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# Sex Offender Policy and Practice: Comparing the SORNA Tier Classification System and Static-99 Risk Levels

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### by

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#### ABSTRACT

Since the 1990s, the United States has witnessed a proliferation of laws aimed at tracking and managing sex offenders. Over time, these laws have resulted in increased restrictions on those who have committed a sex offense. In 2006, the Adam Walsh Child Protection and Safety Act was passed. Also known as the Sex Offender Registration and Notification Act (SORNA), these new guidelines standardize policies directed at sex offenders across the United States. Convicted and released sex offenders are classified into a three-tier system based on their offense at conviction. This designation is used to drive registration and notification guidelines. The State of Ohio was the first to comply. Conversely, actuarial risk assessments are now commonly used in practice to determine an offender's risk of recidivism. Offenders are classified into risk levels that determine the statistical probability that they will commit another offense. Sex offenders in Ohio are given a Static-99 risk assessment when they enter a state-run prison. The risk level designation determines supervision and treatment while an offender is incarcerated.

The current study investigated whether the SORNA system can be used to determine the potential risk a sex offender poses to commit another offense once released back into the community. Furthermore, the Static-99 was evaluated to determine if the risk levels were predictive of recidivism. Overall, those who were classified as Tier I were re-incarcerated at higher rates compared to Tier II and Tier III offenders over several of the analyses. Conversely, those who were classified as low risk under the Static-99 generally had the lowest levels of re-incarceration while those classified as high risk had higher rates of recidivism. However, these results dissipated when controls were added. The main recommendation proposed in this study is to augment the current tier system with the risk assessment tool whenever possible to address registration and notification requirements.

ii

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iii

CHAPER 1: INTRODUCTION	1
AN OVERVIEW OF SORN LAWS	2
Goals of SORN	
Contemporary SORN Laws	
SORN Classification Types	5
OHIO SEX OFFENDERS	
Historical Context	9
Current Classification System in Ohio	
Actuarial Risk Assessments	
SORNA Tier Classification	
CURRENT STUDY	
SUMMARY	
CHAPTER 2: LITERATURE REVIEW	
ESTIMATING PREVALENCE AND INCIDENCE RATES	
Underreporting Sex Abuse	
Self-Report Surveys on Sexual Victimization	
Russell's Victimization Survey	
Sexual Victimization on College Campuses	
The National Violence Against Women Survey	
The National Crime Victimization Survey	
Other Victimization Surveys	
Measuring Sexual Offending in the State of Ohio	
Summary on Incidence and Prevalence Rates	
SEX OFFENDER POLICIES	
Historical Perspective	
The Sexual Psychopath	
The Women's Movement	
Media Depictions	
Contemporary Sex Offender Policies	
The Community Protection Act of 1990	

# **Table of Contents**

The Jacob Wetterling Crimes Against Children and Sexually Violent Offende	er Registration
Act of 1994	
The Adam Welsh Child Protection and Sefety Act of 2006	
CONDECTIONAL DDACTICES	
CORRECTIONAL PRACTICES	
"Nothing Works"	
"What Works" and the Principles of Effective Intervention	
SEX OFFENDER PRACTICES	
Sex Offender Recidivism	
Risk Factors Specific to Sex Offenders	
Risk Assessments	
Assessments Specific to Sex Offenders	
Sex Offender Risk Appraisal Guide (SORAG)	
Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR)	
Sex Offender Need Assessment Rating (SONAR)	
Static-99	
POLICY or PRACTICE	
Offense-Based Classification	
Risk Assessment-Based Classification	
Empirical Evidence	
Overall Findings	
SUMMARY	
CHAPTER 3: METHODOLOGY	
ELIGIBILITY CRITERIA	
VARIABLES OF INTEREST	53
Independent/Control Variables	53
Tier Classification Score	
Static-99 Score	53
Release Type	
Time at Risk.	
Demographics	

Dependent Variables	55
Any New Offense	
Any New General Offense	
Any New Sex Offense	
Any Registry Violation	
RESEARCH QUESTIONS/HYPOTHESES	
DATA ANALYSIS PLAN	
CHAPTER 4: RESULTS	
DESCRIPTIVE STATISTICS	
Demographic Characteristics	
Post-Sentencing Offender Characteristics	
Classification	
Recidivism	
BIVARIATE ANALYSIS	
Static-99 Risk Level	
SORNA Tier Classification	
Risk and Tier Classifications	
Failures	
Control Variables	
Race	
Release Type	
Age	
Time at Risk	
Time Served	
Correlations	
ROC Analysis	
MULTIVARIATE ANALYSIS	
SORNA Tier Classification	
Any New Offense	
New General Offense	
New Sex Offense	

Registry Violation	
Static-99 risk level	
Any New Offense	
New General Offense	
New Sex Offense	
Registry Violation	
PREDICTED PROBABILITIES	
Any New Offense	
New General Offense	
New Sex Offense	
Registry Violation	
SUMMARY	
CHAPTER 5: DISCUSSION	
OVERVIEW OF FINDINGS	
SORNA Tier System	
Static-99	
Comparing Classifications	
Comparing Tools	
Other Findings	
Age	
Race	
STUDY LIMITATIONS	
Variability in Sex Offender Base Rates	
Methodological Considerations	
Measuring Recidivism	
Follow-Up Period	
Intervening Variables	
System-Related Factors	
Individual Level Factors	
Other Factors	
Measuring Seriousness	

Generalization of Research Findings	128
INTERPRETATIONS	129
Potential Deterrent Effects	129
Erroneous Classification	132
RECOMMENDATIONS	134
SUMMARY	136
REFERENCES	138
APPENDIX	150

## LIST OF TABLES AND FIGURES

Table 4.1: Demographic Data 63
Table 4.2: Offense at Conviction and Time Served 64
Table 4.3: Classification Data
Table 4.4: Recidivism by New Charge Type 66
Table 4.5: Chi-Square for Static-99 Risk Level Classification and Recidivism 68
Table 4.6: Chi-Square for SORNA Tier Classification and Recidivism
Table 4.7: Crosstab of Static-99 and SORNA Tier Levels 70
Table 4.8: Crosstab of Static-99 and SORNA Tier Levels for Failures
Table 4.9: Crosstab of Static-99 and SORNA Tier Levels for Failures
Table 4.10: Chi-Square for Race
Table 4.11: Chi-Square for Release Type
Table 4.12: Independent T-Test Results for Mean Age and Recidivism 74
Table 4.13: Independent T-Test Results for Mean Time at Risk (in Months) and Recidivism
Table 4.14: Independent T-Test Results for Mean Time Served (in Months) and Recidivism
Table 4.15: Correlation Matrix for Variables of Interest, Control Variables, and Recidivism <sup>a</sup>
Table 4.16: AUC values of the SORNA Classification Tool and Recidivism
Table 4.17: AUC values of the Static-99 Classification Tool and Recidivism
Table 4.18: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNATier Classification Levels and Re-Incarceration for Any New Offense
Table 4.19: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNATier Classification Levels and Re-Incarceration for Any New General Offense
Table 4.20:Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNATier Classification Levels and Re-Incarceration for Any New Sex Offense88
Table 4.21: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNA      Tier Classification Levels and Registry Violations

Table 22: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99Risk Levels and Re-Incarceration for Any New Offense
Table 23: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99Risk Levels and Committing Any New General Offense94
Table 24: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99Risk Levels and Committing Any New Sex Offense
Table 25: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99      Risk Levels and Registry Violations
Figure 4.1: Plot of ROC Curve for the SORNA Tier Classification System
Figure 4.2: Plot of ROC Curve for Static-99 Risk Levels
Figure 4.3: Probability of Being Re-Incarcerated for a Any New Offense by Tier Classification
Figure 4.4: Probability of Being Re-Incarcerated for Any New Offense by Static-99 Risk Level 100
Figure 4.5: Probability of Being Re-Incarcerated for a New General Offense by Tier Classification 101
Figure 4.6: Probability of Being Re-Incarcerated for a New General Offense by Static-99 Risk Level 102
Figure 4.7: Probability of Being Re-Incarcerated for a New Sex Offense by Tier Classification
Figure 4.8: Probability of Being Re-Incarcerated for a New Sex Offense by Static-99 Risk Level 104
Figure 4.9: Probability of Being Re-Incarcerated for a Registry Violation by Tier Classification 105
Figure 4.10: Probability of Being Re-Incarcerated for a Registry Violation by Static-99 Risk Level 106

#### **CHAPER 1: INTRODUCTION**

Beginning in the 1990s and continuing on into the 2000s, those convicted of sex offenses have been subjected to a proliferation of laws aimed at registration and notification (Ewing, 2011; Freeman, 2012; Letourneau, Levenson, Bandyopadhyay, Sinha, & Armstrong, 2009; Nieto & Jung, 2006; Tewksbury & Jennings, 2010; Vásquez, Madden, & Walker, 2008; Zgoba, Veysey, & Dalessandro, 2010). Sex offender registration laws require sex offenders to provide ongoing contact information and other identifying data to law enforcement. Sex offender notification requirements expand registration laws by making contact and criminal history information available to the public. This is commonly communicated by means of internet websites known as sex offender registries. These sex offender registration and notification (SORN) laws are mandated by the federal government and now exist in every state, although specific guidelines vary from state to state (Ewing, 2011; Nieto & Jung, 2006).

The State of Ohio implemented its first SORN law in 1996. Several modifications were made to these laws over the next decade. In 2007, the Ohio state legislature passed Senate Bill 10, which implemented the Adam Walsh Child Protection and Safety Act of 2006. This federal policy requires convicted and released sex offenders to be classified into one of three tiers based on their offense at conviction. Additionally, the categories of offenses that qualify for registration and notification were broadened. Other sex offender related sanctions were also expanded.

While policy has changed with respect to the registration, notification, and classification of sex offenders in the State of Ohio, practices within the criminal justice system have also evolved. When a convicted sex offender enters a state-run prison in Ohio, they are evaluated using an actuarial risk assessment tool, currently the Static-99, in order to determine their risk of

recidivism. Actuarial risk assessments are evidence-based tools derived from decades of research and incorporate known predictors of sexual recidivism (Hanson, 1997; Hanson & Harris, 2000; Hanson & Thornton, 2000; Quinsey, Lalumiere, Rice, & Harris., 1998). Levels of supervision and treatment targets are determined based on the risk assessment designation.

The current study attempts to evaluate and compare both the tier classification system and the risk assessment tool in terms of predicting recidivism. There is a small, yet growing, body of literature that has examined the impact of SORN laws on recidivism. The paucity of empirical research on this topic is partly due to the recent implementation of these laws and methodological challenges. Problems include difficulties obtaining reliable recidivism data, low base rates, and the need for long follow-up periods (Levenson & D'Amora, 2007). These were also issues in the current study and will be discussed in the last chapter. However, Ohio was the first state to implement the Adam Walsh Act. Additionally, Ohio was first to be federally certified as having substantially implemented the new guidelines; therefore, this study provides important insights despite the limitations.

This chapter provides an introduction to SORN laws and the current Adam Walsh Act. First, an overview of SORN policies is provided. Modern policies dealing with sex offenders have continued to evolve since the early 1990s. Second, SORN laws specific to the State of Ohio are discussed. Finally, specific research questions pertaining to the current study are outlined.

#### AN OVERVIEW OF SORN LAWS

Contemporary SORN laws are the result of legislation and court decisions that began in the 1990s; however, specific policies aimed at tracking and managing sex offenders date back to the 1930s (Ewing, 2011). Cities and towns often passed local ordinances requiring those

convicted of various offenses, including sex offenses, to register with the law enforcement. In 1947, California became the first state to enact registration laws specific to sex offenders (Riddle, 1967; Nieto & Jung, 2006). Specifically, this legislation required those convicted of habitual sex offenses to register with local police. Following the enactment of this law, several other states also passed sex registration laws including Arizona in 1951, Nevada in 1961, Ohio in 1963, and Alabama in 1967 (Ewing, 2011).

#### **Goals of SORN**

Historically, the primary purpose of requiring sex offenders to register was to provide law enforcement with additional information to help monitor these offenders. Today, various databases are used by law enforcement to aid in the investigation of new allegations. Modern public notification laws aim to inform citizens about offenders being released to the community. Furthermore, notification is thought to increase community scrutiny resulting in offenders who are less likely to re-offend (Nieto & Jung, 2006). Moreover, those who do re-offend would also be apprehended more quickly because of community involvement (Nieto & Jung, 2006). Taken together, SORN laws aim to increase the investigative powers of law enforcement, inform citizens about potentially dangerous offenders, and deter offenders from committing future crimes. Attainment of these goals is hypothesized to increase public safety (Nieto & Jung, 2006). As a result, policies have continued to be enacted so that these goals may be achieved.

#### **Contemporary SORN Laws**

The Community Protection Act of 1990 was one of the first contemporary SORN laws to be enacted throughout the United States. Under this Act, penalties for sex offenses increased and a community notification system was put into place. Additionally, civil commitment laws were

created to incapacitate offenders considered to be sexually violent predators. Washington was the nation's first jurisdiction to pass modern registration and notification laws.

In 1994, the Jacob Wetterling Act was passed by the U.S. Congress as a part of the Omnibus Crime Bill of 1994. This Act required each state to develop a registry of convicted sex offenders. Furthermore, the Act required states to verify the addresses of sex offenders annually for a period of at least ten years. Under this law, states had full discretion if and how they would distribute registration information to the public. In 1996, the Jacob Wetterling Act was amended requiring law enforcement to make the registration information available to citizens. This expansion is commonly known as Megan's Law. In 2003, the Act was modified once again requiring states to maintain websites so that the public could easily access information about registered sex offenders in the community.

These federal guidelines gave substantial leeway to the states in how to implement SORN guidelines (Levenson, 2010). For example, each state could choose which sex offenders would be listed on the sex offender registry. About half of the states limited notification to those sex offenders who they determined posed the most danger. There were numerous models to make this determination. Some states, such as New Jersey and California, based notification upon the results of actuarial risk assessment tools. Other states, such as Florida, released information about all convicted sex offense regardless of their risk for recidivism (Levenson, 2010).

In 2006, the Adam Walsh Child Protection and Safety Act was passed. This Act repealed all other previous legislation. Also known as the Sex Offender Registration and Notification Act (SORNA), these new guidelines standardize registration and notification procedures across the United States, expand notification requirements for juvenile sex offenders, and require states to list all sex offenders on state and national registry websites. Under this new system, classification is based solely on the offense at conviction. Sex offenders are organized into one of three tiers, which vary in terms of supervision and notification requirements. Non-compliance by any state results in a 10% reduction of Byrne Justice Assistance Grants (JAG) funding. This funding provides monetary allocations to each state for the purposes of crime prevention. Currently, seventeen states are in "substantial compliance" with the law (Office of Justice Programs, 2013b). Other states have opted for alternative policies to register and classify sex offenders.

#### **SORN Classification Types**

With the emergence and continued evolution of contemporary SORN policies, states have developed a variety of methods to classify sex offenders. Additionally, states have altered these methods with some frequency to adhere to federal mandates, shifts in internal ideology, and/or to address budgetary concerns. Some states use an offense-based classification system where offenders are organized based on their offense at conviction. Other states utilize actuarial risk assessment tools to classify offenders into risk categories. A hybrid model of classification is also used. Under a hybrid model, both conviction at offense and actuarial risk assessments are used for classification purposes.

#### **Offense-Based Classification**

Offense-based systems use predetermined classifications. Legislators define the offenses that require classification. Offenders are placed into classification levels based on their perceived dangerousness, which is based primarily on the offense they were convicted. These systems utilize the nature and severity of the conviction offense and/or the number of current offenses as the main criteria for classification. Prior criminal history is not typically considered in this type of classification approach. Advantages of offense-based systems include their simplicity and uniformity (Harris et al., 2010). In most cases, classification decisions are made through systematic processes that requires little to no personnel involvement.

The main disadvantage to using an offense-based system is that risk factors known to predict recidivism are not considered for classification. This will be further explored in the upcoming chapter. There are also some potential disadvantages moving specifically to the SORNA system. First, using an offense-based system does not necessarily mean that a state is SORNA complaint. Any state wanting to achieve compliance must convert their existing system to align with the SORNA guidelines. States would incur an additional cost to do this. Second, SORNA expands the list of offenses that fall under the guidelines. Additionally, many juveniles are now eligible for registration. This can lead to a net-widening effect by expanding the number of sex offenders that are required to register (Harris & Lobanov-Rostovsky, 2009; Harris et al., 2010). Finally, there is some concern that offenders who were assigned to lower classification levels, with lower requirements, would be reassigned to higher tiers under SORNA (Harris et al., 2010). This would increase the number of registrants required to register for a longer period of time. Additional resources would be needed to manage these additional offenders. These issues will also be further explored further in the next chapter.

#### **Risk Assessment Classification**

Actuarial risk assessments are now commonly used to determine an offender's risk of recidivism. These instruments determine the statistical probability that an offender will commit another offense. Prior to the development of actuarial risk assessments, clinical judgment was the primary source to determine the recidivism risk for offenders (Bonta, 1996). These clinical assessments usually involved subjective judgments based on intuition made during unstructured interviews with clients and consistently show predictions no greater than 50%. In other words,

these assessments predict the risk of recidivism no better than predicting by chance alone (Andrews & Bonta, 2010; Monahan, 1981).

Second generation actuarial risk assessments use static risk factors, or risk factors that do not change, to classify clients into risk levels (Andrews & Bonta, 2010). These risk assessments are improvements over clinical judgment because they are objective and use the same criteria for all clients. A main weakness of these risk assessments is that they do not consider dynamic factors, or those factors that can be changed over time (Andrews & Bonta, 2010).

Third generation actuarial risk assessments improve upon the second generation tools because they contain both static and dynamic risk factors (Andrews & Bonta, 2010). These types of instruments (e.g., the LSI-R) have been shown to be effective at properly classifying general offenders. However, supplemental assessments are needed for special populations, such as sex offenders (Gendreau, Goggin, & Paparozzi, 1996). Many sex offenders are often found to be low risk on scales designed to predict general criminal recidivism (Bonta & Hanson, 1995); therefore, there became a need to design tools to specifically concentrate on sexual deviance.

In the past 20 years, there have been considerable advances in identifying those risk factors specific to adult sex offenders. Research on sexual offending has resulted in the development of several risk assessment instruments (Hanson & Bussière, 1998; Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004; Hanson & Morton-Bourgon, 2005; Hanson & Morton-Bourgon, 2009; Mann, Hanson, & Thornton, 2010). According to Saleh and colleagues (2009), the most commonly used risk assessments for adult sex offenders include the Minnesota Sex Offender Screening Tool – Revised (MnSOST-R; Epperson, Kaul, & Hesselton, 1998); the Violence Risk Appraisal Guide (VRAG) and the Sex Offender Risk Appraisal Guide (SORAG;

Quinsey et al., 1998); the Rapid Risk Assessment for Sex Offence Recidivism (RRASOR; Hanson, 1997); and the Static -99 (Hanson & Thornton, 2000).

Actuarial risk instruments are the preferred method to discern the risk for sexual recidivism (Andrews, Bonta, & Wormith, 2006; Grove & Meehl, 1996; Janus & Prentky, 2003). Actuarial risk assessments have been shown to better predict recidivism compared to a standard clinical assessment. For example, Hanson and Bussiere (1998) found significant differences in the average effect sizes for clinical risk assessments (r = .10) versus actuarial risk assessments (r = .46) in predicting sexual recidivism. One main weakness of using an actuarial risk assessment to classify offenders is that it does generally require more involvement from criminal justice personnel over a purely offense-based approach.

#### Hybrid Models of Classification

Some states use a hybrid model of classification containing both an offense-based system and risk-assessment tool. For example, Colorado uses the conviction offense but also incorporates information from an actuarial risk assessment tool to identify and designate sexually violent predators (Harris et al., 2010). Under a hybrid-based system, most individuals convicted of a sex crime have their cases referred to a committee who evaluate their individual history and details of the conviction offense. Recommendations about classification are made to the court following the committee's review. Using a hybrid model requires much higher levels of involvement by personnel compared to a purely offense-based approach. Only a handful of states currently use a hybrid system to classify offenders (Harris et al., 2010).

#### **OHIO SEX OFFENDERS**

As previously stated, Ohio's first SORN law was enacted in 1996. In 1997, the Governor signed House Bill 180, the Sexual Offender Registration Bill, into law. This bill required each

Sheriff's Office throughout the State to develop and implement a registration system for convicted sexual offenders. Over the next decade, several amendments were made to Ohio's SORN law that expanded the types of offenses and offenders that were subjected to registration and notification. However, these laws were not retroactive. Meaning the guidelines only applied to those adult offenders that are incarcerated, under supervision, or convicted of an offense on or after July 1, 1997 and juveniles that committed an offense on or after January 1, 2002 and were at least 14 years of age at the time of the offense (Cordray, 2009; ODRC, 2007).

#### **Historical Context**

Ohio's SORN law has been amended several times. One of the first major revisions to the law occurred in 2002 when Senate Bill 3 extended SORN to include juvenile offenders. Specifically, this amendment meant that an adjudicated delinquent became subject to similar registration and notification requirements as adult offenders, however, there were some differences. The length of registration for Tier I and Tier II juvenile offenders was shorter than that of adults. Juveniles under the age of 14 were not subject to registration. Finally, the court maintained discretion on how to classify the juvenile into the tier system and if notification was required.

In 2003, new categories, known as child-victim oriented offenses, were added to the bill. This amendment also added classes of offenses where no registration was required, enacted statutes that prohibit registered sex offenders from living 1,000 feet from any school, and increased penalties for registration violations. The state also established a sex offender registry website, known as eSORN. In 2005, additional changes were made to address homeless offenders, extended the authority of prosecutors to evict offenders who violate the residence restrictions guidelines, and further clarified the sexually violent predator sentencing law.

In 2007, the Ohio state legislature passed Senate Bill 10 implementing SORNA (Cordray, 2009). SORNA refers to Title I of the Adam Walsh Act. With the passing of this bill, registration and notification laws were greatly expanded. For example, the number of offenses subject to registration increased, registration periods were extended, and notification guidelines expanded to include more offenders. In 2008, the Ohio Attorney General's Office submitted a substantial implementation package to the U.S. Department of Justice. In September of 2009, Ohio became the first state to be certified as having "substantially implemented" the SORNA requirements (Office of Justice Programs, 2013b).

#### **Current Classification System in Ohio**

Ohio classifies sex offenders in two ways. An offender receives an actuarial risk assessment score upon entering the state prison system. These scores are used to assign sex offenders to appropriate levels of treatment and supervision while incarcerated. Once an offender is released, the State Attorney General's office classifies offenders into the SORNA tiers based on conviction offense. This classification approach determines the supervision, notification, and registration requirements for an offender upon release.

#### Actuarial Risk Assessments

Upon a conviction and entrance into a state-run prison in Ohio, a sex offender is given a risk assessment so that they may be classified into a risk level. As previously stated, this information is used to designate supervision and treatment needs while the offender is incarcerated. Offenders in Ohio are initially processed through the reception center and all male inmates who are designated as sex offenders are transferred to Sex Offender Risk Reduction Center (SORRC) located in Orient, OH (ODRC, 2013). Offenders are given an orientation to the

sex offender services provided and receive the initial risk assessment. Ohio currently uses the Static-99 as part of this assessment protocol.

Sex offenders are classified into one of four categories of risk: high, medium high, medium-low, and low. Those who are assigned a risk level of low and medium-low are scheduled for basic education programming and transferred to their parent institutions upon completion. Sex offenders who are assigned risk levels of medium-high and high are also scheduled for basic education programming but are required to complete an additional comprehensive sex offender assessment. Upon completion, the inmate is transferred to their parent institution to serve their court ordered sentence. These offenders are required to attend a sex offender treatment program as they near the end of their incarceration.

#### SORNA Tier Classification

Once an offender completes their prison sentence, they are reclassified under the SORNA tier classification system and placed into one of three tiers with the goal to "to provide the public with adequate notice and information about those convicted sex offenders and Child-Victim oriented offenders that have returned to the community" (Cordray, 2009, p.3). Tier designation is based solely on the offense for which they were convicted. This policy is primarily directed at the level of supervision and community notification requirements an offender receives upon release.

Ohio's Tier III sex offender, the most serious of offenders, includes any person who has been convicted of, or pleaded guilty to, a sexually-oriented offense that is punishable by imprisonment for more than one year (Cordray, 2009). This tier includes offenses such as rape, sexual battery, gross sexual imposition with a victim under the age of 12, and kidnapping of a

minor to engage in sexual activity. Tier III offenders must register for life and are required to verify information every 90 days.

The Tier II sex offender is defined as any person who has been convicted of, or pleaded guilty to, a sexually-oriented offense that is not a Tier III offense, but is punishable by more than one year in prison (Cordray, 2009). This tier includes offenses such as compelling prostitution, pandering sexually-oriented material involving a minor, kidnapping with sexual motivation, and gross sexual imposition with a victim over the age of 13. Tier II offenders must register for a duration of 25 years and verify information every 180 days.

The Tier I sex offender is any person who has been convicted of, or pleaded guilty to, a sexually-oriented offense that is not a Tier II or Tier III offense (Cordray, 2009). This includes offenses such as unlawful sexual contact with a minor, voyeurism, and illegal use of a minor in nudity-oriented material or performance. Tier I offenders must register for a duration of 15 years and verify information every 12 months.

#### **CURRENT STUDY**

There are apparent differences between the policy and practices used to manage sex offenders in the State of Ohio. Actuarial risk assessments are used to classify sex offenders while in prison and the SORNA tiers drive registration and notification requirements once released. Actuarial risk assessments give corrections and treatment staff the ability to house, supervise, and provide treatment to adult sex offenders based on individual risk and needs. Those with higher risk scores receive more supervision and are provided additional hours of treatment. Under the tier system, offenders are tracked and supervised offenders based on the current offense. Those offenders who were convicted of more serious charges are considered more dangerous; therefore, receive additional registration and notification sanctions. This classification approach does not incorporate factors specific to the individual, such as history, needs, or responsivity issues. Both approaches, however, seek to improve public safety by reducing the likelihood that an offender will commit a new offense once released.

In order to discern if the differences between policy and practice have implications for public safety, this dissertation will evaluate each of the classification approaches to answer four research questions.

- 1. *Does the SORNA tier classification system predict recidivism?* The tier system is based on the seriousness of the convicted offense. Offenders who are considered more dangerous are placed into higher tier levels and given more supervision. Under the goals of SORNA, this is done to provide the community with information so that citizens can make decisions to protect themselves from these offenders. This is grounded in the fear that more dangerous offenders may be more likely to commit a new offense. Under this assumption, the tiers may serve as a proxy for the risk of recidivism; therefore, it is important to determine if this classification approach can predict recidivism.
- 2. Does the Static-99 predict recidivism? Currently, all sex offenders in Ohio are assessed using the Static-99 upon entering the prison system. This is an actuarial assessment tool that is widely used across America (Archer, Buffinton-Vollum, Stedny, & Handel, 2006; Jackson & Hess, 2007; McGrath, Cumming, & Burchard, 2003). This study will contribute to the existing literature on its ability to significantly predict risk of recidivism.
- 3. *Are the current SORNA tier classification system and Static-99 risk levels correlated?* If both the tier system and the risk levels effectively predict recidivism, there should be an overlap in the distribution of offenders. If not, there may be meaningful differences in how each approach classifies individuals.

4. Are either the SORNA tier classifications or the Static-99 risk levels better at predicting recidivism over the other? Perhaps one tool is better than the other in its ability to predict the risk of recidivism across the recidivism outcomes.

### SUMMARY

Since the 1990s, the United States has witnessed a proliferation of laws aimed at tracking and managing sex offenders. Over time, these laws have resulted in increased restrictions on those who have committed a sex offense. This includes a broad range of policies that will be explored. Currently, around 30% of states are now in compliance with SORNA. The State of Ohio was the first to comply.

Evidence-based correctional practices support the notion of using an actuarial risk assessment to determine the risk of a sex offender committing a new offense. Current policies, however, advocate an offense-based system to determine which offenders require more involvement with the criminal justice system. This disjunction between policy and practice may have implications for public safety. The main focus of this study is to investigate whether the SORNA system can determine the potential risk a convicted sex offender poses to commit another offense once released back into the community. Furthermore, the current study will evaluate if the assessment tool in Ohio can predict the risk of recidivism.

Both approaches were developed in response to the *sex offender problem*. In order to further consider the complexities of this issue, the following chapter will provide a review on the prevalence of sex offenses, sex offender policies, correctional practices, and sex offender specific practices. This will illustrate how we manage sex offenders in the United States today.

#### **CHAPTER 2: LITERATURE REVIEW**

Dealing with those who commit sex offenses has become one of the most pressing moral, social, and legal dilemmas of recent times. To address this problem, the United States has adopted multiple policies and practices for managing and monitoring those convicted of a sex offense (Ewing, 2011; Freeman, 2012; Letourneau et al., 2010, Nieto & Jung, 2006; Tewksbury & Jennings, 2010; Vásquez et al., 2008; Zgoba et al., 2010). A series of high profile cases involving a convicted sex offender and a child victim has led to a proliferation of federal and state laws designed to regulate sex offenders. Many of these laws have been introduced and passed with minimal debate and little opposition (Wright, 2009). Often memorialized by the name of the victim, these laws have expanded the registration, notification, and punishment of sex offenders.

While legislators have continued to pass laws expanding the requirements of notification, registration, and supervision, researchers and practitioners have continued to develop and use a variety of actuarial risk assessments to better predict the potential harm an offender can pose once released (Epperson, Kaul, & Hesselton, 1998; Hanson, 1997; Hanson & Bussière, 1998; Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004; Hanson & Morton-Bourgon, 2005; Hanson & Morton-Bourgon, 2009; Hanson & Thornton, 2000; Mann et al., 2010; Quinsey et al., 1998). These tools combine a variety of empirically determined risk factors specific to sex offenders and are used to establish the probability an offender will commit a new offense. Most states now have procedures in place to use risk assessments in order to define residential/community supervision and treatment (Wright, 2009).

SORN policies and correctional practices have been enacted with the goal of increasing public safety. In order to meet these goals, effective policy and practice should (1) focus on

reducing sex offender recidivism rates; (2) be based on scientific research about offending and victimization; (3) provide avenues for effective sex offender treatment; and (4) monitor the ongoing successes, failures, and consequences of such policies and practices. To further explore how well current SORN laws and risk assessment tools adhere to these propositions, this chapter is divided into five sections.

First, several major studies and national surveys have been created in an attempt to provide a more accurate depiction on the prevalence of sex abuse in the United States. While understanding the extent of sexual victimization in the United States is difficult due to the private nature of this crime, several researchers and government entities collect various forms of information in an attempt to obtain better estimates. Self-report studies and arrest reports are most often used to describe the prevalence of sex offenses. These studies and surveys have paved the way for the development of current policies and practices used to address sex offenders today.

Second, sex offender policies are discussed in more detail. Understanding and studying sex offenses and offenders has been an ongoing field of interest in society for more than a century. A brief history into the development of sex offender policies will be discussed. Much of the response to sex offenders has followed high profile sexual victimization cases. These highly emotionally charged events enabled legislators to expand supervision and punishment for sex offenders. This often led to some extreme policies, such as sterilization and eugenics.

More recently, new policies have been enacted focusing more on registration and notification. As seen historically, contemporary sex offender policies were also enacted following the sexual victimization of a child by a convicted sex offender. These policies are often fueled by the assumption that sex offences are committed mostly by strangers (Ewing,

2011; Freeman, 2012; Nieto & Jung, 2006; Tewksbury & Jennings, 2010). These skewed public perceptions have encouraged and enabled the continued expansion of these policies.

Third, as policies to address sex offenders have developed over the past three decades, correctional policies have also undergone significant changes. In order to more fully capture how current responses to sex offenders evolved, the brief history and development of current correctional practices will be reviewed. An evidence-based approach to corrections has led to an influx of research examining the predictors of recidivism for both general and sex offenders. Using this research, various actuarial risk assessment tools have been developed to assist practitioners in supervision and treatment.

Fourth, sex offender specific practices will be discussed. Alongside the philosophical shift in corrections to an evidence-based approach, those who study sexual deviance have continued to develop and refine specific tools used to properly assess and treat sex offenders. These assessment tools will be reviewed. Practitioners currently use actuarial risk assessment to determine the probability an offender poses to commit a new sex offense. These assessments provide a clear identification regarding the probability of whether an offender will recidivate but are often inaccessible to the public (Wright, 2009).

Lastly, the final section of this chapter will provide a comparison into the strengths and weaknesses of using an offense-based or risk assessment-based classification system. Those studies that have specifically evaluated the effects of SORNA will be summarized. The current study adds to this literature by combining several research questions that directly compare current sex offender policies and practices.

#### **ESTIMATING PREVALENCE AND INCIDENCE RATES**

A sexual assault is any involuntary sexual act committed by one person on another. This includes when a person is threatened, coerced, or forced to engage in the sexual act against their will. Types of sexual assaults include rape (vaginal, anal, or oral), molestation, incest, and fondling. This section will outline one of the primarily limitations in studying sex offenses, namely underreporting, and what is known about the prevalence of sexual victimization in the United States today.

#### **Underreporting Sex Abuse**

Conducting research on sex offenders is especially difficult due to the very personal nature of these attacks. Sex offenses are the most underreported of all criminal offenses (Hart & Rennison, 2003). From 2006 to 2010, the two most underreported crimes were household theft (67%) and rape or sexual assault (65%) (BJS Report, 2013). There are several reasons why sexual victimization goes underreported. The most significant variables that seem to hinder reporting are the age of the victim at the time of the crime (Terry, 2006), the victim-perpetrator relationship (Hanson, Saunders, Kilpatrick & Best, 1999), cognitive or developmental abilities of the victim (Arata, 1998), the type of abuse that occurred (Arata, 1998), and fear of reprisal (BJS Report, 2013). Most of what we do know about the prevalence and incidence of sexual victimization is derived from self-report and victimization surveys.

#### **Self-Report Surveys on Sexual Victimization**

During the women's movement of the 1970s, various studies and surveys began to appear to evaluate the impact of sexual abuse. Many of these same sources are used today to determine incidence and prevalence rates. Prior to these tools, it was increasingly difficult to determine the amount of sexual victimization that was occurring within the United States. Official records, such as the Uniform Crime Report (UCR), are plagued with issues that lead to a gross underestimation of sexual victimization (Terry, 2006). With the shift toward self-report and victimization surveys, a renewed interest began in terms of both policy and practice to deal with sex offenders. This section will outline those sources most cited to understand the incidence and prevalence rates of sexual victimization.

#### **Russell's Victimization Survey**

In 1978, Russell (1982) randomly selected 930 adult female residents in San Francisco from a probability sample of households. Each female completed a survey and was later interviewed. This survey represented advancements in methodology over official reporting statistics in two important ways. First, Russell utilized a self-report survey which increased the likelihood of disclosure for those sexual assaults not reported to law enforcement. Second, she expanded the definition of rape to include non-vaginal penetration. Until recently, official reporting tools on sexual assaults, such as the UCR, only included vaginal penetration.

Overall, Russell concluded that 24% of women had experienced rape, or one in four, and another 20% experienced an attempted rape. She concluded that the real risk of rape was 13 times greater than UCR estimates. Of those women who experience a rape or a rape attempt, only about one in twelve reported the incident to police (Russell, 1984). Overall, she concluded that approximately 46% of the women in San Francisco would experience a rape or attempted rape, of which about half will experience more than one incident (Russell, 1984).

#### Sexual Victimization on College Campuses

During the 1980s, Koss conducted groundbreaking research on campus date rape. Among college women, Koss (1985) found that 38% experienced a rape or attempted rape. In a more comprehensive nationwide survey, Koss and colleagues (1987) studied 32 American

Institutes of higher learning. They found that 28% of women reported experiencing a rape or rape attempt since the age of 14. Additionally, 8% of college males admitted to having committed a rape at least once. These finding were replicated in other studies. For example, Muehlenhard and Linton (1987) found that 15% of women experienced at least one date rape and 7% of males admitted to committing a rape. Yegidis (1986) also reported that 22% of college females reported rape victimization, while 11% of males admitted to a completed rape on at least one occasion.

Other research on the sexual victimization on college campuses also includes the National College Women Sexual Victimization Study (NCWSV). The NCWSV study results are based on telephone surveys of a randomly selected national sample consisting of 4,446 women who were attending a 2- or 4-year college or university during fall 1996. Fisher and colleagues (2000) measured 12 different forms of sexual victimization that included rape, sexual coercion, unwanted sexual contact, various threats, and stalking. Overall, they found that approximately 2% of the college women in sample experienced a completed rape since school had begun. Slightly more than 1% of the sample experienced an attempted rape. The victimization rate was 27.7 rapes per 1,000 female students.

#### The National Violence Against Women Survey

The National Violence Against Women Survey (NVAW) includes questions about the general fear of violence and incidents of actual or threatened violence by different types of perpetrators experienced during the respondent's lifetime and annually (Tjaden & Thoennes, 2006). The Centers for Disease Control and Prevention (CDC) and the National Institute of Justice (NIJ) jointly sponsored this survey. The purpose was to explore the experiences of both men and women with respect to violent victimization. The survey was conducted from

November 1995 to May 1996. They defined rape as "an event that occurred without the victim's consent that involved the use or threat of force to penetrate the victim's vagina or anus by penis, tongue, fingers, or objects, or the victim's mouth by penis." The definition includes both attempted and completed rape. A total of 8,000 women and 8,005 men age 18 and older were interviewed.

The NVAW found that 17.6% of all women surveyed had been the victim of a completed or attempted rape at some time in their life. Of these, 21.6% were younger than age 12 when they were first raped, and 32.4% were 12 to 17. Additionally, 64% of the women who reported being raped, physically assaulted, and/or stalked since age 18 were victimized by a current or former husband, cohabiting partner, boyfriend, or date. Overall, the NVAW concluded that "one in every six women has been raped at some time and that in a single year more than 300,000 women and almost 93,000 men are estimated to have been raped" (Tjaden & Thoennes, 2006, p. 3).

#### The National Crime Victimization Survey

Another common source to determine the prevalence of sexual abuse is the National Crime Victimization Survey (NCVS). Each year, data are obtained from a nationally representative sample of 90,000 households and 160,000 persons that are 12 years old or older. The Bureau of Justice Statistics (BJS) releases estimates based on the likelihood of victimization for rape, sexual assault, robbery, assault, theft, household burglary, and motor vehicle theft. The NCVS defines rape as the "forced sexual intercourse including both psychological coercion as well as physical force." Sexual assault is defined as "attacks or attempted attacks generally involving unwanted sexual contact between victim and offender." According to the NCVS, rape or sexual assault accounted for approximately 5% of all violent victimization from 1993-2012

(Bureau of Justice Statistics, 2013). The NCVS offers a robust measure of rape that includes all types of rape and employs a large sample. There are two disadvantages to using the NCVS. It does not include individuals under the age of 12 and uses initial telephone contact to develop the sample. Child sexual victims and those without telephones are naturally excluded from this survey.

#### **Other Victimization Surveys**

Using data from the Development Victimization Survey (DVS), Finkelhor and colleagues (2005) found that one in twelve youth between the ages of 12 and 17 were victims of a sexual assault. Additionally, they found that sexual victimizations were considerably more common against girls than boys. Finally, they found that the majority of sexual victimizations were perpetrated by acquaintances (Finkehor, Ormrod, Turner, & Hamby, 2005). Additionally, data from the National Child Abuse and Neglect Data System (NCANDS) suggests that 10% of the victims of substantiated child maltreatment cases also suffered from sexual abuse (U.S. Department of Health and Human Services, 2005). Of the victims who were sexually abused, 26.3% were in the age group of 12–14 years and 33.8% were younger than 9 years.

#### Measuring Sexual Offending in the State of Ohio

Using data from the NCVS, Ruggiero and Kilpatrick (2003) found that one out of seven, or nearly 635,000 women in Ohio, has been a survivor of forcible rape sometime in her lifetime. Ohio had the second highest incidence of sexual assaults (n = 5,490) in the country, according to the NCANDS (U.S. Department of Health and Human Services, 2005). According to arrest reports on the UCR and the National Incident-Based Reporting System (NIBRS), the rate of forcible rape in Ohio during 2012 was 31.7 per 100,000 (OCJS, 2013).

With respect to offenders, ODRC committed 20,533 offenders to the state prison system in 2013 (ODRC, 2013). Of these, approximately 1,400, or about 7%, were sex offenders. The total prison population at the end of 2013 was 50,561. Of these, 7,460 (1.47%) were sex offenders. As of November 2011, Ohio had nearly 20,000 registered sex offenders, accounting for approximately 2.6% of the nearly 750,000 registered sex offenders in the nation (National Center for Missing & Exploited Children, 2013). In 2013, there were 4,259 sex offenders under the control of the Adult Parole Authority (ODRC, 2013).

#### **Summary on Incidence and Prevalence Rates**

Dealing with victimization and those who commit sex offenses has become a major focus for both policymakers and the criminal justice system. These various sources have attempted to give a more accurate picture of sexual victimization rates. Overall, only about 37% of all crime is reported to police with sexual assault being reported even less often (Bourke, 2007; Terry, 2006). Current estimates suggest that the majority of sexual assaults go unreported police (Bourke, 2007; BJS Report, 2012). Once reported, these assaults have a conviction rate of less than a 1% (Bourke, 2007).

Self-report and victimization surveys, such as Russell's Victimization Survey (Russell, 1982); Koss's Sexual Experiences Survey (Koss, 1985; Koss et al., 1987); the National College Women Sexual Victimization Study (Cullen & Fisher, 1998); and others mentioned here, all consistently report higher prevalence rates of sexual victimization over official sources. Overall, these sources suggest that sexual victimization is a fundamental issue facing children and adults, males and females alike. By uncovering the gross underestimation of official arrest reports, another shift began to occur to address sexual victimization. Laws began to be enacted to expand the registration and notification requirements of sex offenders. The following section

will provide a brief history into how these laws were developed and an overview of contemporary policies now in place.

#### **SEX OFFENDER POLICIES**

Although modern SORN laws and related policies have only been enacted within the last twenty years, there is a long history of regulating sexual behavior in the United States. Defining appropriate sexual behavior has changed over the centuries; however, attempts to manage those considered outside the norm have existed for hundreds of years. Public sentiment and legislation has evolved resulting in contemporary SORN policies that enact strict guidelines on those convicted of sex offenses. This section will provide a brief overview of how sex offender specific policies were developed in the United States and outline those current policies in place.

#### **Historical Perspective**

Criminal laws regulating sexual behavior have existed since the oldest civilizations although specific policies dealing with these behaviors have changed substantially over time. In America, colonial law codes contained a lengthy list of sexual offenses that could be subjected to punishment. These offenses included adultery, bestiality, and homosexuality. Violation of these laws usually drew severe physical penalties (Jenkins, 2004). These acts were largely forbidden because they were considered sins. During this time, the common law principle was followed that girls under the age of ten were unable to give valid consent for sexual activity (Jenkins, 2004). Sexual activity with a female under the age of ten was often defined as rape or canal abuse in most jurisdictions. These offenses were generally considered felonies while non-consensual sex with a female over the age of ten was often categorized as a misdemeanor (Jenkins, 2004).
Many of these statutes survived into the 20<sup>th</sup> century. During the Industrial Revolution, women began to enter the workforce. The Progressive Era ushered a time when women also began engaging in social activities outside the home. This lead to another wave of expanding regulations meant to protect the virtues of females (Odem, 1995). Sensationalized media depictions of cases and predators, such as Jack the Ripper, ushered a new fascination with serial killers and "sexual fiends" (Jenkins, 1998). These new concerns lead researchers, both psychological and criminological, to seek the reasons behind sexual deviancy.

#### The Sexual Psychopath

Large scale sex offender legislation began in 1937, when judges, police, and legislators joined together to confront sex crimes (Jenkins, 2004). These policies ranged from bans on indecent materials to castration and sterilization. Chicago and New York both created registries for the purposes of tracking sex offenders accused of sex crimes against children. Committees were developed with the purpose to thoroughly investigate these offenders. Through these committees, sexual psychopath laws were created that enabled law enforcement to institutionalize convicted sex offenders, even after the expiration of their sentence (Jenkins, 2004).

Sexual psychopath laws were passed in passed in 29 states (Jenkins, 2004). In 1950, Paul Tappan released a report outlining the problems with the sexual psychopathy statutes. In this report, Tappan (1950) called into question the validity of the laws based on several points. First, he argued that sex offenders were not homicidal sex fiends and most of these offenders had committed minor offenses. Second, he used his research to show that sex offenders had a low rate of recidivism compared to other types of offenders. Third, he argued that the due process of these individuals was being violated. Finally, he maintained that enacting these laws would not

address the problem because the statutes would only satisfy public sentiment. Specifically, he contended that these statutes did not address the prediction of recidivism or treatment considerations.

In 1940, the U.S. Supreme Court heard the case of Charles Pearson. Mr. Pearson had been identified as a sexual psychopath under Minnesota's 1939 law (Cohen, 1991). He claimed that his institutionalization violated his right to due process and that the definitions of psychopathy were too subjective. The Court found that the definition was properly defined even through there was no consensus on the definition and it differed from state to state (Tappan, 1950). The constitutionality of the law was not challenged again until the 1960s (Cohen, 1991).

The 1960s and early 1970s brought about several cultural shifts. As the Liberal Era emerged, sexual psychopath laws were no longer used in many states (Terry, 2006). The gay liberation movement began and homosexual activity became more socially acceptable. Additional social change was brought about when the Supreme Court legalized abortion in the landmark case *Roe v. Wade* (1973). These events prompted a new focus on theories and research behind sex offending (Terry, 2006).

## The Women's Movement

During the 1970s and 1980s, the women's movement of the 1960s refocused research and policy on sexual violence. Public perceptions about sex began to shift allowing for a more open discussion about sexual victimization. It also became clearer that sexual abuse was not mainly a product of "stranger danger" but within the context of a known relationship with the offender. This new openness created a climate for a substantial increase in public policy and litigation for sex offenses. The Child Abuse Prevention and Treatment Act was enacted in 1974. This Act established national standards for reporting and responding to cases under state child protection

laws. Later, in 1977, the Kildee-Murphy Bill was enacted to prohibit the production, distribution, and possession of child pornography (Jenkins, 2004).

### **Media Depictions**

By the 1980s, stories of child sex abuses permeated the media and this trend continues today (Levenson & D'Amora, 2007). Crimes involving sexual victimization are often sensationalized by popular media outlets, including television, newspapers and the internet (Davis & McLeod, 2003; Dowler, 2006; Welch, Fedwick, & Roberts, 1997). Ideally these outlets can be used as a productive force to reduce common misconceptions associated with sex crimes but many media reports sensationalize especially heinous cases (Dowler, 2006). These reports can insight fear, strengthen misconceptions, and reinforce dominant stereotypes (Davis & McLeod, 2003; Dowler, 2006; Levenson & D'Amora, 2007; Welch et al., 1997).

The portrayal of sex crimes in the media has been documented. Dowler (2006) found that over 10% of the stories in 100 news broadcasts in several major cities involved a sex crime (Dowler, 2006). Welch and colleagues (1997) found a similar trend in newspapers. Davis and McLeod (2003) conducted a content analysis of front page newspaper stories from 1700 to 2001 in eight separate countries. Overall, they found that stories involving rape and sexual assault were the most common.

Studies have found that coverage of child sexual victimization has perpetuated a fear of sex offenders who target children (Levenson & D'Amora, 2007; Lösel and Schmucker, 2005; Nieto & Jung, 2006). Other studies have also shown that the media often reports rape as being committed by strangers (Benedict, 1992; Carringella-MacDonald, 1998; Howitt, 1998; Soothill, 1991:2010). Such media reports have led to a national moral panic about those who commit sex offenses (Zgoba, 2004). This, in turn, has propagated the acceptance of myths that run contrary

to empirical knowledge about sex crimes and sex offenders and has set the stage for SORN policies of today (Dowler, 2006; Levenson, D'Amora, & Hern, 2007; Zgoba, 2004).

# **Contemporary Sex Offender Policies**

During the 1990s and early 2000s, the United States experienced an emergence of several high profile cases involving the sexual victimization of children. Although managing sex offenders has been a law enforcement initiative since the 1930s, these highly publicized sex crimes increased demand for more rigorous policies to deal with sex offenders. A community protection approach emerged to address the perceived dangerousness these offenders pose. Key elements of a community protection approach include long-term supervision, community notification, and post-sentence sanctions that range from civil commitment to residence restrictions. From this approach, contemporary SORNA laws were enacted. The first comprehensive law was enacted in 1990 when Washington passed the Community Protection Act.

### The Community Protection Act of 1990

In 1989, the remains of a seven year old boy were found in the woods near his home in Tacoma, Washington. A previously convicted sex offender, Earl Shriner, was convicted of kidnapping, raping, and sexually mutilating the boy. Shiner, who had been convicted of numerous charges spanning a 24-year period, had just been released from prison five months earlier. According to Gunn (1994), prison officials had attempted to commit Shriner to the local mental hospital but were unsuccessful because he was not deemed mentally ill. Within months of the assault, the Community Protection Act of 1990 enacted. Overall, the Community Protection Act increased sentences for all sex offenses, implemented sex offender registration and community notification requirements, and developed the nation's first civil commitment laws

for sexually violent predators. Washington became the nation's first state to register sex offenders and make the details of their registration available to the public.

# The Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act of 1994

Also in 1989, eleven year old Jacob Wetterling was kidnapped on his way home from a convenience store. Jacob has never been found. There is no clear evidence that Jacob was the victim of a sex crime; however, the kidnapping lead to further changes in SORN laws. Within a few months of Jacob's disappearance, Patty Wetterling, his mother, founded the Wetterling Foundation. As a result of her lobbying to Congress, the Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act was passed in 1994.

As part of the Federal Violent Crime Control and Law Enforcement Act of 1994, this provision required all states to pass SORN laws. Failure to do so would result in the loss of millions of dollars in federal funds. Additionally, the Wetterling Act established minimum standards for the registration process, including a minimum registration period of at least ten years. Under this provision, states were also required to implement and maintain some form of victim and community notification.

### Megan's Law, 1996

In 1994, seven year old Megan Kanka of New Jersey was raped and killed by her neighbor, Jesse Timmedequas. He had been convicted twice of sex offenses against other children and been imprisoned for six years. After residents submitted a petition demanding a change in SORN laws, the New Jersey enacted Megan's Law. This law required any person convicted of a sex offense to register with local law enforcement upon release and also required public notification for offenders to be based on recidivism risk as determined by the county prosecutor. Those who were deemed moderately at risk to commit another sexual offense would have their information released to organizations who deal with the youth, while those deemed high risk would have their information released to the general public. Support for the law quickly grew. Megan's law was enacted at the federal level in 1996. Under the federal law, every state that had not already done so was required to enact some form of public notification for sex offenders. By the end of year, every state had enacted some variation of Megan's Law.

## The Adam Walsh Child Protection and Safety Act of 2006

The Adam Walsh Child Protection and Safety Act is a federal statute that was signed into law by President George W. Bush on July 27, 2006. The act is named in memory of six year old Adam Walsh who disappeared from a department store at a local mall in Hollywood, Florida in 1981. He was later found murdered and decapitated. His father, John Walsh, became a victim's rights advocate and lobbied Congress to enact stricter SORN laws.

The Adam Walsh Act (AWA) repealed all previous laws regarding sex offender registration and notification. Title 1 of the Act, or SORNA, requires every state to establish and maintain an online registry of sex offenders. The Act also requires offenders to register in person, give law enforcement personal information, and provide their fingerprints and DNA. Overall, the Act has expended the national standards for registration, notification, civil commitment, and internet safety (Wright, 2009). Additionally, any violation of the guidelines results in a new felony charge. This type of charge is also a deportable offense for immigrants (Wright, 2009).

As previously stated, SORNA organizes sex offender into a three tier system based on their conviction offense. Tier III offenders, those with the most serious offenses, must register every three months for the rest of their lives. Tier II offenders must update their information every six months and register for a duration of 25 years. Tier I offenders must update their

30

information every year and register for a duration of 15 years. As of 2013, the those states in compliance with SORNA include Alabama, Colorado, Delaware, Florida, Kansas, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nevada, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, and Wyoming (Office of Justice Programs, 2013b).

In conjunction with changes in sex offender policies, the United States also has witnessed dramatic shifts in correctional philosophy. This resulted in a focus on evidence-based approaches to corrections and, later, practices to address sex offender supervision and treatment. The following section will provide a brief overview into the historical shift in corrections followed by how this has impacted sex offender practices today.

# **CORRECTIONAL PRACTICES**

While shifts in sex offender policies are a relatively modern development, the criminal justice system has gone through many changes over the last century. Prior to 1900, there was a focus on incarceration emphasizing precise sentences for criminal offenders. At the turn of the 20<sup>th</sup> century, the Progressive Era ushered policies highlighting community supervision and rehabilitation. The Progressive Era was typified by an increase in policies geared not only toward treating the deviant offender, but also treating the broader societal causes of crime (Rothman, 1980).

Progressives emphasized discretion within the system while focusing less on culpability. Policies such as probation, parole, and indeterminate sentencing were developed with the goal to rehabilitate offenders. Punishment would no longer just be based on the offense but tailored to each individual offender. The circumstances and traits of each offender would be consulted in order to develop customized treatment plans. Issues of poverty, upbringing, and housing were factors considered when prescribing a treatment solution (Rothman, 1980). This trend continued until the late 1960s when societal changes and shifting philosophies led to an overhaul of the rehabilitative model.

# "Nothing Works"

During the 1960s, cultural changes in the United States prompted both liberals and conservatives to rethink the effectiveness of a rehabilitative model (Cullen & Gilbert, 1982). During this time, conservatives feared that traditional values were eroding. Behaviors such as abortion, premarital sex, and divorce became acceptable, all of which were argued to undermine morality in America. Conservatives argued that a war on crime was required to re-establish law and order and the current "progressive" policies, which enabled criminals to go free where they could prey on the defenseless, needed to cease. At the same time, liberals grew more distrustful of the government. They questioned the ability and capacity of the government to ensure equality in society. Liberals abandoned their beliefs that the government would work to expand the rights of all individuals. Additionally, with protests for civil and women's rights and the U.S. involvement in the Vietnam War, the face of the criminal population was changing. Liberals became concerned with the rights of these individuals and lost faith that the government could provide equal treatment (Cullen & Gilbert, 1982).

Also around this same time, Martinson (1974) published his study on the effectiveness of treatment programs. In this groundbreaking study, he concluded that rehabilitative efforts had "no appreciable effect on recidivism" (p. 25). He reviewed 231 treatment studies published between 1945 and 1967. The "nothing works" philosophy took hold of corrections in America leading to programs and policies that focused on deterrence and incapacitation. With the building discontent with the system and the Martinson (1974) report concluding that rehabilitation had no effect on recidivism, both conservatives and liberals joined forces to

extinguish rehabilitative programs for offenders and the sentencing discretion of criminal courts. Through this unlikely collaboration, the criminal justice system reflected a policy of retribution for nearly 40 years. This correctional trend continued until the 1990s when researchers used evidence-based research to reaffirm rehabilitation and developed the "What Works" ideology.

# "What Works" and the Principles of Effective Intervention

The challenge to the "nothing works" doctrine came primarily from Canadian psychologists, such as Andrews, Bonta, Gendreau, Lipsey, and Palmer (Cullen & Gendreau, 2001). These researchers emphasized the idea of rehabilitation based on a foundation of evidence-based practices (Cullen, 2002). They used research methodology and statistics to study why some programs worked and others failed. In 1987, Gendreu and Ross reviewed 225 studies and concluded that the reason why so many correctional programs failed was due to the lack of therapeutic integrity. They found that those programs based on behavior models were most effective (Cullen & Gendreau, 2000). Other researchers also found higher effect rates for programs that focused on behavioral interventions (Lipsey, 1999). These researchers concluded that the effectiveness of treatment programs may not be in the notion of rehabilitation itself but in the actual implementation and treatment focus of particular programs.

Also during this time, researchers developed the Principles of Effective Intervention (Andrews, 1995; Andrews, Bonta, & Hoge, 1990; Gendreau, 1996). Overall, these principles can be condensed into four main points. First, interventions should target known predictors of crime. Those offenders with antisocial attitudes, history of criminal involvement, antisocial peer associations, and antisocial personalities have an increased risk of offending. These factors are also known as the "Big Four." Second, treatment interventions should in the form of behavioral oriented programs. Programs should focus on a general personality and social psychology

understanding of criminality while utilizing behavioral approaches to treatment. Third, treatment should be focused primarily on high risk offenders. Intensive treatment is most effective with those individuals who are at higher risk levels. In fact, low risk offenders can be negatively affected by intensive treatment. Lastly, treatment should entail a wide range of considerations that can have an effect on treatment. This captures the idea of program integrity, advocacy, and issues of responsivity. Combined, these principles helped cultivate a move toward using evidence-based practices to respond to sex offenders.

#### **SEX OFFENDER PRACTICES**

Several evaluation studies of sex offender treatment have been conducted and many of these reviews have been supportive of treating sex offenders (Hanson, Bourgon, Helmus, & Hodgson, 2009; Losel & Schmucker, 2005). Treatment and practices that adhere to the principles of effective intervention are the most effective in reducing recidivism (Andrews et al., 1990). Studies over the past two decades have led to the determination of several risk factors that are specific to adult sex offenders. From this research, actuarial risk assessment tools have been created and are used to predict the risk that an offender poses for committing a new sex offense. This section describes what is currently known about sex offender recidivism and outlines those risk factors identified that impact recidivism. Additionally, the most common risk assessments are discussed. These risk assessments have been developed using evidence-based practices and are empirically grounded.

## Sex Offender Recidivism

Assessments are used as a way of determining the statistical probability that an offender will commit another sexual offense. These assessments are based on research studies that identify individual factors that predict risk of recidivism. Risk scores are developed based on the risk factors and re-offense rates for large groups of sex offenders. Relative risk provides information about an offender's risk level relative to others. Absolute risk refers to the expected probability of recidivism, or the base rate. A base rate is an overall rate of recidivism for an entire group of offenders.

Several meta-analyses have been conducted to further understand the recidivism base rates for sex offenders. Hanson and Bussiere (1998) conducted a meta-analysis of 61 studies consisting of a total of 28,972 offenders. They found a sexual recidivism rate of 13.4%, 12.2% for nonsexual violent offenses, and 36.3% for any type of offense. Hanson and colleagues (2002) reviewed 38 studies on released sex offenders and found a sexual recidivism rate of 12%. In a later meta-analysis, Hanson and Morton-Bourgon (2005) analyzed 115 studies examining sex offender recidivism patterns. Using a variety of recidivism measures, their results showed a sexual recidivism rate of 13.7% and a violent nonsexual recidivism rate of 14.3%. Hanson and Morton-Bourgon (2007) conducted another meta-analysis of sex offender recidivism based on 577 findings from 79 samples. They found a recidivism rate of 12.4% for new sexual offenses and general recidivism rate of 30.1%. Overall, results from these meta-analyses suggest a recidivism base rate of 10-15% when measuring recidivism as a new conviction; however, the rates can vary considerably across settings and samples.

Helmus (2009) evaluated several studies in terms of absolute risk. Overall, base rates within the studies show considerable variation. For example, samples in Denmark (33.5%), the Netherlands, (40.5%), Canada (25.3%), and the United States (35.4%) showed very high rates of sexual recidivism. Several other studies showed rates as low as 4%. Helmus suggested that the variation in the recidivism rates within individual studies may be due to methodological factors

(e.g., length of follow-up or recidivism measures), individual-level factors (e.g., dynamic risk factors or treatment effects), or system level factors (e.g., jurisdictions or institutional setting).

# **Risk Factors Specific to Sex Offenders**

Several studies have examined those risk factors specifically associated with adult sex offenders. Static risk factors are relatively fixed aspects of an offender's history. This might include items such as criminal history. These factors have been found to increase the likelihood of recidivism but cannot be changed through intervention (Andrews & Bonta, 2010; Bonta, 1996). Dynamic risk factors are individual attributes that increase the risk to recidivate but are potentially changeable. Mann and colleagues suggest that these factors should be determined by those characteristics that are "psychologically meaningful," or those factors that represent enduring traits that can be used to predict behavior but may be amenable to change (Mann et al., 2010, p.194). Such factors would be conceptualized as individual propensities that can manifest themselves at any time. They propose dynamic risk factors should be based on empirical support, through meta-analysis, and significantly predict recidivism. Common dynamic risk factors cited include antisocial attitudes or, specific to sex offenders, deviant sexual interests. These factors are the target for correctional intervention and are also referred to as "criminogenic needs" (Andrews & Bonta, 2010).

Hanson and Harris (2000) examined dynamic risk factors associated with adult sex offenders through data collected from interviews with community supervision officers and file reviews of 208 sexual offense recidivists and 201 non-recidivists. They define two types of dynamic risk factors: stable and acute. Stable dynamic factors refer to skill deficits or attitudes that endure. This might include poor problem solving abilities or intimacy deficits (Harris & Hanson, 2000). Overall, stable dynamic risk factors represent relatively enduring problems.

Acute dynamic factors, conversely, represent those factors that change quickly and signal the timing of a new offense (Harris & Hanson 2000). This might include drunkenness or sexual preoccupation. Overall, they found that recidivists were generally considered to have poor social supports, antisocial attitudes supportive of sexual deviance, antisocial lifestyles, poor self-management strategies, and difficulties cooperating with supervision. They also noted that recidivists had increased anger and subjective distress just before reoffending (Harris & Hanson, 2000).

In another study, Hanson and Morton-Bourgon (2004) used data from their previous meta-analytic review of sex offender recidivism studies (see Hanson & Bussiere, 1998) which analyzed 95 studies containing 31,216 sex offenders. In their original study they only reported static risk factors. This new study examined dynamic risk factors and included a five year follow-up period. The results showed that the sexual recidivism rate across all studies was 13.7%. Recidivism was predicted by offenders having antisocial lifestyles or a lack of self-control. Furthermore, those individuals with deviant sexual interests, particularly in children, were most likely to reoffend sexually.

More recently, Mann and Colleagues used the meta-analytic reviews from Hanson and colleagues (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2004, 2005) to further evaluate those factors specific to adult sexual recidivism. They found support for a variety of factors including sexual preoccupation, deviant sexual interest, antisocial attitudes and beliefs support of sex offending, poor self-regulation, and intimacy deficits (Mann et al., 2010). They also identified those risk factors they considered "promising" in predicting sexual recidivism. This included hostility toward women, callousness, and poor coping skills. Finally, they noted specific risk factors that were not supported in predicting adult sexual recidivism. This includes

denial, low self-esteem, lack of social skills, major mental illness, lack of victim empathy, and loneliness (Mann et al., 2010).

Based on this research, several dynamic risk factors are associated with adult sex offender recidivism. These include deviant sexual arousal, especially regarding children; antisocial attitudes and beliefs; sexual preoccupation; anger and hostility; difficulties with emotional management; poor self-regulation; impulsivity; cognitive distortions supportive of sexual deviance; poor problem solving skills; resistance to supervision; and intimacy deficits (Hanson & Bussiere, 1998; Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004, Mann et al., 2010). Based on these factors, researchers have created risk assessment tools that aim to predict sexual recidivism.

## **Risk Assessments**

A major concern with the implementation of recent SORN policies, and specifically with SORNA, has been the move from an actuarial risk-based tool to a purely to offense-based classification system (Freeman & Sandler, 2009; Harris & Lobanov-Rostovsky, 2010). In order to properly identify individual risk of recidivism, various types of risk assessments have been developed. As previously stated, first-generation risk assessments involve the use of subjective or intuition-based clinical judgments. These usually involve unstructured interviews with clients in conjunction with the review of official records. This information is used to determine a risk level (Bonta, 1996). Bonta (1996) suggests that the most serious problem with this approach is that clinician decisions are not easily observable and are difficult to replicate. Research investigating professional judgments has frequently revealed poor reliability and inconsistency (Monahan, 1981). Other evidence regarding the accuracy of clinical assessments consistently shows that the prediction of risk is no greater than 50% (Andrews & Bonta, 2010; Monahan,

1981). Overall, several studies have indicated that traditional clinical assessments poorly predict behaviors such as recidivism (Grove, Zald, Lebow, Snitz, & Nelson, 2000; Hanson & Morton-Bourgon, 2009).

Second-generation risk assessments are actuarially based and include factors that are validated by research (Bonta, 1996). These instruments consist of static, or historical, variables that are unchangeable and do not assess criminogenic needs. Andrews and colleagues (1990) note the utility in assessing dynamic, or changeable, risk factors in order to effectively identify appropriate treatment targets to reduce criminal behavior. In a meta-analysis by Gendreau, Little, and Goggin's (1996), they found that dynamic factors predicted recidivism as well as static predictors, including past criminal history.

Third-generation risk assessments incorporate both static and dynamic factors (Bonta, 1996). These instruments can be used to determine both individual risk and needs. Studies show that those correctional treatment programs that focus on known predictors of criminal behavior have a better chance of reducing recidivism in offenders. Furthermore, there is ample evidence of the superiority of third-generation risk assessments over clinical judgments (Bonta, Law, & Hanson, 1998). Bonta and colleagues (1998) found significant differences in the average effect size for clinical risk assessments (r = .09) versus actuarial risk assessments (r = .30) in predicting violent recidivism.

## Assessments Specific to Sex Offenders

While general risk/need assessment instruments have been shown to be effective at classifying general offenders, supplemental assessments are needed for special populations, such as sex offenders (Gendreau et al., 1996). These populations present unique criminogenic needs and produce unreliable scores on standard risk instruments. For example, sex offenders

frequently score low on general assessment instruments, such as the LSI-R, because many of the domains on the instrument do not capture sexual deviance. The nature of sex offending is distinct from other types of offending. Other instruments include risk factors that are specific to sex offenders. For example, Hanson and Bussiere (1998) found that the single best predictor of sexual recidivism was deviant sexual preferences (i.e., with children). This is not an area assessed by traditional risk assessments. Based on this research, supplemental assessments are recommended when working with sex offenders (Hanson and Bussier, 1998).

There are multiple sex offender risk assessments now available. The SORAG (Quinsey, et al., 1998), RRASOR (Hanson, 1997), SONAR (Hanson & Harris, 2000), and the Static-99 (Hanson & Thornton, 1999), amongst others, have all shown to be predictive of violent and sexual recidivism (Barbaree, Seto, Langton, & Peacock, 2001). Each tool contains several items related to those risk factors specifically associated with sex offenders. Once completed, the assessment provides an overall risk designation that can be used for treatment and supervision.

#### Sex Offender Risk Appraisal Guide (SORAG)

The Sex Offender Risk Appraisal Guide (SORAG) is a 14-item rating scale designed to predict violent and sexually violent recidivism in known sex offenders (Quinsey et al., 1998). This assessment is a derivative of the Violence Risk Appraisal Guide (VRAG) developed by Rice and Harris (1997). The SORAG contains the items of the VRAG and four additional items related to sexual offending. The items range in value from low to high risk and are summed into an overall score. These scores are then translated into one of nine categories based on the probability of recidivism. The SORAG has been tested on sex offenders who were incarcerated, housed in treatment programs, and in outpatient treatment programs (Barbaree et al. 2001; Harris, Phenix, Hanson, & Thorton, 2003). Overall, the SORAG has been found to predict the risk of sexual recidivism (Looman, 2006; Ducro & Pham, 2006).

# Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR)

The *Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR)* is a 4-item rating scale designed to predict sexual recidivism among men who have been convicted of a sexual offense (Hanson, 1997). The items on this assessment are based on the offender's age and the details of their sex offense history. The scores range from 0 to 6. The items on the assessment were derived from a meta-analysis on sexual recidivism by Hanson and Bussiere (1996). The RRASOR has been validated primarily on prison samples and has been shown to predict sexual recidivism with moderate consistency (Barbaree et al., 2001; Langstrom, 2004).

# Sex Offender Need Assessment Rating (SONAR)

The Sex Offender Need Assessment Rating (SONAR) is a 9-item tool designed to assess change in the risk of sexual recidivism (Hanson & Harris, 2000). The authors compared sexual offenders who recidivated to those who did not to identify dynamic predictors. These predictors included intimacy deficits, social influences, self-regulation, substance abuse, and anger. Based on the development sample, the SONAR seems to have moderate predictive accuracy (AUC = 0.74.)

#### Static-99

The *Static-99* is a 10-item tool created by combining the items from the RRASOR and Thorton's Structured Anchored Clinical Judgment Scale (Hanson & Thorton, 2000). The Statis-99 is the most widely used sex offender risk assessment instrument in North America (Archer et al., 2006; Jackson & Hess, 2007; McGrath et al., 2003). It is widely used for treatment planning (Jackson & Hess, 2007; McGrath et al., 2010). The Static-99 is designed to be used explicitly with adult male offenders who have been convicted of a sex offense wherein direct contact occurred between the offenders and an identifiable victim (Austin, Peyton, & Johnson, 2003). It is recommended that individuals who have been convicted of prostitution, pimping, public indecency, illicit pornography viewing, or other related charges should not be assessed using this instrument (Hanson & Thorton, 2000).

The items selected for the Static-99 were shown to be the strongest predictors of sexual recidivism across a wide range of samples and studies (Hanson & Bussiere, 1998). All of the items on the Static-99 are typically scored based on file information and include sex offense history, criminal history, victim information, age, and marital status. The assessment provides estimates of risk based on a raw score. A score of 0 to 1 indicates an offender is at a low risk of recidivism. A score of six or above indicates the offender is at a high risk for recidivism. There are also supplemental tables that are based on risk levels that note the probability of a sexual or violent recidivism at 5, 10, and 15 year intervals.

Research suggests that the Static-99 is moderately accurate in predicting sexual and violent recidivism in samples of offenders from the United Kingdom and the United States (Stalans, 2004). Hanson and Thorton (2000) concluded that the Static-99 had moderate predictive validity for sexual (AUC = .70) and violent (AUC = .69) recidivism. Further studies report an inter-rater reliability for the Static-99 to be around r = .90 (Barbaree, et al., 2001; Harris et al., 2003). The Static-99 is the primary tool used by ODRC. These scores are used in the current study.

In practice, the risk of recidivism is most often determined with the use of actuarial risk assessments. As previously discussed, decades of research has led to the use of assessments to determine recidivism for both general and sex offenders. States compliant with SORNA classify

offenders according to their conviction offense. In order to more fully articulate the differences between these two classification approaches, the following section will provide an overview of using an offense-based system and an actuarial risk assessment tool to classify offenders.

# **POLICY or PRACTICE**

Two different approaches are used to classify of sex offenders. The first is based on policies developed by legislators. States compliant with SORNA utilize an offense-based tier classification system. The second approach to classification involves the use of a risk assessment instrument. Offenders are classified into risk levels to determine the probability of recidivism. Ohio uses the offense-based tiers under SORNA for registration and notification requirements but the Static-99 to determine risk while in the system. This section will discuss the strengths and weaknesses of using these different classifications approaches.

### **Offense-Based Classification**

The passage of SORNA resulted in more stringent registration requirements and established a standardized offense-based classification system. Under SORNA, offenders are placed in one of three tiers based on their conviction offense. The clear benefit of using this approach is the automation in the assignment into the various tiers. Each offender is systematically classified into one of three tiers when they are released from prison. There is no need for clinical personnel to administer a risk assessment.

Another benefit to using SORNA relates to federal funding. Those states who are in compliance with the guidelines avoid a 10% reduction in JAG funding. Ohio would lose approximately \$625,000 annually in funding if it failed to comply with SORNA (Justice Policy Institute, 2008). Additionally, states in compliance are also eligible for bonus funding. The money withheld from those states who do not implement SORNA is reallocated to states who

43

maintain compliance. In 2013, Ohio received nearly \$200,000 in additional funding under this program (Office of Justice Programs, 2013a).

There are several potential weaknesses to using an offense-based classification system. First, utilizing the tier system may "widen the net" of those individuals who are subject the guidelines (Harris & Lobanov-Rostovsky, 2009). As previously stated, SORNA expands those offenses covered under the law and includes certain classes of juveniles. Under these new guidelines, states are mandated to register individuals convicted of some sex offenses that were not previously defined as registration eligible offenses. Furthermore, any juvenile that has been adjudicated of a sex offense and is over the age of fourteen would now be required to register.

Second, several states have expressed concern about the increased difficulty for law enforcement and the public to distinguish between the tier levels of registered individuals (Harris & Lobanov-Rostovsky, 2012). There is no clear indication of what the tiers mean. Furthermore, those offenders who may have pleaded down to lesser offenses may artificially deflate the value of the tier classification system (Levenson, 2010). The may result in a registry where many high risk offenders are being classified into the lower tiers. This can dilute the public's ability to identify those offenders who pose the greatest risk. Additionally, because the tier levels are not based on actuarial risk assessments, many lower risk offenders may be erroneously classified as high risk or vice-versa (Levenson, 2010).

Third, many argue that the Act is an ex post facto law, or a law applied retroactively (Harris & Lobanov-Rostovsky, 2009; Harris, Lobanov-Rostovsky, & Levenson, 2010). This is prohibited by Article 1, Section 9 of the U.S. Constitution. On In November 2007, George Williams was indicted for unlawful sexual contact with a minor, a felony of the fourth degree. At his sentencing hearing, Williams was informed that he would be designated a Tier II sex

offender under SORNA. On appeal, Williams argued that the SORNA provisions cannot constitutionally be applied to a defendant whose offense occurred before July 1, 2007. While other states are still in litigation over this issue, the Ohio Supreme Court agreed and declared it unconstitutional to apply the SORNA guidelines retroactively (Office of the Ohio Public Defender, 2010).

Fourth, states that are currently using either an offense-based or risk assessment classification systems report significant operational concerns with transitioning to the new SORNA system. According to a survey of states by Harris and Lobanov-Rostovski (2009), states were concerned with the resource allocation needs for system development, reclassification, and legal costs related to any potential litigation. Even those states currently using an offense-based system would have to modify their current classification system to comply with SORNA's expanded list of covered offenses. These changes come at substantial costs. To implement SORNA, the State of Ohio spent an estimated 19 million dollars in first-year state expenditures (Ewing, 2011).

## **Risk Assessment-Based Classification**

Actuarial risk assessments utilize statistics that estimate the likelihood of recidivism by standardizing factors that prior research has recognized as key indicators for risk. While these assessments cannot predict with 100% certainty, they can provide the probability that a given individual will commit a new offense. The risk factors associated sexual recidivism and sex offender specific risk assessments have been discussed previously and will not be repeated here; however, it is important to note that actuarial risk scales have been shown to better predict recidivism (.61) over clinical judgment (.40) (Hanson & Morton-Bourgon, 2004).

The advantages to using an actuarial risk assessment are clear. Risk assessment scales have been developed through decades of research. Those factors which have been found to predict recidivism have been incorporated into these risk assessments. Once developed, each assessment undergoes a series of tests on a variety of populations. Upon validation, these assessments are refined to provide the best possible predictions of which offenders are more likely to recidivate.

Many of the risk assessments tools are also easy to administer with some basic training. As previous stated, Ohio uses the Static-99. This is the most commonly used risk assessment instrument in North America (Archer et al., 2006; Jackson & Hess, 2007; McGrath et al., 2003). This assessment is easily scored and provides the assessor with a risk level based on one of four categories. The Static-99 has demonstrated moderate predictive accuracy in multiple validation studies over the past several years (Levenson, 2010; McGrath et al., 2003).

There are three main weaknesses of using an actuarial risk assessment. First, completing an assessment does take more time than an automatic offense-based system. Some assessments can be lengthy and take upwards of an hour to complete. However, Static-99 consists of ten questions and can be quickly administered. Second, there are resource allocation considerations involved in conducting assessments. Practitioners require the training and expertise to administer the assessment. While many of these assessments are easy to use, anyone administering a risk assessment should be formerly trained to adhere to correctional best practices. Additionally, some risk assessments require a flat fee for usage while others are offered for free but require training before usage. The Static-99 is available online but it is recommended that anyone using the assessment attend training.

46

Third, completing an actuarial risk assessment that evaluates static and dynamic risk factors does involve some cooperation from the offender. While much of the information asked on the various risk assessment tools can be obtained through official and file data, other information must be obtained directly from the offender. As one of the risk factors associated with sexual recidivism is a resistance to supervision, this has the potential to complicate the assessment process (Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004). Specific to the current study, the Static-99 uses information purely from file data so this issue is minimalized with this particular tool.

# **Empirical Evidence**

At this time, there have only been three studies that have specifically evaluated the effectiveness of SORNA in terms of predicting recidivism. Due to the relatively recent enactment of this legislation, these studies evaluated SORNA using an artificial assignment of tiers. These studies offer valuable insight into how well the tier system is able to predict recidivism.

Using a sample of registered sex offenders in New York State, Freeman and Sandler (2009) examined a matched pair sample of sex offenders both under community supervision and not under supervision to test the predictive ability of the tier system proposed under SORNA. Overall, they reclassified more than 17,000 sex offenders into the tiers and found no significant correlation between the tier level and sexual or nonsexual recidivism. Registered sex offenders classified as Tier I (lowest risk) were rearrested for both nonsexual and sexual offenses more often than sex offenders classified as Tier II (moderate risk) or Tier III (highest risk). Furthermore, significant differences in the rate of re-arrest for a sexual offense emerged between

the three tier levels. Specifically, sex offenders categorized as Tier I were rearrested for a sexual offense more quickly than both Tier II and Tier III offenders.

Harris and colleagues (2010) evaluated the impact of the SORNA classification system on the distribution of individuals within Ohio and Oklahoma. From a sample of 24,994 adult registrants (15,828 in community and 9,166 incarcerated) and 1,055 juvenile registrants (911 in community and 144 incarcerated) in the State of Ohio and 10,187 individuals in Oklahoma that were on the states sex offender registry, they evaluated the effects of implementing the SORNA guidelines and the distribution of risk. They found that the reclassification process redistributed offenders from lower classification levels to higher ones. Additionally, they found differences between the SORNA reclassified Tier III individuals and those designated as high risk under the prior registration classification system. Lastly, they found that that juveniles and offenders classified retroactivity were disproportionately placed into the highest tiers.

Zgoba and colleagues (2013) evaluated offender data of formerly incarcerated sex offenders from Florida, Minnesota, New Jersey and South Carolina. Eligible offenders were convicted sex offenders who had been released into the community between Jan. 1, 1990, and Dec. 31, 2004. The sexual recidivism rate for the sample was 5.1% during a five-year period and 10.3% during a 10-year period. Results indicated that while the higher state-assigned tier was significantly associated with sexual recidivism in the expected, positive direction, a higher SORNA tier was significantly associated with sexual recidivism in the unexpected, negative direction. In other words, higher SORNA tiers were associated with lower odds of sexual recidivism compared to those in lower tiers.

## **Overall Findings**

Overall, these studies shed some doubt on the effectiveness the SORNA to predict recidivism. In two of the studies, Tier I offenders had higher rates of recidivism than Tier II and Tier III offenders (Freeman & Sandler, 2009; Zboba et al., 2013). Furthermore, Freeman and Sandler (2009) also found that Tier I offenders committed a new sexual offense more quickly than a Tier II or Tier III offender. These studies suggest that the current three-tier system requires further evaluation.

#### **SUMMARY**

Beginning in the 1990s, the United States has seen another historical shift in the policies developed to deal with sex offenders. The goals of these policies are to increase the investigative powers of law enforcement, inform citizens about potentially dangerous offenders, and deter offenders from committing future crimes. Several policies have been enacted but all have been repealed with the passage of the Adam Walsh Child Protection and Safety Act. This law expanded requirements of registration, notification, and mandated the reclassification of offenders into a three-tier system. This new classification is an offense-based approach where the offense at conviction determines the tier assignment for each offender. This information is made available to the public via sex offender registry websites in order to meet the goals previously discussed.

When cultural shifts enabled a climate to enact these policies, the core correctional philosophy in the United States was also changing. This led to an evidence-based agenda where offenders are assessed for their risk of recidivism by using actuarial risk assessment tools. Researchers have also developed, tested, and refined assessment tools that capture those risk factors specific to sex offenders. These tools provide practitioners with important information to guide supervision and treatment in order to reduce sexual recidivism.

There appears to be a disconnection between the SORNA policy and the practice of predicting risk using an evidence-based model. Previous research sheds doubt that the SORNA tier system can predict recidivism (Freeman & Sandler, Harris et al., 2010; 2009; Zgoba et al., 2013). These studies show that offenders designated as Tier I had higher recidivism rates than both Tier II and Tier III offenders.

These previous studies faced some challenges. Researchers were required to artificially assign tier classifications to samples of sex offenders due to the recent passage of the legislation and court challenges. Furthermore, prior studies were unable to compare both the tier classification and an actuarial risk assessment score for their samples. The current study produced a sample of offenders there were classified after the passage of the SORNA guidelines and all court challenges. Additionally, each offender in the current study was given a Static-99 risk assessment upon entering the prison system in Ohio. The results of this study will add to a growing body of research by evaluating the effects of these sex offender policies and practices.

There are several important insights that can be learned from comparing these tools. First, tier level and the risk score will be evaluated separately to determine the predictive ability of each tool in terms of recidivism. Second, the distribution of offenders will be compared across both tools. This will provide an indication of whether there are similarities between the tier system and the actuarial tool in terms of defining risk levels. Finally, the tools will be compared to each other to see if one is superior in terms of predicting recidivism. The following chapter will describe the methodology used in this study to further consider these propositions.

#### **CHAPTER 3: METHODOLOGY**

The main purpose of the current study is to determine if the SORNA tier classification system adequately predicts recidivism. Additionally, this study aims to evaluate whether the Static-99 predicts recidivism. Both the tier classification and the risk level will be compared to see if they are associated. Finally, the classification system and risk levels will be compared to evaluate their relative utility in predicting risk over the other. By providing a comparative analysis of these tools, this study will provide further insight as to whether sex offender policy and practice in Ohio meets its goals of increasing public safety.

## **ELIGIBILITY CRITERIA**

Part of the data for this study were obtained from a broader study evaluating the State of Ohio Reentry Coalition (Latessa, Lovins, Lux, & Ticknor, 2012). This was an outcome study to evaluate the reentry services offered by each of the fourteen Reentry Coalition counties in the state. A case management database was developed in order to track ex-offenders participating in the program. This database contained basic demographic information and tracked the various services offered within each county. Recidivism data for this project were gleaned by several databases provided by the Ohio Department of Rehabilitation and Corrections (ODRC). These databases included information about offenders released from a state-run prison in Ohio from 2009 – 2011. Participant data for the current study were obtained from the inmate and case management databases used during this project.

Any offender who was convicted of a sex offense and released from 2009 - 2011 was included in the sample. This resulted in an original sample of 4,056 sex offenders. Those convicted prior to 2007 were not subject to the SORNA classification so these offenders were

51

not eligible to be included in the study. Overall, this resulted in a final sample of 683 sex offenders.

From this final sample, each offender's tier classification was recorded by performing internet web searches on the Ohio Sex Offender Registry website. This site is currently being maintained by the Ohio Attorney General's office. The first and last name for each offender was used to perform the search. After the initial search results were returned, the birthdate for each offender was verified. Additionally, the inmate intake date, release date, and county of admission were also verified to ensure the results contained information on the appropriate offender. All offenders were verified and there was no ambiguity on the proper identification for any participant.

Finally, the Ohio Department of Corrections and Rehabilitation Offender Search tool was used to determine if each offender had been re-incarcerated. This website provides information on any offender who has been incarcerated in a state-run prison in Ohio. It does not include information on arrests, convictions, or incarcerations to a local or county jail and community sanction programs. This information was not available at the time of this study. While not obtaining this additional data does have the potential to diminish the overall findings, obtaining information on prison re-incarceration does provide important insight into how classification has an impact on offenders reintegrating back into society from the prison system. This limitation will be discussed more fully in the final chapter.

In order to obtain re-incarceration information, the first and last name for each offender was used to perform the search. After the initial search results were returned, the birthdate for each offender was verified. Other variables were used to ensure the correct offender information was being recorded. This included the county/city of residence, previous intake and release dates, and previous charge information. All offenders were verified and properly identified.

# VARIABLES OF INTEREST

### Independent/Control Variables

There are several variables used in the analyses for this study.

*Tier Classification Score*. As previously stated, sex offenders are classified into one of three Tiers under SORNA. Tier III sex offenders have been convicted of, or pleaded guilty to, a sexually-oriented offense that is punishable by imprisonment for more than one year and includes offenses such as rape and sexual battery. Tier II sex offenders have been convicted of, or pleaded guilty to, a sexually-oriented offense that is punishable by more than one year in prison and includes offenses such as gross sexual imposition and compelling prostitution. Tier I sex offenders have been convicted of, or pleaded guilty to, a sexually-oriented off, or pleaded guilty to, a sexually-oriented offense such as gross sexual imposition and compelling prostitution. Tier I sex offenders have been convicted of, or pleaded guilty to, a sexually-oriented offense such as voyeurism, importuning, and some forms of unlawful sexual conduct with a minor. The categories for this variable were coded as 1 = Tier 1, 2 = Tier 2, and 3 = Tier 3.

*Static-99 Score*. Ohio administers the Static-99 (Hanson and Thornton, 2000) assessment tool to all offenders admitted to state custody that are convicted of a sexually-oriented offense. The Static-99 provides a raw score which is used to estimate risk. A score of 0 or 1 indicates the offender is at low risk for reoffending. A score of 2 to 3 indicates low to medium risk for reoffending. A score of 4 to 5 indicates a medium or high risk of reoffending. Any score above six is considered to be an indicator of a high risk of recidivism. Because the sample size was so small in the medium high and high levels, these groups were combined. In the correctional setting, these groups are also typically combined for treatment and supervision purposes. The variable was recoded as follows: 0, 1, were coded as low; 2, 3 were coded as

moderate; 4 and above were coded as high. The categories were coded as 1 = 10w, 2 = moderate, and 3 = high.

*Release Type.* There are five ways an inmate can be released from prison in the State of Ohio. First, "End of Stated Term" means that they have served their sentence (less good time) and no post-release supervision is required. Second, "Judicial Release", previously known as shock probation, suspends the current prison sentence and releases the offender requiring community control for a period of one to five years. Third, "Post Release Control" (PRC) is a period of supervision by the Adult Parole Authority that includes one or more post release control sanctions. Those convicted of felony sex offenses are required to serve a mandatory five year term of supervision. Fourth, "Post Release Control to Detainer" indicates that a request was filed by another criminal justice agency outside the current institution asking that either the inmate be held or transferred to that agency (e.g., in-state, out-of-state, immigration, or federal). Finally, being "Discharged by Court Order" means that the offender's sentence was voided by the judge for one of a number of reasons and the offender was released to the community without any further involvement from the State. The majority of these offenders were released under PRC supervision. The variable was collapsed into a dummy variable and was coded as 1 = PRCcontrol and 0 = Non-PRC.

*Time at Risk.* This variable represents the number of months an offender has been released since being incarcerated. There are two reasons to evaluate the effects of time at risk. First, the offenders in this sample have different follow-up times ranging from 24 - 59 months. Time at risk is controlled for in order to account for these differences. Second, sex offenders in the Ohio are mandated to additional supervision upon release. The longer the offender has been

in the community the more they are subjected to additional sanctions and monitoring. These additional requirements may have a disproportionate effect on the outcome variables.

*Demographics.* Demographics for each offender were obtained in order to determine if there are any differential effects of re-incarceration by age or race. These are variables commonly controlled for in the criminal justice literature. Age is calculated as the number years between birth and the lookup date of this study. Race is collapsed into dummy variables and was coded as 1 = white and 0 = non-white.

#### **Dependent Variables**

There are four recidivism measures used in this study. These outcomes are used to evaluate the effects of the classification system in terms being re-incarcerated for committing a new offense. New commitment information was gathered for each offender in the sample and the highest level charge was recorded as their offense. Bases rates were also obtained for each type of recidivism. There are four types of recidivism outcomes:

*Any New Offense*. This variable captures those offenders who have were convicted of any new charge and returned to prison in the State of Ohio. This includes any non-sexual or any sexually-based offense where an offender was re-incarcerated. This excludes registry and parole violations. This variable results in a dichotomous scale ranging from 0 = no and 1 = yes.

*Any New General Offense*. This variable captures those individuals who returned to prison for a new offense but only for a non-sexual offense. This is a subset of the offenders represented under *Any New Offense*. Examples include charges such as theft, robbery, assault, and murder. The variable is coded as dummy variable where 1 represents those that were reincarcerated for a non-sexual offense and 0 indicates those that were not. This excludes registry and parole violations.

*Any New Sex Offense*. For those individuals who are flagged with a new incarceration, this variable results in a dichotomous scale ranging from 0 = no and 1 = yes if they committed a sexual offense. This includes any charge that has been deemed a sexually-based offense by the State of Ohio. Examples include rape, sexual battery, gross sexual imposition, and unlawful sexual conduct with a minor. This also excludes registry and parole violations.

*Any Registry Violation*. Registry violations include charges such as failure to register as a sex offender, charge of address failure, and verify address failure. The resulting dummy variable is coded as 0 if they were not re-incarcerated for committing a registry violation and 1 if they were. Being a registry violator automatically excludes the offender from being counted in any of the other recidivism groups.

### **RESEARCH QUESTIONS/HYPOTHESES**

There are four research questions for this study. In order to answer each question, there are multiple related hypotheses that will be tested:

Research question one explores whether the SORNA tier classification system significantly predicts recidivism. The null hypothesis states that those offenders in the lowest tier (Tier I) are not more likely to be re-incarcerated for a new offense than those in the higher tiers (Tier II or Tier III offenders). It is predicted under the research hypotheses that Tier I offenders are more likely to recidivate than Tier II or Tier III offenders. If this is the case, the tier classification is not an effective tool to determine risk, therefore, does not meet the goals of increasing public safety as previous discussed.

Research question two examines if the Static-99 risk assessment tool significantly predict recidivism. In order to draw conclusions regarding this question, two hypotheses will be considered. It is postulated under the research hypothesis that low risk offenders are less likely

to re-offend compared to moderate or high-risk offenders. Furthermore, it is also predicted that high risk offenders will be more likely to re-offend than low and moderate offenders.

Research question three determines whether the SORNA tier classification and the Static-99 risk levels are associated. This result will evaluate whether the distribution of classified offenders are similar for both approaches. The null hypothesis states that there will be no differences between corresponding distributions of offenders in terms of classification levels between the tools. For example, the distribution of offenders classified as Tier I in the tier system will be similar to the distribution of offenders classified as low risk.

Finally, research question four makes a determination whether either the tier classification or the assessment tool is better at predicting the risk of recidivism over the other. The research hypothesis advanced posits that the Static-99 will improve the prediction of recidivism over the SORNA tier classification system. Specifically, those who are identified as low risk will have the lowest re-incarceration rates while those who are identified as high risk will have the highest.

# DATA ANALYSIS PLAN

There are several analyses that will be used to further explore the aforementioned hypotheses. First, univariate descriptive statistics will be presented for all of the variables of interest. This includes demographic characteristics, post-sentencing offender characteristics, classification variables, and the recidivism outcome measures. Second, the results of the bivariate analyses will be presented. Chi-Square test will be used to evaluate the relationship between the classification variables, outcome measures, and control variables. This test is commonly used as a test of independence and goodness of fit. Testing independence assesses whether paired observations across two populations are independent of each other. In other

words, the test determines whether or not one variable helps to estimate the other. Additionally, t-tests will be used to examine the relationship between the recidivism variables, time at risk, and age.

Third, correlations will be presented. The independent variables for this study were both dichotomous and continuous in nature. The dependent variables were all dichotomous. Therefore, associations between the independent and dependent variables will be reported using the point biserial correlation ( $r_{pb}$ ) and Phi ( $\phi$ ). Point biserial correlation coefficients are used to determine the strength and direction between two variables when one is dichotomous and one is continuous, whereas, Phi is appropriate to measure the relationship between two dichotomous variables (Chen & Popovich, 2002).

Fourth, a receiver operating characteristic analysis will be presented (Rice & Harris, 1995). This statistic represents a graphical plot of ratios that captures when the classification tool correctly predicts when offenders will recidivate to those occurrences when it falsely predicted that they would but they did not. A diagonal line is drawn across the graph which represents the area under the curve (AUC). A value under this line indicates an AUC value less than .50 which means that the classification approach did not predict recidivism any better than chance. A value larger than .50, or above the line, indicates the tool predicted recidivism significantly better than chance (Rice & Harris, 1995).

Fifth, multivariate analyses will be conducted using logistic regression. Diagnostic information will be gathered initially to ensure that there were not issues with multicollinearity. This was accomplished using OLS regression. Generally speaking, OLS regression is not an appropriate technique for these types of variables; however, as Menard (2002) notes, the diagnostic information for multicollinearity (e.g. VIFs) can be obtained by calculating an OLS

regression model using the same variables that are used in a logistic regression. All other OLS regression results should be ignored but the information that pertains to multicollinearity can still be used.

Within the multivariate results, model fit statistics are presented first. This includes the -2 Log-likelihood (-2LL), model chi-square, and Nagelkerke's R<sup>2</sup>. The -2LL is used to evaluate the significance of logistic regression. Specifically, this statistic reflects the significance of the unexplained variance in the dependent variable and is presented as a positive number (Menard, 2002). As the model becomes a better fit, the -2LL will decrease. A value of zero indicates a perfect prediction of the outcome by the independent variable.

The model chi-square reflects the amount of relationship between the variables that remains unexplained by a model (Menard, 2002). Specifically, the model compares the expected and observed values from the sample. The larger the value of the  $\chi^2$  test statistic, the worse the model fits the data. A significant model  $\chi^2$  test statistic (p  $\leq$  .05 in this study) results in rejecting the null hypothesis and the conclusion that the independent variables do increase the prediction of the dependent variable (Menard, 2002).

For regression models, it is not possible to compute a single  $R^2$  statistic that has all of the characteristics of  $R^2$  in the linear regression model, so pseudo-  $R^2$  measures are created instead. Nagelkerke's  $R^2$  is often reported as a measure the strength of association. This statistics measures the proportional reduction in the absolute value of the log-likelihood measure. The interpretation is the proportion of the variation explained by the model. The values range from 0 to 1, with 0 denoting that the model does not explain any variation and 1 denoting that it perfectly explains the observed variation.

Following the model fit statistics, the log-odds, standard errors, odds ratios, and confidence intervals are reported. The log-odds coefficients estimate the change in the logit caused by a unit change in the independent variable. A positive or negative logistic regression coefficient indicates the independent variable increases or decreases the logit of the dependent variable. Because these coefficients are often difficult to interpret, the odds ratios, or Exp(B) is also presented for each of the individual variables (Hosmer & Lemeshow, 2000). If Exp(B) = 1, then the independent variable has no effect on the outcome measure. However, if Exp(B) < 1 then the independent variable decreases the log-odds of the outcome occurring and vice-versa. Confidence intervals are also reported. This provides a range of values where the true adjusted odds ratio lies (with 95% confidence).

Finally, predicted probabilities are presented. It is common to transform odds ratio from the logistic regression equation to predicted probabilities for easier interpretation (DeMaris, 1995). To do this, the coefficients and the appropriate central tendency measure for each control variable are entered into the equation. The sum of the odds is divided by the sum of the odds plus one (P = odds/(1 + odds)). This determines the probability of the event of interest occurring controlling for all other variables in the model. The following chapter presents the results of this study.
#### **CHAPTER 4: RESULTS**

The analyses conducted for this study tested several hypotheses regarding the relationship for both the SORNA tier classification system and Static-99 scores on recidivism. Specifically, recidivism in this study is defined as a new incarceration to a state-run prison in the State of Ohio. There are four types of re-incarceration outcomes measures evaluated. First, any new offense captures when an offender was returned to prison for either a new sex or general offense. Second, a general offense includes any non-sexual offense (i.e., robbery, drug trafficking, etc.). Third, a sex offense is classified by the State as sexually-oriented in nature. This might include charges such as corruption of a minor, sexual battery, or rape. Finally, a registry violation captures when an offender is re-incarcerated for violating the terms of supervision specific to being a registered sex offender. This can include charges such as failure to register or change of address failure.

Four research questions were evaluated. First, the analyses evaluated if SORNA tier classification system significantly predicts recidivism. Second, it was predicted that the Static-99 would significantly predict being re-incarcerated. Third, the analysis evaluated if the distribution of classified offenders were similar for both risk levels and SORNA tiers. Finally, the analysis evaluated if the Static-99 predicted recidivism better than the tier classification system.

To test these research questions, this chapter contains four main sections. First, univariate descriptive statistics for the sample are summarized. Second, the bivariate relationships between the variables of interest and re-incarceration are examined. The third section provides the results of the logistic regression with all variables added to the model. This includes the tier classification or static level, the control variables (race, release type, age, and

61

time at risk), and the outcome measures for recidivism. Finally, the predicted probabilities for re-incarceration are calculated.

### **DESCRIPTIVE STATISTICS**

As previously stated, the sample for this dissertation was compiled from the Ohio Department of Rehabilitation and Correction (ODRC) inmate release databases, the Ohio Sex Offender Registry, and the Ohio Offender Search website. The inmate release databases were originally provided to the University of Cincinnati Center for Criminal Justice Research (CCJR) as part of a larger study examining recidivism outcomes for the Ohio Reentry Coalition Project. This data contained all inmates released from state-run prisons in the State of Ohio from January 1, 2009 to December 31, 2011. For the purpose of this study, a subsample was derived that contained only those offenders who had received a SORNA tier classification from the Attorney General's Office. This section will provide the descriptive statistics for the sample.

### **Demographic Characteristics**

Table 4.1 describes the demographic information for the sex offenders in the sample. The majority of the sex offenders were white (n = 484; 70.9%), whereas 29.1% (n = 199) were non-white (black or other). The mean age for the sample was 37.45 years old (SD =12.889) with a range of 19 to 89 years of age. For descriptive purposes, age categories were created and showed that most participants fell in the 25-34 age group. As described in table 4.1, the majority of offenders were from Cuyahoga County (n = 131; 19%), followed by Franklin (n = 48; 7%), Hamilton (n = 41; 6%), Montgomery (n = 39; 5.7%), and Summit (n = 26; 3.8%). This represents the five largest counties in the State.

Variable	n	%
Race	683	
White	484	70.9%
Non-White	199	29.1%
Age ( $\overline{X} = 37.45$ , SD = 12.889)	683	
18-24	83	12.2%
25-34	269	39.4%
35-44	144	21.1%
45-54	111	16.3%
55-64	47	6.9%
65-74	20	2.9%
75 or Older	9	1.3%
Most Common Counties	683	
Cuyahoga	131	19.1%
Franklin	48	7.0%
Hamilton	41	6.0%
Montgomery	39	5.7%
Summit	26	3.8%
Other	398	58.4%

 Table 4.1: Demographic Data

## **Post-Sentencing Offender Characteristics**

As shown in Table 4.2, the largest group of sex offenders were incarcerated for corruption of a minor (n = 215; 31.5%), followed closely by gross sexual imposition (n = 202; 29.6%). All other offenders were convicted of other charges including abduction, child enticement, and registry violations. The majority of sex offenders in this sample were released to post release control (n = 605; 88.4%). Only 1.6% (n = 11) of the offenders were released with no supervision. The majority of offenders served 7-12 months in prison (n = 225; 32.9%), while approximately 80% (n = 548) served two years or less. There were no offenders in this sample that served a term over 48 months. The average time served was 16.81 months (SD = 9.905) and ranged from 24 – 59 months.

Variable	n	%
Most Common Sex Offenses	683	
Corrupting a Minor	215	31.5%
Gross Sexual Imposition	202	29.6%
Sexual Battery	63	9.2%
Pandering	60	8.8%
Importuning	44	6.4%
Rape	35	5.1%
Other	64	9.4%
Release Type	683	
Post Release Control	605	88.4%
Judicial Release	36	5.3%
Post Release Control to Detainer	31	4.5%
End of Stated Term	10	1.5%
Discharged by Court Order	1	.1%
Months Served	683	
0-6 Months	81	11.9%
7-12 Months	225	32.9%
13-18 Months	113	16.5%
19-24 Months	129	18.9%
25-30 Months	40	5.9%
31-36 Months	72	10.5%
37-42 Months	16	2.3%
43-48 Months	7	1.0%
	Mean	SD
Months Served	16.81	9.905

 Table 4.2: Offense at Conviction and Time Served

### Classification

As previously discussed, a convicted sex offender is classified in two ways. First, any offender convicted of a sex offense is given a Static-99 to determine a risk level upon entrance into the state-run prison. As reflected in Table 4.3, the majority of the offenders in this sample are identified as low-risk (54%), followed by moderate (23.9%) and high (22.1%). Once an offender leaves prison, they are classified into one of the SORNA Tiers by the Attorney General's Office. The purpose of this classification is to assign additional supervision

requirements once the offender is released back into the community. The majority of registered sex offenders are classified as Tier 2 offenders (52.6%), followed by Tier 1 offenders (29.7%) and Tier 3 offenders (17.7%).

**Table 4.3: Classification Data** 

Variable	n	%
Static-99 Risk Level	683	
Low	369	54.0%
Moderate	163	23.9%
High	151	22.1%
SORNA Tier Classification	683	
Tier I	201	29.4%
Tier II	361	52.9%
Tier III	121	17.7%

## Recidivism

As seen in Table 4.4, the base re-incarceration rate for the sample is approximately 38% (n = 260). When technical and registry violations are removed, the re-incarceration rate for a new crime (general or sexual) was just over 20% (n = 140). The sexual recidivism base rate was 10.8%. Registry violations accounted for 7.6% (n = 52) of the re-incarcerations in the entire sample while parole violations accounted for 10%,

Of the 260 total recidivists, 53.8% (n = 140) committed either a new general offense or new sex offense. The majority of these offenders were re-incarcerated for committing a new sex offense (52.9%). Additionally, registry violators accounted for 20% of all the recidivists (n =52). Parole violators represented just over 26% of the recidivists (n =68); however, this type of recidivism was not focused on within the bivariate and multivariate analyses.

The mean number of new offenses is 1.58 (SD = .818). The time at risk variable measures the number of months an offender has been in the community since release. In this

sample, 100% of the offenders were released from prison for a period of 24 months or more. The average time at risk was 37 months (SD = 8.895) and ranged from 24 – 59 months.

Variables	Ν	% Total Sample	% Recidivists
New Incarceration	260	38.1%	
Any New Offense	140	20.5%	53.8%
New General Offense	66	9.7%	47.1%
New Sex Offense	74	10.8%	52.9%
Registry Violation	52	7.6%	20.0%
Parole Technical Violation	68	10.0%	26.2%
		Mean	SD
Total Number of Offenses		1.58	.818
Time at Risk (months)		37.22	8.895

 Table 4.4: Recidivism by New Charge Type

### **BIVARIATE ANALYSIS**

There were four types of bivariate analyses used in this study. First, bivariate associations were calculated using chi-square to further understand the relationship between the Static-99 Risk Level, SORNA tier classification, control variables, and re-incarceration outcome variables. Second, t-tests were used to examine the relationship between the recidivism measures, time at risk, and age. Third, correlations were estimated in order to further understand how the variables are related. Finally, an ROC analysis was conducted for predictive validity purposes.

### **Static-99 Risk Level**

Table 4.5 provides the chi-square results for re-incarceration and Static-99 risk levels. Overall, the three groups were significantly different for being re-incarcerated for a new crime  $(\chi^2_{(2)} = 14.480, p \le .001)$ , a general offense  $(\chi^2_{(2)} = 5.798, p \le .05)$ , and a new sex offense  $(\chi^2_{(2)} = 7.373, p \le .05)$ . As expected, low risk offenders had the lowest percentage of re-incarceration across all recidivism measures compared to moderate and high risk offenders. Additionally, high risk offenders had the highest percentage of re-incarceration across all recidivism measures compared to moderate across all recidivism measures compared to moderate and high risk offenders. Additionally, high risk offenders who were classified as moderate had the highest percentage of re-incarceration for a registry violation compared to low and high risk offenders but the groups were not significantly different. The Static-99 did significantly predict a new sex offense but the relationship was weak (Cramer's V = .104).

	Low	Moderate	High	$\chi^2$ (df)	Cramer's V
Any New Offense	15.2% (56)	25.2% (41)	28.5% (43)	14.480*** (2)	.146***
New General Offense	7.3% (27)	11.0% (18)	13.9% (21)	5.798* (2)	.092*
New Sex Offense	7.9% (29)	14.1% (23)	14.6% (22)	7.373* (2)	.104*
Registry Violation	6.5% (24)	9.2% (15)	8.6% (13)	1.444 (2)	.046

Table 4.5: Chi-Square for Static-99 Risk Level Classification and Recidivism

### **SORNA Tier Classification**

As seen in Table 4.6, Tier I offenders had the highest percentage of re-incarceration across all recidivism measures with the exception of a new sex offense. Being re-incarcerated for a new offense ( $\chi^2_{(2)} = 6.634$ , p  $\leq .05$ ), general offense ( $\chi^2_{(2)} = 9.035$ , p  $\leq .05$ ), and a registry violation ( $\chi^2_{(2)} = 10.094$ , p  $\leq .01$ ) was significant. These results showed that Tier I offenders had higher rates of recidivism compared to Tier II and Tier III offenders. However, the relationships between tier classification and the recidivism measures were weak. There was no difference between the tier groups and their re-incarceration rates for sexual recidivism.

Table 4.6: Chi-Square for SORNA Tier Classification and Recidivism

	Tier I	Tier II	Tier III	$\chi^2$ (df)	Cramer's V
Any New Offense	26.4% (53)	17.5% (63)	19.8% (24)	6.634* (2)	.096*
New General Offense	14.9% (30)	7.5% (27)	7.4% (9)	9.035 (2)*	.115*
New Sex Offense	11.4% (23)	10.0% (36)	12.4% (15)	.660 (2)	.031
Registry Violation	11.9% (24)	6.9% (25)	2.5% (3)	10.094** (2)	.122**

\* $p \le .05$ , \*\*  $p \le .01$ 

## **Risk and Tier Classifications**

In addition to the ability of the classification tools to predict recidivism, this study is also concerned with how similar the tools are to each other. Research question three asked whether *the current tier classification rank on the sex offender registry and the risk assessment risk level are correlated.* The null hypothesis states that the SORNA tier classification system and the Static-99 risk levels are dissimilar, or different. Table 4.7 provides insight into this research question.

According to the Static-99, there were 369, or 54% of the sample, offenders classified as low risk. Of these, 25.7% were classified as a Tier I offender. The majority of the low risk offenders were classified as Tier II offenders (n = 204, 55.3%). The majority of the Tier I offenders were classified as high risk offenders under the Static-99 (n = 55, 36.4%). Nearly 20% of the offenders classified as low risk using the risk assessment instrument were classified as Tier III offenders under the SORNA guidelines.

The majority of the offenders in the sample were classified as Tier II under SORNA (n = 361, 52.9%), whereas, about a quarter were classified as moderate (n = 163, 23.9%). Nearly half of the moderate offenders were classified as Tier II offenders but under 25% of the Tier II offenders were classified as moderate (n = 85). The majority of the Tier II offenders (n = 204, 56.5%) were classified as low risk on the Static-99. Nearly 20% (n = 72) of the offenders classified as Tier II were high risk on the Static-99 and 17% (n = 27) of the moderate offenders were Tier III under SORNA.

There were 151 high risk and 121 Tier III offenders in the sample. About 16% of the sample was classified as both high risk and Tier III. The majority of high risk offenders were classified as Tier II offenders (n = 72), whereas, the majority of Tier III offenders were considered low risk (n = 70). Over 35% (n = 55) of the offenders classified as high risk on the Static-99 were Tier I offenders.

Overall, about a quarter of those offenders classified as low risk were classified as Tier I. About half of those classified as moderate were classified as Tier II. Nearly 16% of those classified as high risk were classified as Tier III. Additionally, the majority of offenders are considered low risk when the Static-99 tool is used to classify offenders. When the SORNA tier system is used, the majority of offenders are classified as Tier II. There are clear differences in the distributions between the two tools. A chi-square test was also conducted to determine the statistical differences between the distributions. The results were insignificant ( $\chi^2_{(4)} = 6.328$ , p  $\geq$  .05). Furthermore, the association was weak and insignificant (Cramer's V = .068).

	Low	Moderate	High	Total
Tier I	25.7% (95)	31.3% (51)	36.4% (55)	29.4% (201)
Tier II	55.3% (204)	52.1% (85)	47.7% (72)	52.9% (361)
Tier III	19.0% (70)	16.6% (27)	15.9% (24)	17.7% (121)
Total	100% (369)	100% (163)	100% (151)	100% (683)

Table 4.7: Crosstab of Static-99 and SORNA Tier Levels

#### Failures

Table 4.8 shows the distribution of offenders who committed any new offense across both the Static-99 and SORNA tier levels, excluding registry or parole violations. There were 53 low risk recidivists in the group and 25 Tier I offenders. The majority of low risk offenders were classified as Tier I (n = 25, 44.6%) and the majority of Tier I offenders were classified as low risk (n = 25, 47.2%). Of those offenders classified as Tier I, 37.2% were found to be high risk according to the Static-99. When combined, moderate and high risk offenders represented over half of the Tier I offenders in the sample (n = 28, 52.8%).

There were 41 moderate risk and 63 Tier II offenders in this sample that were returned to prison for committing a new crime. Over half of the moderate offenders were classified as Tier II (n = 23, 56.1%). Conversely, Tier II offenders were fairly evenly split between the Static-99 risk levels. About a third of the Tier II offenders were classified in each of the low (n = 20, 31.7%), moderate (n = 23, 36.5%), and high risk (n = 20, 31.7%) levels. Nearly 70% of the Tier II offenders were classified as moderate or high risk on the Static-99.

There were 43 high risk and 24 Tier III recidivists in the sample. The majority of those classified as Tier III were classified as low risk on the Static-99 (n = 11, 45.8%). Conversely,

nearly half of the high risk offenders were classified as Tier II. About a third of the high risk offenders were classified as Tier I. About half of the Tier III offenders were classified as low risk and the other half were either moderate or high risk. Only 16% of the high risk offenders were also classified as Tier III. A chi-square test was also conducted to determine the statistical differences between the distributions. The results were insignificant ( $\chi^2_{(4)} = 4.075$ , p  $\geq .05$ ). Furthermore, the association was weak and insignificant (Cramer's V = .121).

Table 4.8: Crosstab of Static-99 and SORNA Tier Levels for Failures

	Low	Moderate	High	Total
Tier I	44.6% (25)	29.3% (12)	37.2% (16)	37.9% (53)
Tier II	35.7% (20)	56.1% (23)	46.5% (20)	45.0% (63)
Tier III	19.6% (11)	14.6% (6)	16.3% (7)	17.1% (24)
Total	100% (56)	100% (41)	100% (43)	100% (140)

Table 4.9 represents the failures specifically for registry violations. There were a total of 52 registry violators in the sample. The majority of these offenders were classified as low risk according to the Static-99 (n = 24). Offenders in the Static-99 groups were evenly split across the Tier I and Tier II groups. There were 13 high risk individuals but only 3 offenders were classified as Tier III. The majority of the high risk offenders in the sample who committed a new registry violation were classified as a Tier II offender. A chi-square test was also conducted to determine the statistical differences between the distributions. The results were insignificant ( $\chi^2_{(4)} = 1.678$ , p  $\ge .05$ ). Furthermore, the association was weak and insignificant (Cramer's V = .127).

Table 4.9: Crosstab of Static-99 and SORNA Tier Levels for Failures

	Low	Moderate	High	Total
Tier I	45.8% (11)	53.3% (8)	38.5% (5)	37.9% (24)
Tier II	45.8% (11)	46.7% (7)	53.8% (7)	48.1% (25)
Tier III	8.3% (2)	0.0%(0)	7.7% (1)	17.1% (3)
Total	100% (24)	100% (15)	100% (13)	100% (52)

## **Control Variables**

There are four control variables used in this study. Race is defined as white and nonwhite and was coded as a dummy variable with the values of 0 (non-white) and 1 (white). Release type refers to the additional supervision required after an offender is released from prison. Of particular concern to the analysis was post release control (PRC). PRC was coded as a dummy variable with the values of 0 (non-PRC) and 1 (PRC). Age is a continuous variable measured in years. Time at risk is a continuous variable calculated as the study lookup date less the offenders release date measured in months. This section provides the bivariate description of these variables.

## Race

Table 4.8 provides the chi-square results for race. Being non-white is a significant predictor for being re-incarcerated compared to whites for any new offense ( $\chi^2_{(1)} = 4.536$ , p  $\leq$  .05) and, in particular, a new general offense ( $\chi^2_{(1)} = 13.247$ , p  $\leq$  .001). However, the Cramer's V statistics suggests that the relationship is somewhat weak (.081 and .139 respectively). Race was not a significant predictor for the re-incarceration for a sex offense or registry violation. Nonetheless, these results show that race is a significant predictor in two of the outcome variables; therefore, it should be included in these analyses as a control variable.

#### Table 4.10: Chi-Square for Race

	White	Non-White	$\chi^2$ (df)	Cramer's V
Any New Offense	18.4% (89)	25.6% (51)	4.536* (1)	.081*
New General Offense	7.0% (34)	16.1% (32)	13.247*** (1)	.139***
New Sex Offense	11.4% (55)	9.5% (19)	.481(1)	.027
Registry Violation	6.6% (32)	10.1% (20)	2.371(1)	.059

\* $p \le .05$ , \*\*  $p \le .01$ , \*\*\* $p \le .001$ 

## Release Type

As seen in Table 4.10, those who released under non-PRC were significantly more likely to be re-incarcerated for a new offense ( $\chi^2_{(1)} = 96.788$ , p  $\leq .000$ ) or sex offense ( $\chi^2_{(1)} = 122.109$ , p  $\leq .000$ ) than those who were not. Results from the Cramer's V test statistic suggest that the strength of the relationship was also strong for any new offense (.376) and sex offense (.423) as well. Overall, these results show that the type of release is a significant predictor; therefore, should be included in these analyses as a control variable.

 Table 4.11: Chi-Square for Release Type

Release Type	PRC	Non-PRC	$\chi^2$ (df)	Cramer's V
Any New Offense	15.0% (91)	62.8% (49)	96.788*** (1)	.376***
New General Offense	8.9% (54)	15.4% (12)	3.302(1)	.070
New Sex Offense	6.1% (37)	47.4% (37)	122.109*** (1)	.423***
Registry Violation	7.4% (45)	9.0% (7)	7.510(1)	.105

 $p \le .05, p \le .01, p \le .01$ 

Age

One of the most robust findings in the field of criminal justice is that the incidence of criminal behavior steadily decreases as an offender ages (Hirschi & Gottfredson, 1983; Sampson & Laub, 2003; Wolfgang & Ferracuti, 1982). Table 4.12 shows the results of the t-test for age and recidivism. There were differences between the two groups that were re-incarcerated for all recidivism outcomes. Those who were re-incarcerated for any new offense ( $t_{(681)} = 5.498$ , p = .0000) had a lower mean age (M = 32.22, SD = 10.113) than those who were not (M = 38.80, SD = 8.848). Those who committed a new general offense ( $t_{(681)} = 5.572$ , p = .000) had a lower mean age (M = 29.23, SD = 38.33) than those who did not. Additionally, those who were re-incarcerated for committing a new sex offense ( $t_{(97.891)} = 2.016$ , p = .047) had a lower mean age (M = 34.89, SD = 11.366) than those who were not (M = 37.76, SD = 13.034). Finally, those who committed a registry violation ( $t_{(681)} = 3.861$ , p = .000) had a lower mean age (M = 30.88,

SD = 7.542) than those that did not (M = 37.99, SD = 13.089). Overall, these results suggest that recidivists in this sample are younger than those who are not. This aligns with previous research on this topic. Therefore, age should be included as a control variable.

	Mean		Mean				
Age	Age Yes	SD	Age No	SD	t-value	df	Sig
Any New Offense	32.22	10.113	38.80	13.185	5.498	681	.000
New General Offense	29.23	7.510	38.33	13.034	5.572	681	.000
New Sex Offense	34.89	11.366	37.76	13.034	2.016	97.891	.047
Registry Violation	30.88	7.542	37.99	13.089	3.861	681	.000

 Table 4.12: Independent T-Test Results for Mean Age and Recidivism

### Time at Risk

Table 4.13 shows the results of the t-test for time at risk. There were differences between the two groups that committed a new offense ( $t_{(216.206)} = -2.908$ , p= .004) and a new sexual offense ( $t_{(92.281)} = -2.303$ , p= .024). Those who were re-incarcerated for any new offense had a higher mean time at risk in term of months released (M = 39.16, SD = 8.848) than those who were not (M = 36.72, SD = 8.847). Additionally, those who were re-incarcerated for a new sex offense had a higher mean time at risk (M = 39.43, SD = 8.745) than those who were not (M = 36.95, SD = 8.883).

 Table 4.13: Independent T-Test Results for Mean Time at Risk (in Months) and

 Recidivism

	Mean		Mean				
Age	TAR Yes	SD	TAR No	SD	t-value	df	Sig
Any New Offense	39.16	8.848	36.72	8.847	-2.908	216.206	.004
New General Offense	38.85	9.020	37.04	8.872	-1.547	79.059	n.s.
New Sex Offense	39.43	8.745	36.95	8.883	-2.303	92.281	.024
Registry Violation	37.60	9.217	37.19	8.875	309	59.064	n.s.

# Time Served

Table 4.14 shows the results of the t-test for time served. Those who were reincarcerated had a lower mean time served across all of the recidivism measures. However, the difference in mean months served between those re-incarcerated and those who were not was not statistically significant. Overall, these results suggest that time served was not a predictor of recidivism in this sample; therefore, this variable will not be included as a control variable in the final analyses.

	Mean		Mean				
Age	TS Yes	SD	TS No	SD	t-value	df	Sig
Any New Offense	16.14	12.107	17.99	10.067	1.865	681	n.s.
New General Offense	15.33	11.223	17.86	10.439	1.853	681	n.s.
New Sex Offense	16.85	12.878	17.71	10.222	.659	681	n.s.
Registry Violation	15.48	7.395	17.79	10.738	1.520	681	n.s.

 Table 4.14: Independent T-Test Results for Mean Time Served (in Months) and

 Recidivism

## Correlations

Table 4.15 shows the correlations matrix between the variables of interests, control variables, and the outcome measures. Two types of correlations were estimated. First, point biserial correlation ( $r_{pb}$ ) was used to determine the strength and direction between two variables when one was dichotomous and the other was continuous. Phi coefficients ( $\phi$ ) were also calculated to determine the relationship between two variables when one was nominal and the other was dichotomous.

Several of the variables in the analyses were significantly correlated. Variables specifically correlated with the SORNA tiers include race (.209), age (.167), any new offense (.096), a new general offense (.115), and a registry violation (.122). Several of the variables were correlated with the Static-99. Specifically, release type (.114), age (-.134), time at risk (.592), any new offense (.146), a general offense (.092), and a sex offense (.104) were all related to the risk levels.

Another purpose of examining these relationships is to gain an understanding for how these variables are related. Specifically, if any two variables are strongly correlated they may be measuring the same construct (i.e. multicollinearity). Bivariate correlations above 0.90 would indicate issues with multicollinearity (Tabachnick & Fidell, 2007). Based on the correlations demonstrated in the table, there does not appear to be any problematic associations between variables.

76

				Release		Time	New	General	Sex	Registry
	SORNA	Static-99	Race	Туре	Age	at Risk	Offense	Offense	Offense	Violation
SORNA	1.000	.096	.209***	.068	.167**	054	.096*	.115*	.031	.122**
Static-99	.096	1.000	.063	.114*	134**	.592**	.146***	.092*	.104*	.046
Race	.209***	.063	1.000	.003	.073	008	081*	139***	.027	059
<b>Release Type</b>	.068	.114*	.003	1.000	.099**	057	376***	070	423***	018
Age	.167**	134**	.073	.099**	1.000	.019	206**	209**	069	.146**
Time at Risk	054	.592**	008	057	.019	1.000	.111**	.060	.087*	.012
New Offense	.096*	.146***	081*	376***	206**	.111**	1.000	.644***	.687***	146***
<b>General Offense</b>	.115*	.092*	139***	070	209**	.060	.644***	1.000	114**	094*
Sex Offense	.031	.104*	.027	423***	069	.087*	.687***	114**	1.000	100**
<b>Registry Violation</b>	.122**	.046	059	018	146**	.012	146***	094*	100**	1.000

Table 4.15: Correlation Matrix for Variables of Interest, Control Variables, and Recidivism<sup>a</sup>

\* $p \le .05$ , \*\*  $p \le .01$ , \*\*\* $p \le .001$ \* The bivariate correlations involve at least one discrete variable, therefore Phi coefficients ( $\phi$ ) and point biserial coefficients ( $r_{pb}$ ) are reported.

## **ROC** Analysis

The next analysis in the current study is the receiver operating characteristics, or ROC. As previously stated, this analysis is used to examine the strength of the classification tools in terms of predictive validity for recidivism (Rice & Harris, 1995). A value under this line indicates an AUC value less than .50 which means that the classification tool did not predict recidivism any better than chance. A value larger than .50, or above the line, indicates the tool predicted recidivism significantly better than chance.

Table 4.16 represents the AUC values for the SORNA tier classification system. The AUC values were not higher than chance across any of the recidivism variables. Based on this analysis, it does not appear that the tier system has predictive validity in terms of recidivism. Figure 4.1 presents the ROC curves for the analysis.

 Table 4.16: AUC values of the SORNA Classification Tool and Recidivism

	AUC	Std Error	C.I.
Any New Offense	.454	.028	.399509
New General Offense	.411	.038	.336486
New Sex Offense	.502	.037	.431574
Registry Violation	.380	.039	.304456



Figure 4.1: Plot of ROC Curve for the SORNA Tier Classification System

Table 4.17 represents the ROC analysis for the Static-99 risk levels. The AUC values were slightly higher than chance across the recidivism variables. However, the values were small and the relationship would generally be considered poor. Based on this analysis, it also does not appear that the Static-99 risk levels have predictive validity in terms of recidivism. Figure 4.2 presents the ROC curves for the analysis.

	AUC	<b>Std Error</b>	C.I.
Any New Offense	.594	.027	.541647
New General Offense	.581	.037	.508655
New Sex Offense	.584	.035	.516653
Registry Violation	.540	.041	.459621

Table 4.17: AUC values of the Static-99 Classification Tool and Recidivism

Figure 4.2: Plot of ROC Curve for Static-99 Risk Levels



## **MULTIVARIATE ANALYSIS**

A multivariate analysis was conducted utilizing logistic regression. The analysis discussed here contained four control variables (race, age, time at risk, and release type), two independent variables of interest (tier classification, Static-99 risk level), and four outcome variables (any new offense, any new general offense, any new sex offense, and registry violation). Prior to interpreting the multivariate analyses, collinearity statistics were evaluated. As previously stated, the diagnostic information for multicollinearity is obtained from the OLS regression output using the same variables that are used in a logistic regression. The tolerance levels for the variables were all close to one, with the lowest value at .941. The variation inflation factors for all variables were between 1 and 1.063. Based on this, there was not an issue with multicollinearity (Menard, 2002).

Tables 4.18 through 4.25 provide the results of the logistic regression analyses examining the relationship between tier classification and Static-99 risk levels and re-incarceration. Within each table, Model A examines the bivariate relationship between the classification scheme and the recidivism outcome measure. Model B includes only those variables that were identified as potential confounding variables and were treated as controls. Model C provides the effects of the classification while controlling for those variables included in Model B.

## **SORNA** Tier Classification

The following tables describe the logistic regression analysis for the tier classification system and the re-incarceration outcome variables. The results described here address the first research question: *Does SORNA predict recidivism?* As previously discussed, recidivism is being measured as any new offense, a new general offense, a new sex offense, or a registry violation. Control variables include race, age, release type, and time at risk (in months).

## Any New Offense

Table 4.18 displays the results specific to being re-incarcerated for any new offense. Model A represents the bivariate relationship between classification and being re-incarcerated for any new offense. These results show that the odds of recidivism were actually less for tier II offenders than tier I offenders. Specifically, there is a 41% reduction in the odds of being reincarcerated for a new offense for a Tier II offender relative to Tier I offenders. All of the confounding variables were significantly associated with committing a new offense in the bivariate analysis shown in Model B. White offenders were at 36% lower odds of being reincarcerated compared to non-whites for a new offense. Being released from prison under PRC resulted in a reduction in the odds of being re-incarcerated by 91% compared to the non-PRC group. Additionally, for every increase in years of age, there was a decrease in odds of a new offense by 5%. The odds of re-incarceration for a new offense increased by 3.4% by every month the offender was released into the community. Adding these variables to the model increases the R<sup>2</sup> from .014 to .246 suggesting that the relationship is not only significant but also substantive.

Model C provides the effects of the tier classification system while controlling for the confounding variables. Overall, the model remained significant ( $\chi^2 = 120.693$ , p  $\leq .001$ ), however, adding the tier classifications did not substantially increase the magnitude of the relationship (Nagelkerke's R<sup>2</sup>) between the variables or result in a better model fit (-2 LL). Overall, none of the tier classification variables were significant predictors of a new offense. Race was also no longer significant in the final model. Being released on PRC, age, and time at risk remained significant and resulted in the same likelihood of re-incarceration as in Model B. Those who released under PRC had .11 times lower odds of being re-incarcerated for any new

offense compared to those who are were not. The odds of being sent back to prison for a new offense decreased by 5% for ever year the offender aged. Finally, for every additional month the offender was in the community following release, there was an increase of 3.4% in the odds that they would be re-incarcerated for a new offense. Overall, this model suggests that the SORNA tier classification system is not a good predictor of an offender returning to prison for committing a new crime when controlling for other relevant confounding variables.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Tier Classification									
(Tier I)									
Tier II	527*	.590	.390 -				434	.648	.407 –
	(.212)		.894				(.237)		1.032
Tier III	.370	.691	.400 –				002	.998	.537 –
	(.279)		1.193				(.316)		1.855
Control Variables									
Race				443*	.642	.415 -	400	.670	.427 –
				(.223)		.994	(.230)		1.051
Post Release Control				-2.218***	.109	.064 -	-2.238***	.107	.062 -
				(.273)		.186	(.275)		.183
Current Age (years)				051***	.950	.930 -	052***	.950	.930 -
				(.011)		.970	(.011)		.970
Time at Risk (mths)				.033**	1.034	1.010 -	.033**	1.034	1.010 -
						1.058	(.012)		1.056
Intercept	-1.355	.258		.896	2.450		1.151	3.160	
	(.095)			(.602)			(.619)		
-2 LL		686.711			576.332			572.179	
Nagelkerke R <sup>2</sup>		.014			.246			.254	
Model Chi-Square (df)		6.161* (2)		11	6.538 (4)**	**	120	0.693*** (6	<u>(</u> )
Block Chi-Square (df)					-			4.154 (6)	

Table 4.18: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNA Tier ClassificationLevels and Re-Incarceration for Any New Offense

## New General Offense

Table 4.19 displays the results of the multivariate analysis for a re-incarceration specifically for a new general offense. Model A shows that Tier II offenders had 54% lower odds of committing a new general offense than those who are classified as Tier I. Furthermore, Tier III offenders were 54% less likely to commit a new general offense than a Tier I offender. Model B represents the confounding variables and the model was statistically significant ( $\chi^2 =$ 56.672, p  $\leq$  .001). Specifically, race and age were significant predictors of a new general offense. Whites were 60% less likely to have a new general offense than non-whites. Additionally, for every year increase in age, the likelihood of a new general offense decreased by 9%. This resulted in an increased in the R<sup>2</sup> value from .026 to .169.

When all the variables were added to the model, both race and age remained significant predictors. Whites had a 62% reduction in the odds of a new general offense compared to non-whites and each year increase in age resulted in a reduction in odds by 9%. Being a Tier II offender was also predictive of a general offense. Specifically, the odds of being re-incarcerated for a new general offense decreased by 49% for Tier II offenders relative to Tier I offenders. Overall, this model suggests that the SORNA tier classification system is not a good predictor of an offender committing a new general offense. While it does predict recidivism in some cases, it predicts in an unexpected way. Specifically, these findings suggest that Tier I offender are at a higher risk than Tier II to recidivate.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Tier Classification									
(Tier I)									
Tier II	775**	.461	.265 -				671*	.511	.287 -
	(.281)		.800				(.295)		.911
Tier III	781*	.458	.210 –				658	.518	.221 –
	(.399)		1.001				(.434)		1.213
Control Variables									
Race				919***	.399	.234-	976***	.377	.217 -
				(.273)		.681	(.283)		.656
Post Release Control				393	.675	.332 –	336	.715	.347 –
				(.362)		1.373	(.368)		1.470
Current Age (years)				097***	.908	.874 -	095***	.909	.875 -
				(.019)		.942	(.202)		.945
Time at Risk (mths)				.027	1.027	.997 –	.026	1.026	.996 –
				(.015)		1.058	(.015)		1.057
Intercept	-2.235			081	.922		.231	1.260	
				(.845)			(.852)		
-2 LL		425.446			377.197			371.547	
Nagelkerke R <sup>2</sup>		.026			.169			.185	
Model Chi-Square (df)		8.421* (2)		5	6.672*** (4	l)	6	52.323*** (6	)
Block Chi-Square (df)								5.650* (6)	

Table 4.19: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNA Tier ClassificationLevels and Re-Incarceration for Any New General Offense

# New Sex Offense

Table 4.20 displays the results of the logistic regression for a re-incarceration for a new sex offense. Model A shows the bivariate relationship between SORNA Tier Classification and a new sex offense. None of the tiers significantly predict re-incarceration for a new sex offence. The control variables were added to Model 2. Release type was a significant predictor for re-incarceration. Specifically, being released from prison under PRC reduced the odds of being re-incarcerated .08 times for a new sex offense compared to those who were released under other conditions (judicial release, detainer, etc.). Race, age, and time at risk were not significant. The model was significant ( $\chi^2 = 87.268$  (p  $\leq .001$ ) and represented an increase in the R<sup>2</sup> from .002 to .242.

In the full model, only two variables remained significant. Being released under PRC supervision reduced the odds of being re-incarcerated by .07 times for a new sex offense compared to those who were not released under PRC and every month an offender was in the community results in a 3.2% increase in the odds. Although the overall model remained significant, none of the tier classification variables were predictive of a new sex offense. Additionally, adding the tiers resulted in a small change in both the model fit (3.812) and the R<sup>2</sup> (.009). Overall, this suggests that tier classification system is not a good predictor of sexual recidivism.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Tier Classification									
(Tier I)									
Tier II	154	.857	.493 –				026	.974	.521 –
	(.283)		1.492				(.319)		1.821
Tier III	.091	1.095	.547 –				.701	2.016	.900 –
	(.354)		2.191				(.412)		4.517
Control Variables									
Race				.292	1.339	.726-	.429	1.536	.818 –
				(.312)		2.469	(.322)		2.886
Post Release Control				-2.580***	.076	.043 -	-2.657***	.071	.40 -
				(.287)		.133	(.292)		.126
Current Age (years)				012	.988	.966 –	016	.984	.961 –
				(.012)		1.011	(.012)		1.008
Time at Risk (mths)				.029	1.029	.999 –	.031*	1.032	1.001 -
				(.015)		1.060	(.015)		1.063
Intercept	-2.108			733	.481		696	.499	
	(.123)			(.724)			(.740)		
-2 LL		467.942			381.327			377.515	
Nagelkerke R <sup>2</sup>		.002			.242			.251	
Model Chi-Square (df)		.654 (2)		87	7.268*** (4	·)	91	1.080*** (6	)
Block Chi-Square (df)								3.812 (6)	

Table 4.20: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNA Tier ClassificationLevels and Re-Incarceration for Any New Sex Offense

## **Registry Violation**

Table 4.21 displays the analysis for offenders re-incarcerated for a registry violation. The bivariate results for tier classification were significant and show that both Tier II and Tier III offenders had decreased odds of returning to prison for a registry violation. Specifically, the odds of being re-incarcerated lowered by 45% for Tier II offenders and 81% for Tier III offenders compared to Tier I offenders. Only current age was significant for Model B. With every year increase in age, the odds of a registry violation decreased by 5%.

In Model C, being a Tier III offender and age remained significant predictors of being sent back to prison for a registry violation. Tier III offenders had 80% lower odds of returning to prison for a registry violation compared to Tier I offenders. Additionally, there was a decrease in the odds by 5.5% for each year older they become. The magnitude of the association, however, was modest at  $R^2 = .10$ . That being said, these results indicate that not only is the tier classification system ineffective in determine which offenders will return to prison for a registry violation but those who are in the highest tier designation actually have lower odds of being reincarcerated compared to those in the lowest tier.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Tier Classification									
(Tier I)									
Tier II	600*	.549	.305 -				508	.602	.331 –
	(.300)		.989				(.306)		1.096
Tier III	-1.674**	.188	.055-				-1.586*	.205	.058 -
			.637				(.640)		.718
Control Variables									
Race				411	.663	.367 –	575	.563	.307 –
				(.302)		1.220	(.310)		1.033
Post Release Control				026	.975	.418 –	.073	1.076	.457 –
				(.432)		2.273	(.438)		2.537
Current Age (years)				062***	.939	.090 -	057***	.945	.913 –
				(.017)		.972	(.017)		1.039
Time at Risk (mths)				.008	1.008	.976 –	.005	1.005	.973 –
				(.016)		1.041	(.017)		1.039
Intercept	-2.496***	.082		775	.461		585		
	(.144)			(.894)			(.903)		
-2 LL		356.860			347.403			338.696	
Nagelkerke R <sup>2</sup>		.038			.071			.100	
Model Chi-Square (df)	1	0.902** (2)		2	0.360*** (4	)	2	9.066*** (6	)
Block Chi-Square (df)								8.706* (6)	

 Table 4.21: Estimated odds ratios and 95% confidence intervals from the logistic regression of SORNA Tier Classification

 Levels and Registry Violations

#### Static-99 risk level

The following tables describe the logistic regression analysis for Static-99 risk levels and the re-incarceration outcome variables. The results described here address the second research question: *Does the Static-99 predict recidivism?* As previously discussed, recidivism is being measured as any new offense, a new general offense, a new sex offense, or a registry violation.

### Any New Offense

The bivariate analysis displayed in Model A of Table 4.22 shows that the Static-99 risk levels did predict being re-incarcerated for a new crime. Specifically, those offenders who are classified as moderate risk were at 1.9 times greater odds to return to prison while high risk offenders were at 2.2 times greater odds relative to low risk offenders. All of the control variables in Model B were significant. Specifically, white offenders had 36% lower odds compared to non-whites while those released to PRC had a 90% lower odds compared to non-PRC offenders. For each year increase in age, the odds of being sent back to prison for a new crime decreased by 5%. Finally, for each month in the community, the odds of being re-incarcerated increased by 3%.

When all of the variables were added to the model, only three of the control variables remained significant. Being white continued to decrease the odds of returning to prison by 36% compared to being non-white and being PRC decreased the odds by 90% comparing to non-PRC offenders. For each year increase in age, an offender was at 5% lower odds of returning to prison for a new crime. In the final model, the Static-99 variables were no longer significant. These results indicate that when race, age, and release type are added to the equation, the Static-99 risk levels are no longer a predictor of being re-incarcerated for a new crime.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Static-99 Risk Level									
(Low)									
Moderate	.630**	1.878	1.193 –				.048	1.050	.583 –
	(.232)		2.957				(.300)		1.890
High	.800***	2.225	1.414 -				.511	1.668	.909 –
	(.231)		3.503				(.310)		3.059
Control Variables									
Race				443*	.642	.415 -	447*	.640	.412 -
				(.223)		.994	(.224)		.992
Post Release Control				-2.218***	.109	.064 -	-2.260***	.104	.061 -
				(.273)		.186	(.275)		.179
Current Age (years)				051***	.950	.930 -	050***	.951	.931 -
				(.011)		.970	(.011)		.971
Time at Risk (mths)				.033**	1.034	1.0101 -	.22	1.022	.993 –
				(.012)		1058	(015)		1.053
Intercept	-1.721***	.179		.896 (.602)	2.450		1.153	3.169	
	(.145)						(.629)		
-2 LL		678.489			576.332			572.803	
Nagelkerke R <sup>2</sup>		.033			.246			.253	
Model Chi-Square (df)	1	4.383*** (2)		1	16.539***		12	0.068*** (6	5)
Block Chi-Square (df)								3.529 (6)	

 Table 4.22: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99 Risk Levels and Re-Incarceration for Any New Offense

# New General Offense

According to the bivariate analysis presented in Model A in Table 4.23, being a high risk offender increased the odds of returning to prison for a new general offense by 105% compared to low risk offenders. As shown in Model B, being white reduced the odds by 60% of being re-incarcerated for a new general offense compared to non-whites. Additionally, for each increase in year of age, there is a 9% reduction in the odds of returning to prison. None of the other control variables were significant predictors.

When all variables were added to the model, only race and age remained significant. The results showed that being white reduced the odds of returning to prison for a general offense by 60% and for each year increase in age the odds were also reduced by 9%. Adding all variables produced a significant model with an  $R^2$  of .172, an increase of .155 from Model A. However, these results indicate that the Static-99 levels are not good predictors of an offender returning to prison for a general offense when the additional control variables were added.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Static-99 Risk Level									
(Low)									
Moderate	.453	1.572	.840 –				079	.924	.431 –
	(.320)		2.944				(.388)		1.978
High	.716*	2.046	1.117 –				.246	1.279	.583 –
	(.309)		3.747				(.401)		2.808
<b>Control Variables</b>									
Race				919***	.399	.234 -	922***	.398	.233 -
				(.273)		.681	(.274)		.680
Post Release Control				393	.675	.332 –	432	.649	.317 –
				(.362)		1.373	(.366)		1.329
Current Age (years)				097***	.908	.874 -	095***	.909	.875 -
				(.019)		.942	(.019)		.944
Time at Risk (mths)				.027	1.027	.997 -	.023	1.023	.985 –
				(.015)		1058	(.019)		1.063
Intercept	-2.539***	.079		061	.922		.004	1.004	
	(.200)			(.845)			(.868)		
-2 LL		428.228			377.197			375.358	
Nagelkerke R <sup>2</sup>		.017			.169			.172	
Model Chi-Square (df)		5.641 (2)		5	6.672*** (4	l)	5	7.511*** (6	)
Block Chi-Square (df)								.838 (6)	

Table 4.23: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99 Risk Levels andCommitting Any New General Offense

# New Sex Offense

Table 4.24 shows the results of the logistic regression for being sent back to prison for a new sex offense. The bivariate results displayed in Model A indicate that moderate offenders were nearly 93% more likely to be re-incarcerated for a sex offence compared to low risk offenders. High risk individuals were at 1.999 times higher odds for returning to prison compared to low risk offenders. The results from Model B show that those offenders released to PRC were at 92% lower odds of returning to prison for a sex offense compared to those who were not released to PRC supervision. None of the other control variables were significant. When all variables were added to the model, only the PRC classification remained significant. These results suggest that the Static-99 risk levels do not significantly predict sexual recidivism when race, age, release type, and time at risk are controlled.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Static-99 Risk Level									
(Low)									
Moderate	.656*	1.926	1.108 -				.205	1.227	.585 –
	(.297)		3.607				(.378)		2.573
High	.693*	1.999	1.108 -				.564	1.757	.802 –
	(.301)		3.607				(.400)		3.849
<b>Control Variables</b>									
Race				.292	1.339	.726 –	.301	1.351	.732 –
				(.312)		2.469	(.313)		2.494
Post Release Control				-2.580***	.076	.043 –	-2.606***	.074	.042 -
						.133	(.291)		.131
Current Age (years)				012	.988	.966 –	010	.990	.967 –
				(012)		1.011	(.012)		1.013
Time at Risk (mths)				.029	1.029	.999 –	.016	1.016	.978 -
				(.015)		1.060	(.019)		1054
Intercept	-2.462***	.085		733	.481		-458	.633	
	(.193)			(.724)			(.761)		
-2 LL		461.233			381.327			379.279	
Nagelkerke R <sup>2</sup>		.022			.242			.247	
Model Chi-Square (df)		7.363* (2)		87	.268*** (4	)	89	.317*** (6	)
Block Chi-Square (df)								2.049 (6)	

Table 4.24: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99 Risk Levels andCommitting Any New Sex Offense
# **Registry Violation**

Table 4.25 displays the results of being sent back to prison for a registry violation. None of the Static-99 risk levels were significant predictors in Model A. In Model B, only age emerged as a significant predictor. For each year increase in age, an offender was 6% less likely to be re-incarcerated for a registry violation. These results remained the same when all variables were added to the model. This suggests that the risk levels are not a significant predictor of returning to prison for a registry violation.

		Model A			Model B			Model C	
	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI	<b>B</b> (S.E)	Exp(B)	95% CI
Static-99 Risk Level									
(Low)									
Moderate	.376	1.457	.743 –				.124	1.132	.504 –
	(.343)		2.866				(.413)		2.543
High	.303	1.354	.670 –				.087	1.091	.450 –
	(.359)		2.736				(.452)		2.647
Control Variables									
Race				411	.663	.367 –	407	.665	.368 –
				(.302)		1.200	(.303)		1.204
Post Release Control				026	.975	.418 –	019	.981	.419 –
				(.432)		2.273	(.434)		2.297
Current Age (years)				062***	.939	.909 -	062***	.940	.909 –
				(.017)		.972	(.017)		1.047
Time at Risk (mths)				.008	1.008	.976 –	.004	1.004	.963 –
				(.016)		1.041	(.021)		1.047
Intercept	-2.665***	.070		775	.461		723	.485	
-	(.211)			(.894)			(.926)		
-2 LL		366.330			347.403			347.312	
Nagelkerke R <sup>2</sup>		.005			.071			.071	
Model Chi-Square (df)		1.433 (2)		2	0.360*** (4	)	2	20.451** (6)	1
Block Chi-Square (df)								.091 (2)	

Table 4.25: Estimated odds ratios and 95% confidence intervals from the logistic regression of Static-99 Risk Levels andRegistry Violations

\* $p \le .05$ , \*\*  $p \le .01$ , \*\*\* $p \le .001$ 

# **PREDICTED PROBABILITIES**

As previously stated, it is common to transform odds ratio to predicted probabilities for easier interpretation (DeMaris, 1995). Coefficients and central tendency measures are entered into the equation. For this sample, the mean age was 37.45. The mean time at risk (in months) was 37.22. Both race and release type were coded as dummy variables, therefore, the modal category of 1 was used. This captures a white male released to PRC supervision. Figures 4.1 through 4.8 provide the predicted probabilities across each recidivism measure.

# **Any New Offense**

Figure 4.3 provides the predicted probabilities of re-incarceration for a new crime by SORNA Tier classification while controlling for age, race, release type, and time at risk. As noted, Tier I and Tier III offenders have a .10 predicted probability of being re-incarcerated compared to Tier II offenders. Tier II offenders have just over 6% chance of being re-incarcerated for a new crime.





Figure 4.4 provides the predicted probabilities of re-incarceration for a new crime by Static-99 risk level while controlling for age, race, release type, and time at risk. Those offenders designated as low risk have a 6.9% chance of being returned to prison for a new crime. Moderate offenders are at an increased risk at 7.2%. High risk offenders have the highest probability of returning to prison. These offenders have an 11% chance of being returned to prison for a new crime to prison for a new crime. This aligns with the expected outcomes discussed in the sex offender risk assessment literature.

It is important to note, however, that the differences between the groups within the SORNA tier classification and the Static-99 were not significant based on the analyses above. The distributions of offenders within both classification systems were not different in terms of recidivism for a new offense when all confounding variables were added to the model. So while these figures show some differences in the predicted probability of re-incarceration, they are small.



Figure 4.4: Probability of Being Re-Incarcerated for Any New Offense by Static-99 Risk Level

# **New General Offense**

Figure 4.5 provides the predicted probabilities of re-incarceration for a new general offense by SORNA Tier classification while controlling for age, race, release type, and time at risk. Tier 1 offenders have the highest probability of returning to prison for a general offense although it was small (2.5%). Tier II offenders have a 1.2% chance while Tier III offenders have a 1.3% chance of being re-incarcerated for a general offense.



**Figure 4.5: Probability of Being Re-Incarcerated for a New General Offense by Tier Classification** 

Figure 4.6 provides the predicted probabilities of re-incarceration for a new general offense by Static-99 risk level while controlling for age, race, release type, and time at risk. As expected, high risk offenders have the highest probability of returning to prison for a general offense. These offenders have a 2.2% chance of general recidivism. Low risk offenders have a 1.7% chance while moderate risk offender have a slightly lower chance at 1.6%. These findings were also insignificant when all controls were added to the final model.

Figure 4.6: Probability of Being Re-Incarcerated for a New General Offense by Static-99 Risk Level



# **New Sex Offense**

Figure 4.7 provides the predicted probabilities of re-incarceration for a new sex offense by SORNA Tier classification while controlling for age, race, release type, and time at risk. Tier I and Tier II offender have nearly an equal chance of returning to prison for a new sex offense with 8.6% and 8.4% respectively. Those who are classified as Tier III offenders do have the highest probability of returning to prison. Of the Tier III offenders, 16% have of sexual recidivism. This was double that of Tier I and Tier II offenders.





Figure 4.8 provides the predicted probabilities of re-incarceration for a new sex offense by Static-99 risk level while controlling for age, race, release type, and time at risk. As expected, those who are considered high risk had the highest probability of sexual recidivism. These offenders have a 12% chance of returning to prison for a new sex offense. Low risk offenders have the lowest probability of sexual recidivism. They have a 7.3% chance while moderate offenders have an 8.8% chance of re-incarceration for committing a new sex offense.

The differences between the groups within the each of these groups were also not significant based on the analyses above. Overall, offenders within both classification systems were not different in terms of recidivism for a new sex offense when the control variables were added to the model. The predicted probabilities displayed here do show differences, however, these differences are small.

Figure 4.8: Probability of Being Re-Incarcerated for a New Sex Offense by Static-99 Risk Level



# **Registry Violation**

Figure 4.9 provides the predicted probabilities of re-incarceration for a registry violation by SORNA Tier classification while controlling for age, race, release type, and time at risk. Tier I offenders have the highest probability (4.6%) of returning to prison for a registry violation. Tier II offenders have a 2.8% chance while Tier III offenders had the lowest probability of being re-incarcerated for a registry violation at .9%.



**Figure 4.9: Probability of Being Re-Incarcerated for a Registry Violation by Tier Classification** 

Lastly, Figure 4.10 provides the predicted probabilities of re-incarceration for a registry violation by Static-99 risk level while controlling for age, race, release type, and time at risk. Interestingly, all of the risk levels had a similar chance of being re-incarcerated for a registry violation. Low risk offenders are at 3.5%, moderate offenders have a 3.9% chance, and high risk offender have a 3.8% chance of being returned to prison for a registry violation. These findings were insignificant when all controls were added to the final model.





#### SUMMARY

The results presented in this chapter examined the relationship between sex offender classification and re-incarceration for a new crime, general offense, sex offense, and registry violation. The first set of logistic regression models examined the impact of the SORNA tier classification system on recidivism while controlling for potential confounding variables. The results suggest this classification scheme is not a good predictor of any type of recidivism. In fact, the only significant findings suggest that those individuals who are classified in the higher tiers actually had lower odds of being re-incarcerated. This was noted in two out of the four multivariate models.

The second set of logistic regression models examined the impact of Static-99 risk levels on recidivism while controlling for potential confounding variables. The Static-99 risk levels were significant across almost all of the bivariate analysis and were in the expected direction. However, when the control variables were added these results dissipated. Race, age, and release type maintained significant throughout these models. This suggests that the influence of at least one of these variables dilutes the effectiveness of the risk assessment classification. This will be further explored in the final chapter. Additionally, the findings will be summarized and further explored.

#### **CHAPTER 5: DISCUSSION**

The purpose of this study was to evaluate sex offender policy and practice in the State of Ohio. Specifically, this study evaluated the SORNA tier classification system and the Static-99 risk assessment tool. There were several research questions, and the related hypotheses, used to further understand the impact of these classification tools.

#### **OVERVIEW OF FINDINGS**

This study evaluated four research questions. Analyses were conducted on each classification approach in order to formulate a response to each question. Research question one and two were concerned recidivism. Recall that the SORNA tier classification system is offensebased and separates offenders into various levels based on the seriousness of their conviction offense, not necessarily based on the risk to recidivate. Offenders are rank ordered into the tiers based on dangerousness. However, SORNA aims to provide law enforcement and citizens with sex offender information so that the public can take "common sense measures for the protection of themselves and their families" (Office of Justice Programs, 2014, p. 4). Presumably this means that the public can use this information to protect itself against a sex offender committing a new offense. So while the guidelines do not specifically mention or address the risk of recidivism, the implication of the stated goals within SORNA suggests that a main concern is reducing the likelihood that an offender will commit a new sex offense. This aligns with the notion of recidivism; therefore, this concept is being applied to the tier system in the current study. Conversely, the Static-99 is a 10-item actuarial risk assessment scale designed to predict sexual and violent recidivism in male adult sexual offenders. Each score is associated with an estimated probability of recidivism and relative risk levels. Research question one and two were concerned with the ability of each approach to predict recidivism.

Research question three evaluates if the distribution of offenders is similar between the two classification schemes. This will provide insight as to whether the two approaches differ in terms of the categories of offenders who recidivate. Research question four evaluates whether either tool is better at predicting recidivism. This section will outline each of these questions and discuss the findings.

### **SORNA** Tier System

Research question one explored whether the SORNA tier classification system predicted recidivism. It was hypothesized that Tier I offenders would have higher rates of recidivism compared to those in the higher tiers. The results showed that these offenders were more likely to be re-incarcerated for both a general offense and a registry violation compared to Tier II and Tier III offenders. These results were consistently shown in several of the bivariate tests and remained significant in two of the models when the control variables (race, release type, age, and time at risk) were added. There were no significant differences between the groups for any new offense or sexual recidivism. Tier III offenders were no more likely than Tier I or Tier II offenders to return to prison for either of these recidivism outcomes. Tier I offenders had the highest predicted probability for committing a new general offense and registry violation. Tier III offenders had the highest predicted probability for being returned to prison for a new sex offense. However, when the ROC curves and AUC values were reviewed, the tier system had no better predictive validity in terms of recidivism than pure chance alone.

Based on these findings, the tier classification may predict re-incarceration but not in the expected way. Tier I offenders did have significantly higher rates of re-incarceration compared to Tier II and Tier III offenders across three of the recidivism measures in the bivariate analyses. This relationship remained significant when the control variables were added to two of the

models. These results indicate that those in the higher tiers had lower recidivism rates than those in the lowest tier. With this in mind, it does not appear that the tier classification system was an effective tool to predict recidivism.

#### Static-99

The second research question examined whether the Static-99 risk assessment tool predicted recidivism. It was hypothesized that low risk offenders would be less likely to re-offend than moderate or high risk offenders. Second, it was also predicted that high risk offenders would be more likely to re-offend than low and moderate offenders.

Low risk offenders were found to re-offend at lower rates than moderate and high risk offenders for any new offense, a new general offense, and a new sex offense in the bivariate analysis. Furthermore, high risk offenders did have the highest rates of re-incarceration compared to low and moderate offenders across those same three measures of recidivism. There were no differences across the groups for registry violations. There was a small correlation found between the tool and several of the recidivism outcomes as well. However, all of these effects disappeared when the control variables were added to the model in the multivariate analyses.

In order to determine what might have caused the relationship between the risk levels and the recidivism variables to become insignificant, each of the control variables were added to the models in a stepwise progression. When time at risk was removed and all other variables remained, the Static-99 risk levels were significant. However, time at risk was not significant in most of the models. The relationship between risk level, time at risk, and the recidivism outcomes may have been affected by one of the other control variables used in the analysis. Specifically, age was significant in most of the multivariate models and is one of the main items captured in the Static-99. It is important to note that age is a component included in many actuarial scales, including the Static-99, but has also been found to add incremental predictive validity above the assessment tool (Barbaree, Langton, & Blanchard, 2007; Hanson, 2006); therefore, it was added as a control variable. In the present study, a bivariate relationship was found between age and the Static-99 but it was rather modest. There may be some relationship between age, time at risk, and the recidivism outcomes that rendered the effects of the Static-99 insignificant in the final models. Those offenders who were re-incarcerated did have a significantly lower mean age than those who were not. No issues with multicollinearity discovered.

Finally, when the ROC curves and AUC values were reviewed, the Static-99 did fare better than chance in terms of predictive validity over several of the recidivism outcomes. However, it was very slight and would generally be considered poor. Furthermore, although several of the bivariate tests were significant, the relationships were often weak. Based on these findings, it appears that the Static-99 was not an effective tool in predicting recidivism.

# **Comparing Classifications**

Research question three was concerned with whether the distribution of offenders under the tier classification and the risk levels were associated. For example, is the distribution of offenders classified as Tier I under the SORNA guidelines similar to the distribution of offenders classified as low risk under the Static-99? This question provides important insight into potential differences in the classification of offenders across the two types of tools.

Overall, the majority of offenders that were classified using the Static-99 were deemed low risk. Conversely, most of the sex offenders in the sample were classified as Tier II offenders. Only about a quarter of those offenders that were classified as low risk were classified as Tier I. Nearly half of the offenders classified as Tier I were considered low risk. The majority of the low risk offenders were classified as Tier II offenders. Nearly half of the moderate offenders were classified as Tier II offenders but under a quarter of the Tier II offenders were classified as moderate. The majority of high risk offenders were also classified as Tier II offenders, whereas, the majority of Tier III offenders were considered low risk. Only about 16% of those who were high risk were classified as Tier III.

Based on these results, it appears that low risk offenders are being placed in higher tiers. Nearly 75% of low risk offenders were classified into either Tier II or Tier III. These low risk offenders were assigned to tier levels that significantly increase their registration and notification requirements. Furthermore, high risk offenders are being placed in the lower risk tiers. Nearly 85% of the high risk offenders in the sample were classified as either Tier I or Tier II and nearly a third were in the lowest tier. Over half of the Tier I group was moderate or high risk. Furthermore, over half of the Tier II offenders were low risk. The majority of the offenders given the Tier III designation were considered low risk on the Static-99. Recall that these offenders are required to register for life.

The distributions of recidivists within each group were also reviewed. While there was significant overlap between the Tier I and low risk offenders, nearly a third of the Tier I offenders were classified as high risk on the Static-99. This might explain why Tier I offenders had higher rates of recidivism across some measures. Over half of the moderate recidivists were classified as Tier II but the Tier II recidivists were fairly evenly split across all of the Static-99 risk levels. The majority of those classified as Tier III were classified as low risk on the Static-99. Finally, nearly half of the high risk recidivists were classified as Tier II.

Based on the results, there was no association between the two groups so they were not similar. The relationship was weak and insignificant. In other words, the distribution of offenders classified using the SORNA tier classification system was different than the distribution of offenders classified using the Static-99. This means that these approaches are classifying individuals differently. Results suggest that many offenders in lower tiers may be higher risk and vice-versa. These findings raise concerns about the placement in each tier.

# **Comparing Tools**

Finally, research question four sought to determine whether the tier system or the assessment tool was better at predicting the risk of recidivism over the other. The research hypothesis postulated that the Static-99 would improve the prediction of recidivism over the SORNA system. Neither the Static-99 nor the SORNA system was able to predict recidivism across all measures of recidivism in all of the models in this study; therefore, neither tool is optimal. However, one tool did fare slightly better than the other in several of the analyses.

According to the bivariate results, those offenders who were categorized as low risk had the lowest re-incarceration rates compared to both moderate and high risk offenders. These results were repeated across three of the four recidivism measures. Conversely, the SORNA tier classification system was able to significantly predict recidivism but in unexpected ways. Tier I offenders were more likely to commit a new offense compared to both Tier II and Tier III offenders across several of the outcome variables. These results remained significant in two of the models when the control variables were added.

Importantly, the Static-99 was able to significantly predict offenders who committed a new sex offense. As previously stated, the Static-99 is a tool designed specifically to determine the risk of sexual recidivism. Low risk offenders did have the lowest rate of sexual recidivism

compared offenders in the higher risk categories. Additionally, high risk offenders had the highest percentage of re-incarceration for a new sex offense. However, as previously mentioned, these effects did dissipate when the controls were added to the model. Conversely, the tier system did not predict re-incarceration for a new sex offense in either the bivariate or the multivariate analyses. The tier designations significantly determined re-incarceration for a new offense, a general offense, and a registry violation in the bivariate analysis and across two of the recidivism measures in the multivariate analysis. These results suggest that the tier system may provide an indication of risk for general offending but not for sexual recidivism.

Another source to consider for this research question is the ROC curves and the AUC values. These tools were used to evaluate predictive validity. An AUC value less than .50 indicates that the classification tool did not predict recidivism any better than chance. A value larger than .50 indicates the tool predicted recidivism significantly better than chance. The SORNA tier classification system had values at or below .50. The Static-99 AUC values ranged from .54 - .59. While this indicates that the Static-99 was able to show improved predictive validity better than chance, it barely did so. In fact, it did so poorly that this test really didn't provide much useful information.

Overall, these findings suggest that the Static-99 is slightly better at predicting the risk of recidivism over the SORNA tier classification system. The bivariate results did show that low risk offenders did consistently have lower rates of recidivism compared to the offenders in the higher risk categories. Furthermore, the Static-99 was able to determine those offenders who were at the highest risk for sexual recidivism. Those offenders who were classified as Tier I offenders were re-incarcerated for both a new general offense and a registry violation more often than those classified as Tier II or Tier III. While the relationship between the risk levels and the

recidivism measures did dissipate when the controls were added, these other results suggest a slight advantage of the Static-99 over the SORNA tier classification system.

#### **Other Findings**

There were other findings in the current study that deserve additional discussion. The age variable was significant across many of the tests. Race was also significantly related to the variables of interest.

#### Age

According to the results, age was correlated with both the SORNA tier classification system and the Static-99, however, in different ways. There was a bivariate positive relationship found between age and the SORNA tiers, although it was weak. This means that older offenders were placed in higher tiers. However, the odds of returning to prison for a new conviction decreased with age when all the variables were added to the model. The initial relationship could be explained in a variety of ways. First, older offenders may have a longer criminal record than their younger counterparts. Additionally, older offenders may have an established history of committing sex offenses. These factors could influence decisions made during the conviction stage. Prosecutors may be less lenient with offenders who would be considered more dangerous or with those who have more established patterns of violence and sexual recidivism. Furthermore, prosecutors may be less will to offer plea bargains to these individuals. The tier system is solely based on the offense at conviction so these factors might explain the bivariate relationship found.

There was a negative correlation found between age and the Static-99. This means that as the age of an offender increased their risk level decreased, and vice-versa. This supports previous research that criminal behavior decreases as an offender gets older, even for sex

offenders (Hanson, 2006). There are many hypothesized reasons for this effect including the formulation of prosocial intimate relationships (Hanson, 2000; Hanson & Harris, 2000; Sampson & Laub, 2003), stability in residence and employment (Kruttschnitt, Uggen, & Shelton, 2000; Levenson, 2007; Levenson & Cotter, 2005; Levenson & Hern, 2007; Mercado et al., 2008; Tewksbury & Levenson, 2007), and even the natural biological processes involved in aging (Gottfredson & Hirschi, 1990; Prentky, Janus, Barbaree, Schwartz, & Kafka, 2006).

#### Race

Non-white offenders were recommitted to prison for a general offense at the same rate as white offenders even though they represented a much smaller proportion of the overall sample. Race was correlated specifically with the SORNA tier system in the bivariate analysis, although the relationship was modest. However, results from the multivariate analyses of both classification tools suggest that being a non-white sex offender increased the odds of returning to prison for a new general offense compared to white offenders.

The relationship between race and SORNA could be explained as an issue related to racial disparity. Racial disparity in the criminal justice system exists when the proportion of a racial or ethnic group is greater than the proportion of that group in the general population. A large body of literature exists that supports the notion of disproportionate punishment for minorities in matters related to criminal justice in the United States (see Mauer, 2006 for a review). In the present study, being non-white did increase the odds of being re-incarcerated. Additionally, rates of re-incarceration for non-whites were disproportionately higher across three of the four recidivism measures. Interesting, race was not found to be a predictor of sexual recidivism in any of the tests. In fact, this is the one recidivism measure where whites and non-whites were re-incarcerated proportionately.

#### **STUDY LIMITATIONS**

Sex offender research is especially difficult due continuously changing legislation and methodological challenges. The current study also faced many of these challenges. First, there is some debate about the effectiveness of the Static-99 to predict recidivism due to low base rates. Sex offenders generally have lower recidivism rates compared to other types of offenders. Second, two methodological limitations are discussed. How recidivism was measured and the length of follow-up in the present study does not meet minimum recommendations proposed in previous research. Third, there are numerous intervening variables there were not considered as part of the current study. These influences might have a profound impact on the recidivism outcomes. Fourth, the tier system classifies offenders based on the seriousness of offense while the risk levels classify based on risk of recidivism. The present study evaluates both approaches in terms of recidivism. Finally, these results apply only to the State of Ohio. Differences in sex offenders policies vary from state to state make generalization more difficult. This section will discuss these limitations in further detail.

#### Variability in Sex Offender Base Rates

The risk of recidivism can be evaluated in two ways. Relative risk refers to an individual offender's level of risk relative to others. Conversely, absolute risk refers to the expected probability of recidivism. Also known as base rates, this value captures the overall rate of recidivism for an entire group of offenders. Estimates of base rates are more difficult to obtain due to the variability of reoffending rates across settings and samples. However, meta-analyses show a recidivism base rate for sex offenders of around 10-15% (Hanson et al., 2002; Hanson & Morton-Bourgon, 2005:2007).

This becomes important in the development of risk assessment tools. An empirically based risk assessment typically starts by considering the base rate of a characteristic in a population. This overall rate can then be adjusted up or down based on various factors. This results in new subgroups, or risk levels in the Static-99, that are then associated with expected recidivism rates. Unacceptable levels of false positives can occur if the event in the population has a low probability of occurring. For example, if the sexual recidivism base rate for a population was 10% and an assessment tool could accurately identify 80% of the failures and successes then the test would lack predictive value because 90% accuracy could have been obtained by predicting that no one would have failed (Rice & Harris, 1995).

There has been some debate as to whether the Static-99 risk levels and risk percentages are able to adequately provide the probability of sexual recidivism due to wide variations associated with base rates (Janus & Prentky, 2003 & Prentky et al., 2006). Two recent studies have evaluated this issue. Helmus (2009) combined raw data from 29 replication studies used to test the Static-99. Recidivism was defined as a new charge in about half of the studies and a new conviction in the other half. The mean sexual recidivism base rate after the 5-years and 10-years follow-up period was lower in the new sample than it was in original samples used by Hanson and Thornton (2000) to develop the tool. Although the relative risk was consistent across studies, the observed recidivism base rates varied considerably. The range in absolute recidivism rates across studies was large enough so that the probability of risk proposed by the Static-99 could lead to false positives (Helmus, 2009).

Additionally, Helmus and colleagues (2012) also examined relative and absolute risk estimates. They combined logistic regression coefficients in a meta-analysis containing 23 samples of sex offenders. Similar results emerged. While there was consistent relative

predictive accuracy across the studies, the predicted recidivism rates varied significantly. They suggest that the variation in absolute recidivism rates complicate the interpretation of the risk measures in the tool. To address this limitation, they recommend that correctional systems use localized recidivism rates in a modified equation in order to accurately predict recidivism. Additionally, they suggest the use of other assessments tools in order to determine and address other potential factors that may affect localized base rates.

While there appears to be accuracy in relative risk, the information gleaned from the risk levels is limited without incorporating specific data related to local recidivism rates. This suggests that using the Static-99 to assess the risk of recidivism may be flawed, therefore, presents a potential limitation in the study. However, the Static-99 is the most widely used sex offender risk assessment instrument in North America (Archer et al., 2006; Jackson & Hess, 2007; McGrath et al., 2003). Despite the limitations discussed here, many states, including Ohio, continue to use this tool to determine the risk of recidivism. So while these results should be viewed with some caution, evaluating this tool does provide important insights into how offenders are being classified in the correctional setting in Ohio.

## **Methodological Considerations**

There are two methodological considerations that may have limited the findings of this study. First, recidivism was measured in the current study as a new commitment. Most studies that evaluate sex offender recidivism are based on new charge or conviction. Second, the average follow-up period for the study was just over three years. This is under the minimum recommended period suggested in other studies.

## Measuring Recidivism

Recidivism is often difficult to discern across studies of sex offenders. Some studies rely on a single outcome measure for recidivism while other collect multiple data points to reflect patterns of recidivism. This might include a new arrest, new conviction, or new commitment to custody. Using arrests will often result in a higher recidivism rate because many individuals are arrested for a variety of reasons but may not be convicted. Measuring recidivism as a new conviction results in a lower recidivism rate compared to arrests because it is more restrictive criterion. However, more confidence is generally placed in reconviction because convictions require proof beyond a reasonable doubt (Maltz, 2001). Finally, a new commitment can occur with a new offense or a technical or parole violation. The former is by far the more restrictive criterion of recidivism because an offender has be found guilty of a new charge and sentenced to prison.

The current study uses recidivism measures capturing a new commitment to a state-run prison in Ohio. There are four recidivism outcomes: any new offense, a new general offense, a new sex offense, and a registry violation. While multiple outcome variables were used, recidivism in the current study was still captured as an offender having a new commitment. Measuring recidivism in terms of new commitments can lead to a low base rate. This may cause a problem when trying to predict recidivism. For example, Wollert (2006) argued that actuarial assessment instruments would have limited predictive accuracy for populations with base rates lower than .25. Prentky and colleagues (2006) found that actuarial measures can perform poorly as the base rate of sexual recidivism drops below 50%. So while the recidivism base rate in the current study is within the range found in several meta-analyses, it is still under what other researchers recommend.

## Follow-Up Period

Studies will often vary in the length of time that they follow-up on offenders once they are released from incarceration. Most recidivism occurs within the first few years after release. Studies have shown that the individual probability of recidivism decreases the longer an offender remains in the community (Harris & Hanson, 2004; Harris et al., 2003). However, longer follow-up periods increase recidivism base rates because the number of recidivists accumulates over time (Campbell, 2007). Researchers recommend a minimum follow-up period of five to ten years for sex offender research (Campbell, 2007; Hanson, 2000). Otherwise, base rates in a particular study may be considered low which contributes to the low base rates problem previously discussed.

This current sample includes offenders who entered the prison system in 2007 and were released starting in the year 2009. Not all individuals in a given study will have the same length of time in the community. This means that some offenders will have more opportunity compared to others to commit additional offenses. For example, an offender released in 2009 has been in the community for two years longer than an offender released in 2011. The maximum follow-up period in the current study was five years but could be as limited as 2.5. The mean follow-up period is just over three years, well below the minimum recommended time.

A longer follow-up period was difficult to obtain partly due to the fact that the SORNA is relatively new legislation. It was enacted in 2006 but offenders in Ohio were not fully classified until over a year later. Furthermore, the tier classification is not retroactive in Ohio so these guidelines only applied to offenders who entered the system after the law was passed. A future iteration of this study may include a re-evaluation once the mean follow-up period exceeds the recommended five and ten year follow-up periods.

### **Intervening Variables**

There are several intervening variables that might have influenced the findings of this study. The tier designation is assigned to offenders based on the conviction offense. The Static-99 is given to offender when they are admitted to prison. Additionally, most of the offenders in this study have been back in the community for a minimum of three years. Many things could happen to an individual during any of these events that may produce meaningful variation in recidivism rates. First, there are several unmeasured system-related factors that could have influenced recidivism. Second, individual level risk factors could have increased or decreased the likelihood an offender committed a new offense. Finally, other variables, such as social support networks and stable employment, might also have influenced the success or failure once an offender was released from prison. While this section does not include every potential intervening variable, those factors that were most likely and have received empirical consideration are discussed. This represents a limitation as none of these variables were captured in the current study.

### System-Related Factors

There are system-related factors that could have influenced the findings of the current study. This might include prosecutorial discretion, the influence of SORNA specific guidelines, and treatment effects. Once an arrest has occurred, prosecutors are given wide discretion on whether to prosecute a case, offer a plea bargain, or dismiss the case altogether. Research suggests that these decisions are influenced by a variety of factors, including the strength of evidence (Albonetti, 1987), culpability of the defendant (Spohn & Holleran, 2001), and extralegal factors, such as race (Davis, 1998; Spohn & Spears, 1996; Ulmer & Bradley, 2006) and gender (Albonetti, 1992). The current study did not capture any data on arrests so no

inference could be made about cases where the prosecutor did not prosecute or the charge was dismissed.

Plea bargaining could have impacted these results because this could have resulted in differences in the distribution of offenders with each tier. Research has suggested that many sexual assaults are plead down to charges with lower severity (Mack & Anleu, 2000; Letourneau, Armstrong, Bandyopadhyah, & Sinha, 2012). An offense-based system, such as SORNA, may be especially susceptible to this influence since the tier designation is solely depended upon the charge the offender is convicted of. There may be many offenders in the current sample who were higher risk but were classified in lower tiers because they used plea bargaining to reduce the severity of their conviction offense. The current study does not evaluate any effects of plea bargaining or any other court-related influences.

Some policies specific to SORNA may have also influenced sexual recidivism. Residence restrictions determine how close a registered sex offender may live to a day care, school, park, playground, or other locations where children may congregate. Mercado and colleagues (2011) surveyed sex offenders in New Jersey and found that 22% were unable to return to their homes upon release because of the restrictions. Tewksbury and Mustaine (2007) found that a third of surveyed sex offenders had to move because of legal restrictions. Because of residence restrictions, many offenders often find housing in disorganized neighborhoods (Mustaine & Tewksbury, 2011; Tewksbury & Mustaine, 2007). They end up in neighborhoods that lack the resources that can assist them in transitioning from prison back into the community (Zgoba, Levenson, & McKee, 2009). Additionally, these areas tend to be less densely populated so they are further away from employment opportunities and public transportation (Levenson, 2008; Levenson & Cotter, 2005). As a result, offenders may be moving further away from supportive environments, thus, increasing the their risk of sexual recidivism (Levenson, 2007; Levenson & Cotter, 2005; Levenson & Hern, 2007; Mercado et al., 2008; Tewksbury & Levenson, 2007). These influences were not considered in the present study.

Finally, participation in sexual offender treatment may also have contributed to a reduction in recidivism. Several studies have concluded that sex offender treatment is effective in reducing recidivism (Hanson et al., 2009; Lösel & Schmucker, 2005). Lösel & Schmucker analyzed 69 studies and found that treated offenders had 37% less sexual recidivism than untreated offenders. Hanson and colleagues (2009) evaluated 22 studies and found a sexual recidivism rate of 10.9% for treated and 19.2% for untreated sex offenders. As previously stated, moderate and high risk offenders in Ohio are required to undergo additional sex offender treatment while in custody. The current study does not consider any influence related the treatment the offenders may have received.

#### **Individual Level Factors**

Individual-level factors may also have impacted findings of this study. As previously discussed, dynamic risk factors are characteristics specific to the offender that are amenable to change. Several dynamic risk factors are associated with adult sex offender recidivism. These include deviant sexual arousal, especially regarding children; antisocial attitudes and beliefs; sexual preoccupation; anger and hostility; difficulties with emotional management; poor self-regulation; impulsivity; cognitive distortions supportive of sexual deviance; poor problem solving skills; resistance to supervision; and intimacy deficits (Hanson & Bussiere, 1998; Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004, Mann et al., 2010). Any of these factors can impact recidivism.

For example, sex offenders often report increased feelings of shame, embarrassment, and hopelessness (Jeglic, Calkins Mercado, & Levenson, 2012; Levenson et al., 2007; Levenson & Cotter, 2005). Sex offenders have also identified stress, fear, or shame associated with community notification (Levenson & Cotter, 2005). Jeglic and colleagues (2012) found that depression and hopelessness were associated with being subjected to notification requirements. The negative mood states brought about by these various psychological stressors could jeopardize successful reintegration and are known dynamic risk factors associated with sexual recidivism (Hanson & Harris, 1998: 2001).

Hanson and Harris (2001) found that high levels of persistent stress can increase the likelihood of recidivism. Furthermore, Cortini (1998) found that some sex offenders engage in deviant sexual behaviors to deal with negative mood states due to a lack of other coping strategies. Lussier and colleagues (2001) surveyed men who had committed sex crimes and also found that they engaged in deviant sexual behavior to cope with negative psychological stressors. An inability to cope can lead to negative mood states which can increase the risk of sexual offending (Marshall et al., 1999). Taken together, these studies suggest that sex offenders are subject to unique psychological stressors which may increase their likelihood to sexually reoffend. Neither the SORNA tier classification system nor the Static-99 assessment tool captures the influence of these variables. Further, the current study did not include any of these factors in the analyses.

# **Other Factors**

A sex offender is at an increased risk to sexually reoffend when they have little or no support system (Hanson, 2000; Hanson & Harris, 2000). Family members are the primary source for these support systems. They can assist sex offenders in avoiding situations that can

lead to reoffending and help them cope with emotions in order to reduce their risk to victimize. Community notification may bring about unintended consequences by weakening these support systems.

In a survey of 584 family members of registered sex offenders in the United States, Levenson and Tewksbury (2009) reported feelings of stress, isolation, shame, and embarrassment from loved ones as a result of the sex offender's status. Furthermore, they also reported that many had lost friends or close relationships and many felt afraid or feared for their own safety due to community notification (Levenson & Tewksbury, 2009). Farkas and Miller (2007) interviewed 72 family members of sex offenders across six states. Similar themes emerged. Family members reported feelings of depression, hostility, hopelessness, shame, and isolation. They also found that the sex offender's status resulted in economic hardship for the family due to housing and employment disruptions brought about by community notification (Farkas & Miller, 2007). Endangering these support systems hinders successful reintegration for these offenders. The current study did not account these influences.

Additionally, sex offenders often have difficultly securing employment due to some registration and notification policies. Sex offenders experience reduced employment opportunities even compared to other convicted felons (Levenson, 2008). Levenson and Tewksbury (2009) found that nearly half of all sex offenders had difficulty finding jobs once released back into the community. Tewksbury (2007) found that nearly half of sex offenders in the State of Kentucky and over a quarter in the State of Florida lost their jobs because they were registered sex offenders. Mercado and colleagues (2008) found that 52% of surveyed sex offenders lost their jobs as a result of community notification.

Employment is a well-established criminogenic need (Andrews & Bonta, 2010). Successful reintegration partly depends on an offender's ability to obtain gainful employment. Having a job allows an offender to support themselves and their families. Stable employment can lead to lower sexual recidivism (Kruttschnitt, Uggen, & Shelton, 2000). Employment was not considered in the current study.

#### **Measuring Seriousness**

As previously stated, the SORNA tier classification system was not developed to predict recidivism. Rather, the SORNA tiers merely classify individuals based upon the seriousness of the crime for which they were convicted. This is used as an indicator of the potential danger an offender may pose. Those offenders who are in the higher tiers are required to registrer longer and provide more frequent updates to law enforcement. Additionally, these offenders have specific community notification requirements that may include correspondence sent from the local law enforcement agency informing citizens that the offender has moved into the community. The tier system was developed specifically so that those offenders who are considered more dangerous are subjected to additional sanctions.

Conversely, the Static-99 is based on multiple factors specific to an individual although the tool also captures information about dangerousness. Specifically, scores on the Static-99 are influenced by prior criminal history and victim details. These factors establish patterns of behavior. However, the main purpose of the tool is to determine the potential risk of recidivism an offender poses so several other factors are also considered. The risk levels are then used in a variety of ways in the correctional setting.

There is some overlap between the SORNA tier classification system and the Static-99 risk levels. However, the tier system is primarily based on the seriousness of offense to

determine dangerousness. The risk levels incorporate several factors in order to determine the risk of recidivism. This represents a limitation in the current study because the tools were not specifically designed to measure the same concept.

## **Generalization of Research Findings**

Another limitation of this study is that it included an analysis of only a single state; therefore, the results may be difficult to generalize. As previously discussed, states differ in how they implement SORN policies. Even within the SORNA, states vary on which guidelines they choose to implement (see Appendix 1a for a comparison). For example, states may differ in which statutes are covered in each of the tier levels. SORNA requires gross sexual imposition to be classified as a Tier III offense when the victim is under 13, a Tier II offense when the victim is between 13 and 18, and a Tier I offense if the victim is 18 years of age or older. Ohio classifies this offense as a Tier I offense if the victim is 13 years of age or older, and a Tier II offense if the victim is under 13. Additionally, SORNA requires that importuning be classified as a Tier II offense this as a Tier I offense. Kansas, on the other hand, adheres to all SORNA tier guidelines, including which offenses are covered within each tier. This means an offender convicted of importuning or gross sexual imposition with a victim who is 16 years old would be a Tier I offender in the Ohio but would be considered a Tier II offender in Kansas and several other states.

This is one example where Ohio was out of compliance in their SORNA Substantial Implementation Packet submitted to the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking (SMART) in September 2009. There are a total of fifteen items considered for a state to become SORNA certified; however, not all items must be fully achieved for a state to obtain the status of substantially implemented. Recall that this

designation is required to avoid a 10% penalty in JAG funding. Other items considered include the type of information gathered, length of registration, type of community notification, verification requirements, retroactive assignment, and how a state deals with failures. This means that even SORNA compliant states can be vastly different in how they handle sex offenders. This makes generalizing these findings to other states difficult.

#### **INTERPRETATIONS**

The primary goal of this study was to examine the effectiveness of the SORNA tier classification system in terms of predicting recidivism. The results found that the offenders classified in the lower tier levels had higher recidivism rates than those in the higher tier levels. Two potential interpretations of these findings warrant specific discussion. First, lower tiered individuals may have higher recidivism rates because higher tier offenders are being deterred from committing a new crime. This was a stated goal of SORNA; therefore, these results may lend some support to this interpretation. Second, there may be other processes at work that have resulted in the erroneous classification of some offenders into a lower tier designation. As previously discussed, this might include processes specific to court proceedings. While the current study does not have data to support either interpretation definitely, there have been several other researchers who have pondered similar questions. These studies might provide valuable insight into the most likely explanation for the findings of this study.

# **Potential Deterrent Effects**

Those individuals in the higher tiers had a lower recidivism rate compared to those in lower tiers. One interpretation may be that the registration and notification policies are leading to a lower recidivism rate for those offenders in the higher tiers. In other words, there may be a deterrent effect inherit in the tier classification system. According to the deterrence doctrine,

individuals will choose not to commit a sex crime if they believe the penalty will outweigh the potential pleasure they may gain from committing the act. Sex offender laws and specific policies attempt to increase penalties so that general and specific deterrence can be achieved.

Sex offender laws increase the legal threat of punishment. General deterrence is achieved when the fear of the consequences prescribed under the law increases compliance. Additionally, offenders are deterred from engaging in criminal behavior as a result of the perceived punishment received by other offenders. The increased fear of both legal and social consequences is hypothesized to increase the likelihood of general deterrence (Nagin, 1998; Wikström, 2008). Specific deterrence is achieved when policies directed at the convicted individual are successful in dissuading him from committing a new offense. Increased supervision and surveillance are often hypothesized to deter sex offenders from committing new offenses (Terry, 2006; Wright, 2009). There are a handful of studies that could provide valuable insight on the possible deterrent effects SORN policies might bring about.

Vásquez and colleagues (2008) used a quasi-experimental design to evaluate the deterrent effect stemming from the community notification component of SORN. They hypothesized that registered sex offenders would be deterred from committing a new offense as a result of increased community scrutiny. Ten states were analyzed in the study. They found that California experienced an increase in sexual recidivism, three states had a reduction in rape rates, and six states did not experience any significant changes (Vásquez et al., 2008). Adkins, Huff, and Stagburg (2000) used a matched pair sample to compare sex offenders in Iowa who were subjected to additional supervision and community notification to those who were not. They found no differences in the recidivism rates between the two groups. Schram and Milloy (1995) found similar results in Washington.

Sandler and colleagues used a time series analysis to examine if New York's SORN policy influenced general deterrence among adult sex offenders. Using monthly modeling across 22 years, they reported the policy had no deterrent effect (Sandler, Freeman, & Socia, 20008). Letourneau and colleagues (2010) used adult arrest data in South Carolina to evaluate if increased notification and supervision stemming from their SORN law brought about general deterrence. They also did not find a general deterrent effect with the new legislation (Letourneau et al., 2010). Other studies have found similar results (Agan, 2011; Freeman, 2009; Letourneau & Armstrong, 2008).

Duwe and Donnay (2008) used a retrospective quasi-experimental design and found that community notification did have a deterrent effect on sexual recidivism but not on non-sexual recidivism. They found that notification decreased the risk of re-incarceration for a new sex offense by 76% compared to those who were not subject to additional notification guidelines. They suggested that the increased likelihood of isolating and ostracizing effects brought about with community notification may have been the mechanism by which deterrence was achieved. Meloy (2005) used BJS data for 917 sex offenders across 17 states to evaluate the effect of SORN policies for community probationers. He evaluated risk factors specific to sex offenders and defined which variables acted as a deterrent. Overall, he found that informal social controls had the strongest impact on whether community notification had a deterrent effect. Specifically, residential stability and having an intimate partner increased the effect. The policy did not have an effect for those offenders who did not have these support systems in place.

It is not possible to definitely determine if the results found in the current study equate to a deterrent effect. One way to evaluate these effects would be to compare the present outcomes with a control group comprised of individuals who are not subjected to the additional supervision or notification requirements. This is not currently possible in Ohio as all sex offenders are subjected to same sanctions under the law. That being said, the studies discussed here did evaluate the deterrent effect of policies enacted that increased both supervision and notification, such as those found in SORNA. These studies suggest that there may be deterrent effects but it is unlikely. If there are deterrent effects they may be specific to certain groups of offenders, such as those who have a strong support system, as Meloy noted. If the deterrent effect is related to isolation and shame, as suggested by Duwe and Donnay, this effect may be short-term. As previously stated, research suggests that SORN policies could isolate and shame offenders which can ultimately lead back to recidivism (Cortini, 1998; Hanson, 2000; Hanson & Harris, 2000; Jeglic, Calkins Mercado, & Levenson, 2012; Levenson et al., 2007; Levenson & Cotter, 2005; Marshall, Anderson, & Fernandez, 1999). Additional studies are needed on this topic to determine if this effect exists and to define the causal mechanisms.

#### **Erroneous Classification**

An additional interpretation of these findings would suggest that Tier I offenders have higher rates of recidivism because this group has many misclassified higher risk individuals. A likely source for misclassification could be found during the conviction stage. As previously mentioned, prosecutors are given discretion whether to prosecute a case, offer a plea bargain, or dismiss the case altogether. It is estimated that some 90% of cases are settled through plea bargaining (Cole & Smith, 2013). Sex offenders can also plead down to lesser offenses in many states. In fact, research has suggested that many sexual assault cases are plead down to lower severity sex crimes, converted to misdemeanor charges, exchanged for non-sex related pleas, or dropped all together (Mack & Anleu, 2000). An offense-based system, such as SORNA, may be
especially susceptible to this because the tier designation is solely depended upon the charge the offender is convicted of.

Levenson and colleagues (2012) used data on nearly 3,000 sex offenders charged with one or more sex offenses in South Carolina to determine if SORN policies influenced the probability of plea bargaining. Their results indicated that plea bargains significantly increased for sex offense cases across subsequent time periods following the enacted the registration and notification laws while this was not true for other crimes in the state. They also found significant increases in the likelihood of plea bargains involving the assignment of different types of charges that resulted in a lower severity conviction (Letourneau et al., 2012).

Because the tier levels are offense-based, the offense in which the offender is convicted of determines which tier they are assigned. Offenders that plead down to lesser changes may artificially deflate the value of the tier classification system (Levenson, 2010). This may result in a registry where many high risk offenders are erroneously classified into lower tiers.

As with the deterrent effect, data does not exist in the current study to definitively show if this is occurring, however, several of the analyses provided some additional insight. The makeup of the sample used this study shows that the majority of Tier I offenders were classified as moderate or high risk on the risk assessment tool. When only failures were taken into consideration, nearly a third of the Tier I offenders were found to be high risk. Additionally, nearly half of the high risk recidivists were classified as Tier II. Interestingly, the majority of those classified as Tier III were low risk on the Static-99.

The findings suggest many of those offenders who were determined to be high risk were assigned to lower tiers. Additionally, the limited research available suggests that many offenders plead down resulting in lower severity convictions. A future study could incorporate data from

133

plea bargains in Ohio with the outcomes found in this study to evaluate if this as a possible explanation for the current findings.

## RECOMMENDATIONS

The present study evaluated if the SORNA tier classification system could be used as a tool to predict recidivism. The results indicate that the tool did not adequately predict who will be re-incarcerated for a new crime, and most importantly, a new sex offense. Furthermore, some individuals who were classified in lower tier levels reoffended at higher rates than those in the higher tiers. It was hypothesized that the Static-99 would provide a better prediction of recidivism based on previous research. These results also indicated that this tool did not predict who would recidivate. However, some recommendations can be made based on these findings.

While neither tool was able to effectively predict recidivism in the final models, the Static-99 did show promise and could be used to augment the tier system. In several of the analyses, the Static-99 did predict recidivism in the expected way. Specifically, low risk offenders had the lowest recidivism rates while high risk offenders returned to prison more often. Although these findings did not remain in the multivariate analysis, there is a wealth of research lending support that this tool does have predictive qualities. Perhaps a hybrid model could be implemented that utilizes both the Static-99 and the SORNA tier classification for some aspects of registration and notification.

For example, SORNA requires that each jurisdiction maintains a public sex offender registry website and publish certain registration information. In a 2008 national survey about the implementation of SORNA, many states expressed concern about the guidelines because law enforcement and citizens are unable to distinguish between the tier designations of registered sex offenders (Harris & Lobanov-Rostovsky, 2012). The registry could be updated to include

information specific to risk for each offender and note what each of the risk levels mean in terms of probability of reoffending. Providing this information to citizens would give the public a better indication of the potential harm an offender may pose.

Implementing this policy change could be accomplished in Ohio more easily than in other states. The state is currently using the Static-99 to classify offenders when they entered into the prison system; therefore, the infrastructure to conduct the assessment already exists. This recommendation would not require any additional resources in terms of administering the assessment. Alternatively, there would be a cost to update the current website to include this information. The cost would depend primarily on how the current offender data is being sourced to the website. This could be as minor as adding an additional field on the website interface that displays the risk level or as extensive as developing a new system to import the Static-99 scores from an ODRC database. This cost would have to be considered.

If adding the Static-99 to the registry is cost prohibitive, the current website could be updated so that the meaning of the tier designations is made clearer. Currently, the website does not provide an explanation of the tiers. This may be why many people equate the tiers levels as an indication of risk. The lack of definition is likely what fuels the confusion about the intent of the tier classification. Each tier could be explained in terms of registration and notification requirements. The website interface could be explained so that users have a clear indication that the tier level does not necessarily reflect risk.

If clarifying each tier on the website is not possible, SORNA guidelines state that the tier designation is not required to be reported on the registry (Office of Justice Programs, 2013b). Not having a tier designation may be better than having one that is misunderstood. These last

135

two items should be achieved relatively easy under the current system and at minimal costs. These changes may alleviate some of the confusion surrounding the rank order of the tier system.

## **SUMMARY**

In recent years, the United States has seen a proliferation of legislation to track and manage sex offenders. Responsible public policy requires a continuous process of evaluation that measures progress toward goals. The current study evaluated one part of the SORNA policy as implemented in the State of Ohio. The author wanted to determine if the SORNA tier classification system could be used as a tool to predict recidivism. Additionally, the Static-99 is an actuarial risk assessment given to all sex offenders when they enter a state-run prison in Ohio. Prior research has suggested that this tool would moderately predict sexually recidivism. The current study evaluated this tool to see if this was the case. Both approaches were compared to see if they were associated with one another and if one was able to predict recidivism better than the other. This study adds to a growing body of research evaluating two separate tools used to manage the classification of sex offenders.

The tier classification system was able to predict recidivism but in an unexpected way. Those who were classified as Tier I were re-incarcerated at higher rates compared to Tier II and Tier III offenders over several of the analyses. There were no differences in the between the groups for sexual recidivism. It is unclear if these results were due to a deterrent effect or misclassification. Overall, these findings suggest that the SORNA tier classification system does not provide a clear indication of the potential risk an offender may pose to recidivate.

Conversely, the Static-99 risk assessment tool offered some insight into the risk of recidivism. Those who were classified as low risk had the lowest levels of re-incarceration in the bivariate analyses. Additionally, offenders who were classified as high risk also had the highest

level of risk. However, these results dissipated when controls were added and those original relationships were weak. These findings suggest Static-99 may be slightly better in term of understanding the risk of recidivism over the tier system but neither tool was optimal. Several limitations were discussed.

The main recommendation proposed in this study is to augment the current tier system with the risk assessment tool whenever possible to address registration and notification requirements. Utilizing a risk level derived from an evidence-based risk assessment tool, such as the Static-99, could be used to enhance some of these guidelines. Specifically, the sex offender registry website could be updated to include a level of risk. The current tier system does not provide this. This could improve public perceptions about the potential danger an offender may pose. While this recommendation does not address many other problematic guidelines specific to SORNA, providing risk information to the public can address some of the confusion inherent in the current tier system.

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## APPENDIX

	•				IV. Required			
	Date of	I. Transfer of	II. Offenders	III. Offenses	Registry	V. Where	VI. IR:	VII. IR:
	Compliance*	Information	on Registry	Tiered	Information	Registered	Generally	Retroactive
Alabama	7/14/2011	Х		Х	Х	Х	Х	
Colorado	11/5/2013	Х		Х		Х		
Delaware	3/1/2010	Х	Х	PARTIAL		Х	Х	PARTIAL
Florida	12/1/2009	PARTIAL	PARTIAL		PARTIAL	Х	Х	PARTIAL
Kansas	7/19/2011	Х	Х	Х	Х	Х	Х	Х
Louisiana	7/7/2011	Х				Х	Х	
Maryland	7/19/2011	Х			Х	Х	Х	Х
Michigan	5/9/2011	Х	PARTIAL			Х	Х	Х
Mississippi	7/27/2011	Х	Х	Х		Х	Х	Х
Missouri	12/19/2011	Х	Х			Х	Х	Х
Nevada	2/1/2011	Х				Х	Х	
Ohio	9/1/2009	Х				Х	Х	
Pennsylvania	9/1/2012	Х				Х	Х	
South Carolina	7/1/2011	Х	Х	Х		Х	Х	
South Dakota	4/1/2010		Х			PARTIAL	Х	PARTIAL
Tennessee	9/1/2011	Х				Х	Х	
Wyoming	4/1/2011	Х				Х	х	

Appendix 1a: SORNA Compliance by State

\*The first of the month was used if only mm/yy was provided

Appendix 1a: SO	RNA Compl	liance by	State
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		VIII.	IX.		XI.				
	Date of	Registration	Verification	X. Website	Community	XII. Failure	XIII. Failure	XIV:	XV: Tribal
	Compliance*	Current	Requirements	Requirements	Notification	to Register	to Appear	Absconded	Considerations
Alabama	7/14/2011	Х	Х	Х		Х	Х	Х	Y
Colorado	11/5/2013					Х	Х		Υ
Delaware	3/1/2010	х		Х	PARTIAL	Х	Х	Х	N
Florida	12/1/2009		PARTIAL		PARTIAL	Х	Х	Х	N
Kansas	7/19/2011	Х	Х	Х	Х	Х	Х	Х	Y
Louisiana	7/7/2011		Х	Х	Х	Х	Х	Х	Y
Maryland	7/19/2011	Х		Х	Х	Х	Х	Х	N
Michigan	5/9/2011	Х	PARTIAL		Х	Х	Х	Х	Y
Mississippi	7/27/2011	Х		Х	Х		Х	Х	Y
Missouri	12/19/2011	Х		Х	Х	Х	Х	Х	N
Nevada	2/1/2011		Х		Х	Х	Х	Х	Y
Ohio	9/1/2009		PARTIAL	Х	Х	Х	Х	Х	N
Pennsylvania	9/1/2012	Х	Х	Х	Х	Х	Х	Х	N
South Carolina	7/1/2011		Х	Х	Х	Х	Х	Х	N
South Dakota	4/1/2010	PARTIAL	PARTIAL	PARTIAL	PARTIAL	Х	Х	Х	Y
Tennessee	9/1/2011					Х	Х		N
Wyoming	4/1/2011	Х	PARTIAL		Х	Х	Х		Υ

\*The first of the month was used if only mm/yy was provided