is assumed based on the results of Levene's test for equality of Variances ($p = 0.458$). Therefore, diversion and post-residential youth in the control group are significantly different with regard to length of time in treatment. Length of

time in treatment (days) for diversion youth in the comparison group ($M = 195$, $SD = 101.22$) was not significantly different than post-residential youth ($M = 192$, $SD = 77.75$), $t(df) = 169$, $p = 0.183$. Equal variance is assumed based on the results of Levene's test for equality of Variances ($p = 0.183$). Differences in length of time in treatment is not significant with a $p = 0.815$ according to the results of the independent samples t-test. However, when controlling for age and analyzing the two groups for length of time in treatment using multiple logistic regression, length of time in treatment was statistically significant ($\chi^2 = 32.512$, $p = 0.016$). Therefore, diversion and post-residential youth in the comparison group are significantly different with regard to length of time in treatment.

Chi-square tests were used to compare diversion and post residential youth in the comparison group with regard to ethnicity, gender, and risk at entry to treatment. There was no significant difference between the diversion and post-residential youth with regard to ethnicity ($\chi^2 = 4.52$, $p = 0.105$). However, the diversion and post-residential youth were significantly different with regard to gender ($\chi^2 = 4.82$, $p = 0.028$). They were significantly different on risk at entry to the program ($\chi^2 = 6.29$, $p = 0.043$). With regard to the case management group, there was no difference between diversion and post-residential youth ($\chi^2 = 1.85$, $p = 0.603$) for ethnicity and no significant difference on gender ($\chi^2 = 1.24$, $p = 0.537$), but significant difference with regard to risk at entry to treatment ($\chi^2 = 10.71$, $p = 0.005$). According to the statistical analyses completed, there was not enough evidence to support combining the subgroups, diversion and post-residential, within the comparison and case management groups. Therefore, diversion and post-residential youth were analyzed separately when testing hypotheses.

Primary Hypothesis

The primary hypothesis stated that case management services improved outcomes for youth who were in diversion and post-residential treatment who had sexual behavior problems.

Outcomes for youth were measured by the following variables; completion of the program, non-sexual re-offense, sexual re-offense, and change in risk level. I explored the predictive value of case management in relation to each of these variables using multiple logistic regression. Age was included in the statistical models for each hypothesis due to the statistically significant difference between the subgroups regarding the age variable.

Secondary Hypotheses

Program completion. Multiple logistic regression was used to analyze the dependent variable, treatment completion. Case management, coded as yes or no, and age at entry were included in the model as predictor variables. This analysis was used to determine whether or not a diversion participant completed the program could be predicted by the presence of case management services with age as a possible covariate. From the data set, 168 diversion participants were included in the analysis (see table 4 for numbers and percentages of completion by subgroup). Neither case management nor age were statistically significant with p-values greater than 0.05. An answer was found in five iterations which increases the confidence level that the answer was correct. Results of the omnibus test indicated that the solution was not significant with a $p > 0.05$ which indicated that the model did not fit the data. The omnibus test was based on the null hypothesis that the model did not fit; therefore, the null hypothesis was not rejected. Thus, there was no statistical evidence that the diversion subgroup experienced higher rates of program completion when they received case management.

The analysis was repeated for post-residential participants. From the data set, 147 post-residential participants were analyzed (see table 4 for numbers and percentages of completion by subgroup). Neither case management nor age was statistically significant with $p > 0.05$. Results of the omnibus test indicated that the solution was not significant with a $p > 0.05$ which indicated

that the model did not fit the data. The omnibus test was based on the null hypothesis that the model did not fit. Based on the results of the multiple regression analysis for program completion, the null hypothesis that there was no difference between the comparison and case management group with regard to program completion for post-residential participants could not be rejected. Case management was not a statistically significant predictor of program completion. However, program completion was included in the multiple regression analyses to test the remaining hypotheses.

Table 4: Numbers and percentages of program completion by subgroup.

	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
Program Completion	N	%	N	%	N	%	N	%
Yes	47	83.9%	78	88.6%	95	84.8%	49	83.1%
No	9	16.1%	10	11.4%	17	15.2%	10	16.9%

Risk of re-offense. Multiple logistic regression was used to analyze the dependent variable, risk of re-offense. Case management, program completion, and age at entry were included in the model as predictor variables. Risk of re-offense was assessed pre and post treatment, regardless of completion of the program. Tables 5 and 6 provide an overview of the distribution of assessed initial and final risk based on subgroups.

Table 5: Distribution of assessed initial risk by subgroup

	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
Initial Risk	N	%	N	%	N	%	N	%
Low	19	33.9%	56	63.6%	96	85.7%	41	69.5%
Medium	11	19.6%	18	20.5%	12	10.7%	11	18.6%
High	2	3.6%	0	0%	0	0%	4	6.8%
missing	24	42.9%	14	15.9%	4	3.6%	3	5.1%

Table 6: Distribution of assessed final risk by subgroup

	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
Final Risk	N	%	N	%	N	%	N	%
Low	23	41.1%	67	76.1%	95	84.8%	44	74.6%
Medium	9	16.1%	7	8%	6	5.4%	3	5.1%

High	0	0%	1	1.1%	1	.9%	4	6.8%
missing	24	42.9%	13	14.8%	10	8.9%	8	13.6%

The hypotheses regarding risk specifically stated that participants in the case management group (diversion and post-residential) would have a decrease in risk level from initial assessment to exit from the program. Table 7 below provides an overview of change in risk prior to re-coding as a dichotomous variable.

Table 7: Change in risk by subgroup before coding

	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
Change in Risk	N	%	N	%	N	%	N	%
No change	22	39.6%	50	56.8%	86	76.8%	37	62.7%
Increase	0	0%	4	4.5%	6	5.4%	4	6.8%
Decrease	3	5.4%	12	13.6%	6	5.4%	7	11.9%
missing	31	55.4%	22	25%	14	12.5%	11	18.6%

Change in risk was re-coded as a new variable, decrease in risk (yes or no). If there was a decrease the data for the participant was coded yes. For participants with no change or an increase in risk, it was re-coded as no. As can be seen in Table 7 above, almost 43% of the initial and final assessed risk levels for diversion youth in the comparison group were missing and more than 14% for post-residential youth in the comparison group. This equated to about 25% of data missing, overall, for the re-coded variable, decrease in risk. The comparison group was the most heavily affected with about 36% of the data missing. All cases with missing data for the variable decrease in risk, were omitted in order to allow for more conservative analysis. I compared cases with missing data to the rest of the data set using an independent samples t-test to compare means for age and length of time in treatment. There were no statistically significant differences between the two groups. I also conducted χ^2 analyses to compare the two groups with regard to ethnicity, program completion, sexual re-offense, non-sexual re-offense, and case management. Case management ($\chi^2 = 20.652, p < 0.001$) and program completion ($\chi^2 = 20.308, p < 0.001$) were

statistically significant. The results indicated that data collected for cases in the comparison group and cases where the program was not completed were more likely to have missing data. As the case management group was implemented subsequent to the comparison group, this may represent improved data collection over time, especially with regard to cases where the youth did not successfully complete the program.

The exclusion of missing data resulted in 123 cases analyzed for the diversion subgroup and 114 cases for the post-residential subgroup. Multiple logistic regression was used to analyze whether or not case management predicted a decrease in risk from program entry to exit. Age and program completion were included in the model as covariates. None of the covariates were significant predictors of risk reduction for the diversion subgroup or the post-residential subgroup. The omnibus model was not significant for either subgroup, indicating that the null hypothesis cannot be rejected. Thus, there is no statistical support for the hypotheses that the diversion and post-residential subgroups would experience a decrease in risk when provided with case management services.

Non-sexual re-offense. Multiple logistic regression was used to analyze whether or not case management predicted non-sexual re-offense after program completion for diversion and post-residential youth. Age and program completion were included as covariates in the model. Hypothesis 3a stated that members of the diversion case management group are less likely to commit a non-sexual offense after completion of treatment than the diversion comparison group. Of the 168 diversion participants analyzed, 35 (20.8%) reoffended non-sexually within four years of program termination. Case management is indicated as a significant predictor of non-sexual re-offense based on the multiple logistic regression analysis with a $p = 0.011$. Program completion was also statistically significant with a $p = 0.003$. Age at entry was not significant in

the model. The results of the omnibus test suggest that the solution is significant with a $p = 0.003$. The omnibus test is based on the null hypothesis that the model does not fit. Due to a statistically significant p -value, the null hypothesis is rejected. Based on the Nagelkerke R^2 statistic, the model explains 12.4% of the variance in data.

Table 8: MLR model to predict non-sexual re-offense for diversion subgroup

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
Casemanag(1)	1.032	.416	6.160	1	.013	2.807
AgeatEntry	.015	.103	.022	1	.883	1.015
ProgCompletion(1)	1.321	.475	7.731	1	.005	3.749
Constant	-2.245	1.657	1.835	1	.176	.106

Hypothesis 3b stated that members of the post-residential treatment group were less likely to commit a non-sexual offense after completion of treatment than the post-residential comparison group. Of the 147 (88 comparison group and 59 case management group) post-residential participants analyzed using multiple logistic regression analysis, about 39% re-offended non-sexually within four years of exit from the program. Neither case management nor age were significant predictors of non-sexual re-offense for participants in the subcategory, post-residential, $p > 0.05$. However, program completion was statistically significant with a $p = 0.030$. Results of the omnibus test indicated that the solution was not significant with a $p > 0.05$ which indicates that the model does not fit the data. The omnibus test was based on the null hypothesis that the model did not fit. Due to the insignificant p -value, the null hypothesis was not rejected. Refer to table 10 for rates of non-sexual re-offense by subgroup.

Table 9: MLR model for post-residential subgroup for prediction of non-sexual re-offense

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1						
Casemanag(1)	-.424	.373	1.292	1	.256	.654
ProgCompletion(1)	-1.087	.502	4.691	1	.030	.337
AgeatEntry	-.036	.111	.106	1	.744	.964

Constant	1.719	1.856	.857	1	.355	5.577
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I re-analyzed the data using simple logistic regression with program completion as the predictor variable for non-sexual re-offense. Program completion remained a significant predictor ($p = 0.032$) and the model was significant at $p = 0.032$. The omnibus test was based on the null hypothesis that the model did not fit. Due to the significant p-value the null hypothesis was rejected because there was statistical evidence to support program completion as a predictor of non-sexual re-offense. Based on the Nagelkerke R^2 statistic, the model accounted for 4.3% of the variance.

Table 10: Rate of non-sexual re-offense by subgroup

Re-offense	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
	N	%	N	%	N	%	N	%
none	38	67.9%	56	63.6%	95	84.8%	42	71.2%
non-sexual	16	28.6%	3	26.1%	16	14.3%	13	22%
both	1	1.8%	7	8%	1	.9%	3	5.1%

Sexual re-offense. Multiple logistic regression was used to analyze whether or not case management predicted sexual re-offense four years after exit from the program for diversion and post-residential youth. Age and program completion were included as covariates in the model. Hypothesis 4a stated that members of the diversion case management group were less likely to commit a sexual re-offense after completion of treatment than the diversion comparison group. Of the 168 diversion participants analyzed, three or about 1.79% reoffended sexually within four years of program termination. Case management was not a significant predictor of sexual re-offense based on the multiple logistic regression analysis with a $p > 0.05$. Program completion was not significant in the model when included with age and case management ($p = 0.052$); however, I analyzed program completion as a predictor for sexual re-offense in a simple logistic regression and results indicated statistical significance ($p = 0.048$). Results of the omnibus test

indicated that the solution was significant with a $p = 0.043$ which indicates that the model did fit the data. The omnibus test was based on the null hypothesis that the model did not fit. Due to statistical significance, the null hypothesis was rejected due to statistical evidence that program completion was a significant predictor of sexual re-offense for the diversion subgroup. According to the Nagelkerke R^2 statistic, program completion accounted for 19.6% of the variability in the data.

Hypothesis 4b stated that members of the post-residential case management group were less likely to commit a sexual offense after completion of treatment than the post-residential comparison group. Of the 147 post-residential participants analyzed using multiple logistic regression analysis, 13 or 8.84% re-offended sexually within four years of exit from the program. Neither case management nor program completion were significant predictors of sexual re-offense for participants in the subcategory, post-residential, with $p > 0.05$. However, age at entry was a statistically significant predictor with a $p = 0.034$. Results of the omnibus test indicated that the solution was not significant with a $p > 0.05$ which indicated that the model did not fit the data. The omnibus test was based on the null hypothesis that the model does not fit. Due to the statistical insignificance, the null hypothesis was not rejected. I conducted a follow-up analysis using simple logistic regression with age as the single predictor variable and sexual re-offense as the outcome variable. Age at entry was statistically significant ($p = 0.037$) and the omnibus test indicated that the model fit ($p = 0.028$) and accounted for 7.2% of the variance in the data.

Table 11: Number and percentage of sexual re-offense by subgroup

	Diversion Comparison (n=56)		Post-Res. Comparison (n=88)		Diversion Case Management (n=112)		Post. Res. Case Management (n=59)	
Re-offense	N	%	N	%	N	%	N	%
none	38	67.9%	56	63.6%	95	84.8%	42	71.2%
sexual	1	1.8%	2	2.3%	0	0%	1	1.7%
both	1	1.8%	7	8%	1	.9%	3	5.1%

Table 12: Secondary hypotheses and significance of predictor variables

Hypothesis	Results
H_{1a} : Members of the diversion treatment group are more likely to complete treatment than the diversion comparison group.	Case management and age not statistically significant predictors
H_{1b} : Members of the post-residential treatment group are more likely to complete treatment than the post-residential comparison group.	Case management and age not statistically significant predictors
H_{2a} : Members of the diversion treatment group are more likely to decrease risk of re-offense during treatment than the diversion comparison group.	Case management, age, program completion not statistically significant predictors
H_{2b} : Members of the post-residential treatment group are more likely to decrease risk of re-offense during treatment than the post-residential comparison group.	Case management, age, program completion not statistically significant predictors
H_{3a} : Members of the diversion treatment group are less likely to commit a non-sexual offense after completion of treatment than the diversion comparison group.	Case management was significant ($p=0.011$) Program completion was significant ($p=0.003$) Age not significant
H_{3b} : Members of the post-residential treatment group are less likely to commit a non-sexual offense after completion of treatment than the post-residential comparison group.	Case management and age not statistically significant predictors Program completion significant ($p=0.032$)
H_{4a} : Members of the diversion treatment group are less likely to commit a sexual offense after completion of treatment than the diversion comparison group.	Case management and age not statistically significant predictors Program completion significant ($p=0.043$)
H_{4b} : Members of the post-residential treatment group are less likely to commit a sexual offense after completion of treatment than the post-residential comparison group.	Case management and program completion not statistically significant predictors Age significant ($p=0.034$)

In summary, case management was a significant predictor of non-sexual re-offense but not for sexual re-offense for the diversion subgroup. Case management was not a significant predictor of program completion, decrease risk of sexual re-offense, sexual re-offense, or non-sexual re-offense for the post-residential subgroup. However, program completion was a statistically significant predictor of non-sexual re-offense for both diversion and post-residential subgroups but was only a significant predictor of sexual re-offense for the post-residential subgroup. The primary hypothesis for this study stated that case management services will

improve outcomes for youth who are in diversion and post-residential treatment who have sexual behavior problems. The findings of this study supported the hypothesis for the diversion subgroup with regard to non-sexual re-offense.

CHAPTER V

DISCUSSION

The purpose of this study was to compare a program providing treatment as usual to the consecutively offered program that included case management as a supplement to treatment to determine if a relationship existed between case management and outcomes, specifically, reduction of assessed risk, program completion, and sexual and non-sexual re-offense. The study examined data collected over the course of the two consecutively offered programs.

In this final chapter, two main points are addressed. First, the results presented in Chapter four are discussed. This section highlights observations and possible explanations for the research hypotheses and quantitative findings. Second, implications for social work policy, practice, and research are presented.

Program Completion

Only 36 (11.4%) of the total sample (315) did not complete their treatment program. Of the cases that did not complete treatment, 19 (13.2%) were from the comparison group and 17 (8.19%) were from the case management group. So, the case management group only experienced two fewer cases that did not complete the program which would support the lack of statistical significance of case management as a predictor of program completion. The most common reason ($n = 22$) why participants did not complete treatment was due to noncompliance with the program. Noncompliance included things like not showing up for treatment sessions for two or more weeks in a row without a valid excuse or refusing to participate in treatment. The

relatively high level of treatment completion (88.6%) across both groups (comparison group and case management group) may not have allowed for an adequate number of participants to not complete treatment, thus not providing a sample large enough to see a statistically significant effect. In terms of program evaluation, a program completion rate of 85% may be positive evidence but alone has little value. Participants are typically court ordered to complete treatment, which alone, may lead to a higher completion rate. In published literature, as many as 50%-70% of juvenile sexual offenders accepted into specialized programs “fail” to complete the treatment program (Becker, 1990; Edwards, Beech, Bishopp, Erikson, Friendship, & Charlesworth, 2005; Hunter & Figueredo, 1999; Kraemer, Salisbury, & Spielman, 1998; Seabloom, Seabloom, Seabloom, Barron, & Hendrickson, 2003). This would suggest that the program completion rate combined with the low re-offense rate in this study, regardless of case management, is indicative of program success. Due to the nature of the population and the process by which they come into treatment it would be difficult to compare completion rates for court ordered clients versus clients who sought treatment voluntarily. Occurrences of clients or families of clients voluntarily seeking treatment are uncommon. Legal consequences of not completing a court ordered treatment program could represent a possible explanation for relatively high rates of program completion. The secondary data analyzed in the current study did not include information about referral sources. Potential follow-up studies should consider including information about the referral source and legal status regarding court orders to complete treatment.

Risk level

Pre and post scores reported as high, medium or low, for the JSOAP-II were not consistently reported across all cases. The comparison group was more heavily affected by

missing data in regard to risk level than the case management group; however, the rate of missing data for this variable was overwhelming for both groups. Overall, 26.7% of the data were missing with regard to risk level. Missing cases were more likely to occur in the comparison group which was operated prior to the case management group. This may represent increasing reliability of data collection procedures, by the programs, over time.

Case management was not a significant predictor of a decrease in risk level over the course of treatment. Another issue to consider is that for almost all of the 72 cases in the comparison group and 123 cases in the case management group where their risk was not reduced, they began treatment at a low risk. Therefore, any change within the category “low” was not measured. Instead, it appears that there was no change to risk level during treatment. A possible solution for future studies would be to report exact numerical scores on the JSOAP-II, rather than the nominal level of measurement that the score falls within. The scores used for this study were provided in nominal form which constrained analysis. Individual items on the JSOAP-II may have been impacted by case management but without scores for item numbers, the ability to compare the two groups was not possible.

Non-sexual re-offense

Non-sexual re-offense rates were relatively low across both the comparison (18.8%) and case management groups (19.3%). Case management was a significant predictor of non-sexual re-offense for the diversion subgroup as the change in re-offense rate was much different; 28.6% for the diversion subgroup in the comparison group and 14.3% for the diversion subgroup in the case management group. There was no predictive significance for the post-residential subgroup. This finding echoes Seto and Llumiere’s (2010) meta-analysis that suggested that the majority of juvenile sex offenders are generalist offenders who are similar to nonsexual offenders but a

few are specialist offenders. This distinction was supported by Chu and Thomas (2010) with their study regarding typology and recidivism. Specialist offenders, according to Seto and Lalumiere (2010) have unique risk and etiological factors including childhood sexual abuse, child maltreatment, and inappropriate sexual interests. Pullman and Seto (2012) assert that, due to this distinction, treatment targets focused on one group may be less effective with the other group, which indicates that the distinction is important, clinically. If treatment is based on this potential type, then positive changes across systems may be more evident. The results of this analysis support my decision to keep the two subgroups separate for analysis. It appears that there may be some difference between the two subgroups that has an effect on treatment outcomes. This possibility, paired with the findings of Seto and Lalumiere (2010) may indicate that post-residential youth require a higher intensity or dosage of case management to achieve statistically significant results.

Program completion was a significant predictor of non-sexual recidivism for both the diversion and the post-residential subgroups. This appears to be a logical outcome, as that generally; treatment completion suggests the attainment of at least some knowledge and skills. However, this information does not offer support of the primary hypothesis regarding the usefulness of case management to improve outcomes. The predictor variables, program completion and case management; however, account for only a small percentage of the variance in non-sexual re-offense. This indicates that there is likely a variable or variables not collected for this study that may account for a larger proportion of the variance. For example, facing legal consequences, which is the case for most participants in treatment, may substantially impact outcomes and account for a larger proportion of the variance. Additionally, individual therapist

or case manager characteristics may play a role in participant outcomes. However, the data that would have allowed me to control for this variable was not available from the agency.

Sexual re-offense

Case management was not a statistically significant predictor of sexual re-offense for either subgroup. However, program completion was a significant predictor of sexual re-offense for the post-residential subgroup when analyzed separately from other covariates. Sexual re-offense in general was very low across both the comparison (7.6%) and case management (2.9%) groups. While there was a clinically significant decline in sexual re-offense between the comparison and case management groups, the effect was not statistically significant. With such low rates of sexual re-offense, there may not have been enough data points to adequately analyze the predictive ability of case management, program completion, or any other variable (Caldwell, 2010).

Implications for Social Work Practice, Policy, and Research

Social work practice. There is a strong emphasis on evidence-based treatment in social work practice (Corcoran & Nichols-Casebolt, 2004). Research regarding treatment for juvenile sex offenders is sporadic and significant gaps exist in the empirical literature about treatment models. Much of the existing literature uses samples of youth from residential treatment programs and minimal emphasis has been placed on researching community-based alternatives for those youth who can be safely treated in the community. The secondary data obtained to answer the questions I posed in this study were obtained from an agency providing community-based juvenile sex offender treatment in an effort to contribute to the research and fill gaps.

Furthermore, including a case management component to community based treatment programs seemed to be a logical step with the attention that social work gives to the interactions of the client in and between systems. Case management addresses the complex problems within

a youth's ecological system that contribute to the youth's problems as illustrated in Bronfenbrenner's (1995) Social Ecological theory. I sought to compare client outcomes in this study in an effort to determine if case management is supported, as part of a community-based treatment program for juvenile sex offenders. One pillar of case management is that goals are matched to the needs and strengths of the youth, which is reflective of social work values. Case management, in general, is not a one-size-fits all approach; however, the loose structure and inconsistent modeling does not provide for a consistent way to evaluate effectiveness. The loose structure of case management lends itself to a qualitative or mixed methods approach which was not within the constraints of this study.

Related to social work practice, it has been suggested in the literature that therapist characteristics may be more determinant of outcomes than client characteristics, particularly in addiction treatment (Weisz, Donenberg, Han, & Kauneckis, 1995; Imel, Wampold, & Miller, 2008; Morgenstern & McKay, 2007). In particular, one of the strongest determinants of clients' outcomes in addiction treatment is the counselor that a client is assigned (Luborsky, McLellan, Diguer, Woody, & Seligman, 1997; Kraus, Castonguay, Boswell, Nordberg & Hayes, 2011). A better relationship between the client and therapist is associated with higher levels of treatment engagement and retention in substance abuse programs (Meier, Barrowclough & Donmall, 2005) Moyers and Miller (2013) found that high-empathy counselors appear to have higher success rates regardless of theoretical orientation. In contrast, they found that low-empathy and confrontational counseling, is been associated with higher drop-out and relapse rates, weaker therapeutic alliance and less client change (Moyers, & Miller, 2013). Data was not available in the current study that provided for the analysis of differences between clients based on therapist

or case manager assigned. This data could provide significant insight into client outcomes that have not been previously explored in relation to the juvenile sex offender population.

Social Work Policy. A main issue in social work policy is around the cost-benefit of funding evidence-based treatments, especially with decreases in funding opportunities over the last decade. There is a substantial cost to implementing a community-based treatment program for juvenile sex offenders; however, it is clearly less costly than residential treatment, not to mention the reduced cost to the juvenile justice, child welfare, or community mental health systems if outcomes are met and sustained. With the emphasis on increasing community based treatment options and decreasing commitments to secure juvenile facilities, social workers must advocate for resources to be used on evidence based programs in the community. Policy makers need to consider the potential long-term cost-benefit, not to mention human cost-benefit of implementing evidence-based treatments. As explained by the Annie E. Casey Foundation (2011), residential facilities are costly to operate, put youth at risk for injury and abuse, and are often ineffective in reducing recidivism. While youth that have committed serious, violent offenses may require placement in a residential facility to increase community safety, a large portion of youth can be treated safely in their community which is more cost-effective short and long-term. I sought

Drake, Aos, and Miller (2009) conducted a meta-analysis of five studies of sex offender treatment programs for youth as part of a larger study on evidence-based public policy options to reduce crime and criminal justice system costs. The researchers found that sex offender treatment programs for juveniles reduced recidivism, on average, by 9.7 percent. In addition, the treatment programs produced a net return on investment of more than \$23,000 per program participant, or about \$1.70 in benefits per participant for every \$1 spent. However, using public dollars to pay

for treatments that lack evidence could potentially result in much higher costs down the road. This study represented the first formal program evaluation effort that examined re-offense rates for the community-based program through which the secondary data for this study was obtained. The outcomes of this study support the necessity of weaving evaluation into programs during the planning and development process to measure attainment of goals. Regular and consistent data collection and research methods are integral to the continued success and development of evidence-based treatment programs.

Social Work Research. An increase in research conducted that takes into account the systems of adolescents with sexual behavior problems is important to increasing the knowledge base of social work and bridging the gaps in knowledge of effective community based interventions for juvenile sex offenders. With this study, I sought to contribute to the bridge in the gap of knowledge that exists regarding evidence-based practice for the treatment of juvenile sex offenders. It appears from research on case management, that its strong social ecological approach shows great promise in several areas of social work practice. The current study provided limited support for the use of case management with this population when included with treatment as usual. An important factor to consider in researching treatment models is the cost and benefit of small changes in outcomes. For example, the case management group experienced a 4.7% decrease in sexual re-offense. With an already small re-offense rate of 7.9%, is it cost-effective to include case management for an almost 5% reduction in sexual re-offense? For many social workers, the answer would be yes, preventing even one victim would be worth any cost. However, we need to explore other more cost-effective means of providing enhanced services that will produce a similar effect. More research into these options is necessary.

It has also been suggested that organizational factors can impede or support successful implementation of effective treatments for youth (Henggeler, Schoenwald, & Pickrel, 1995). Further research is needed on organizational factors which support or impede successful implementation of a treatment program. In addition, research to evaluate methods of supporting practitioners as they work with a difficult population is necessary, especially in light of the impact that therapists' characteristics may have on client outcomes. Empirically-based substance abuse interventions such as cognitive-behavioral treatment, twelve-step facilitation and motivational interviewing rely at least in part on the interpersonal skills of the provider for their impact, yet little research exists concerning which skills or characteristics contribute to variation in the quality of the therapeutic interaction (Moyers, & Miller, 2013; Baldwin, Wampold, & Imel, 2007). As indicated previously in this chapter, case management accounted for only a small amount of the variance for diversion youth; however, case management likely accounted for a substantial portion of the program budget.

Conclusion

This study sought to advance the knowledge of social work and contribute to filling the gaps that exist in social work research for effective, community-based treatment for juvenile sex offenders. While findings of this study were not supportive of case management as an addition to treatment as usual, data indicated positive overall outcomes for the treatment program. Particularly, case management was a statistically significant predictor of non-sexual re-offense for the diversion subgroup. This suggests that the diversion subgroup participants experienced more gains from case management services or possibly that the intensity of case management services was not high enough to adequately impact the non-sexual re-offense rates of post-adjudication subgroup. Overall, there is some statistical evidence to support the inclusion of case

management services; however, the cost may be prohibitive when the limited effects are taken into consideration.

As there were no existing program evaluation studies for this treatment program at the time I conducted the secondary data analysis, the results provide useful insight into overall program effectiveness. Re-offense or recidivism rates are commonly used to inform the effectiveness of programs that serve delinquent populations, especially juvenile sex offenders (Worling, et. al, 2010; Borduin, et. al, 2008; Caldwell, & Dickinson, 2009; Carpentier, et. al, 2006; & Viljoen, et. al, 2008). This information is valuable to the ongoing implementation of the treatment program. Regardless of case management, the participants in the treatment program had a 15.2% non-sexual re-offense rate and less than 1% sexual re-offense rate within four years of exit from the program. In essence, it is difficult to discover statistically significant changes in already low re-offense rates. In addition, I spent quite a bit of time discussing the role of case manager or therapist characteristics in client outcomes. This may present a valuable avenue of future study, as substance abuse literature indicates a strong correlation between the professional assigned to provide treatment to the client. Unfortunately, the data set for the current study did not include consistently reported data for a variable to control for the therapist or case manager assigned to each participant. This information may have been a valuable asset in accounting for the variance in outcome variables.

One of the primary lessons learned from this study, is that a thoughtful, well-planned program evaluation should be included in any treatment program. The primary difficulty in this study was finding a way to use the existing data to answer the question posed by agency administration; is case management an effective addition to treatment to improve outcomes? The agency had a difficult decision to make with regard to retaining a case management component

to enhance treatment for juvenile sex offenders. While this study cannot support the inclusion of case management as an effective strategy, it does not provide substantive evidence that case management is not effective. It is possible that the sample was not large enough to account for the low rates of re-offense and the low numbers of participants who did not complete the program. In addition, more thorough program evaluation data may have provided the information necessary to speak more adequately about the effectiveness of case management services. Program evaluation provides a rich source of data for evaluation of interventions and can result in more targeted responses to juvenile sex offenders that are both cost-effective and evidence based. Although this study is limited in scale and program evaluation in nature, it was intended to serve as an initial effort. Further studies will certainly be necessary in order to provide additional guidance regarding the usefulness of adding case management to existing treatment programs for juvenile sex offenders.

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APPENDIX

APPENDIX A – UA YSI APPROVAL



The Youth Services Institute

The University of Alabama

Box 870316

Tuscaloosa, AL 35487-0314

Phone: (205) 348-6625 Fax: (205) 348-5721

Mrs. Mandi Fowler
Box 870314
Tuscaloosa, AL 35487-0314

Dear Mrs. Fowler:

I am writing to provide my support for you to access data from the Continuum of Care and Aftercare programs as you requested. A YSI staff member will be available to provide a de-identified data set based on the criteria you provide upon your request. I look forward to learning the results of your research.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jill R. Beck".

Jill R. Beck
Director, Youth Services Institute

APPENDIX B – STATE OF ALABAMA DYS APPROVAL



ROBERT BENTLEY
GOVERNOR

Post Office Box 66
Mt. Meigs, Alabama 36057

STEVEN P. LAFRENIERE
EXECUTIVE DIRECTOR

October 1, 2014

Ms. Mandi R. Fowler
Little Hall
Box 870314
Tuscaloosa, AL 35487-0314

Dear Ms. Fowler:

I am writing to grant approval for you to access data from the ABSOP: Continuum of Care program and the ABSOP: Aftercare program based in YSI. We will be very interested in learning the results of your research to determine the impact of case management services on outcomes of adolescents with sexual behavior problems when paired with treatment. Thank you for all the work that you do toward furthering the rehabilitation of youth in the Alabama Department of Youth Services.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven P. Lafreniere".

Steven P. Lafreniere
Executive Director
Alabama Department of Youth Services

APPENDIX C – IRB APPROVAL

Office for Research
Institutional Review Board for the
Protection of Human Subjects



September 1, 2015

Mandi Fowler
School of Social Work
Box 870314

Re: IRB#: 15-OR-252-ME "Case Management Services as Part of a Treatment Model to Increase Program Completion"

Dear Ms. Fowler:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

Your application will expire on August 29, 2016. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

A handwritten signature in black ink, appearing to read "Stuart Usdan".

Stuart Usdan, PhD
Chair, Institutional Review Board



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