AN EXAMINATION OF THE PROFESSIONAL OVERRIDE IN THE LEVEL OF SERVICE INVENTORY – ONTARIO REVISION (LSI-OR)

A Thesis Submitted to the College of
Graduate Studies and Research
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts
in the Department of Psychology
University of Saskatchewan
Saskatoon

By
LAURA CHRISTINE ORTON

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from the University of Saskatchewan, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by the professor who supervised my thesis work or, in their absence, by the Head of the Department or the Dean of the College in which my thesis work was done. It is understood that any copying, publication, or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of Saskatchewan in any scholarly use which may be made of any material in my thesis.

Requests for permission to copy or to make other use of material in this thesis in whole or part should be addressed to:

Head of the Department of Psychology
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 5A5

ABSTRACT

Despite the overwhelming amount of research conducted on forensic risk assessments in the last twenty years there has been a distinct lack of information on the use of the professional override to adjust actuarial scores. The current study was designed to fill the gap in the research literature examining the effects from using the professional override in the Level of Service Inventory – Ontario Revision (LSI-OR). While there has been recent research conducted indicating that overrides or adjusted actuarial risk assessments are not as accurate as purely actuarial methods (Gore, 2007; Hanson et al., 2007; Hogg, 2011; Wormith, Hogg, & Guzzo, 2012) there is a lack of research conducted solely on the use of professional overrides in forensic risk assessment. This study analysed data from 40,539 provincial offenders in Ontario, Canada. The sample was primarily male (83.9%), White (63.0%), and was comprised of violent (53.0%), sexual (3.3%), and non-violent offenders (43.7%). Predictive validity analyses were conducted to determine the effects of the override for the total sample and then stratified by gender and ethnicity. Special attention was paid to the effects of the override compared between violent, sexual, and non-violent offenders.

Results showed that the General Risk/Need score was most strongly correlated with non-violent recidivism over violent and sexual recidivism and that the General Risk/Need was significantly more correlated with non-violent recidivism for female offenders compared to male offenders. Correlation analyses showed that the initial risk levels appeared to be better predictors of general, violent, and non-violent recidivism whereas the final risk levels appeared to be better predictors of sexual recidivism in some cases. For violent and sexual offenders, the initial risk levels were significantly stronger predictors of general, violent, and non-violent recidivism than the final risk levels yet the final risk levels were non-significantly stronger predictors of sexual recidivism. There were no significant differences between the initial and final risk levels' prediction estimates of the recidivism outcomes for non-violent offenders. Further, there were many more overrides used to increase risk levels than to decrease risk levels overall; sexual offenders had more overrides used to increase risk levels than violent and non-violent offenders combined. Risk level matrices indicated that there were many discrepancies between the number of offenders overridden and their corresponding recidivism rates. Regression analyses indicated additional discrepancies between the significant predictors of recidivism and the significant predictors of the override.

Though there were certain methodological limitations to the current study the results still provide important information on the use of the override in a sample of male and female Ontario offenders. The results showed that the override resulted in decreased predictive validity of multiple recidivism outcomes. The conflicting information between the prediction of sexual recidivism and general, violent, or non-violent recidivism prevents a clear message being drawn from this study, yet the equivocal results provide further doubt and criticism of the use of adjusted actuarial practices in forensic risk assessment. Training assessors for how to use the override and examinations of the effects of the override for various offender groups must be improved and more frequently monitored. Further research should also focus on the reasons why overrides are used and if there are any biases concerning certain offender types. Misuse of the override has far-reaching ethical and legal implications that must be limited to ensure the future of forensic risk assessment is as accurate and appropriate as possible.

ACKNOWLEDGEMENTS

I first need to thank my supervisor, Dr. Steve Wormith, for all of his help, guidance, support and patience over the last three years. He listened to my ideas as they were and was always encouraging with the projects I wanted to tackle. I was lucky to be a TA for Steve and to be able to help students in the area of psychology I am most passionate about, I was happy to have Steve as a teacher to learn from one of the best in the field, and I was happy to experience his quirks, his ravenous eating habits, and his humour all throughout. A better supervisor could not be found.

I also need to thank my wonderful committee made up of Dr. Karen Lawson and Dr. Mark Olver. Your combined research experience, intelligence, patience, and insightful suggestions made my thesis so much more than it would have been without you. You are great people to be around and I am very fortunate to have known you both inside and outside the university halls.

To my family and friends, near and far, I must extend the most heartfelt thank you for your continued support over the years – supporting my crazy dreams, supporting my plans to move to the prairies, and just supporting me. I would not have been able to accomplish all that I have without knowing you were with me every step of the way. To my friends from the U of S, I will always be happy I made the choice to move to Saskatoon and would not trade my time there for anything. Grad school is a crazy time and I am so thankful I was able to share this experience with you.

TABLE OF CONTENTS

LIST OF TABLES

APPENDIX C – LIST OF TABLES

APPENDIX D – LIST OF TABLES

APPENDIX G – LIST OF TABLES

APPENDIX H – LIST OF TABLES

LIST OF FIGURES

APPENDIX E – LIST OF FIGURES

APPENDIX F – LIST OF FIGURES

1.0 INTRODUCTION

The last fifty years of forensic psychology and assessment research has seen a continued growth in the number and quality of forensic risk assessment measures. These measures have moved through distinct generations of change and the research literature is now in an on-going debate over which type of measure is the strongest predictor of recidivism. One facet of this debate is the use of the professional override in forensic risk assessments to adjust risk levels which remains largely unstudied. The four generations of risk assessment will be outlined, followed by a summary of the key principles of risk assessment including the actuarial versus clinical debate, concluding with an overview of the current literature examining the effects of professional overrides in forensic risk assessment.

1.1 Generations of Risk Assessment

Risk assessment measures in the last century have moved through what is now understood as the four generations, a concept originally coined by Bonta (1996). First generation risk assessment measures were largely based on unstructured clinical judgment with almost no statistical or empirically-based resources guiding decision-making (Grove & Meehl, 1996). Criticized for its lack of a standardized approach and being too vulnerable to human errors, risk assessment measures moved away from unstructured clinical judgment to actuarial assessments with a foundation in empirically-derived information (Grove & Meehl, 1996). These second generation risk assessment measures relied on statistical information and based their items on empirically-based research rather than clinical impressions. These second generation risk assessment measures were largely comprised of static risk variables that are unchangeable, such as an offender's age at first offence and criminal history information. Widely used actuarial risk assessment measures include the General Statistical Information on Recidivism (GSIR; Nufield,

1982) and the Violence Risk Appraisal Guide (VRAG; Quinsey, Harris, Rice, & Cormier, 1998). The VRAG is one of the most frequently used second generation risk assessment measures and has been well validated since its inception, proving a consistently effective predictor of violent offending (Harris, Rice, & Cormier, 2002).

Third generation risk assessment measures were developed in an attempt to combine the key components of the previous two generations into measures now commonly known as structured professional judgment (SPJ) measures. SPJ measures were developed on the standards of structure, prevention, and flexibility (Hart & Boer, 2009) and were developed to integrate risk information and case management strategies for offenders (Rettenberger & Hucker, 2011). In addition to the introduction of structured guidelines, third generation risk assessment measures introduced dynamic risk variables to the pre-existing set of static variables. These dynamic risk variables measure change in an individual offender throughout their rehabilitation progress such as their change in substance use, motivation to change, and antisocial attitudes. The Level of Service Inventory – Revised (LSI-R; Andrews & Bonta, 1995) is a third generation risk assessment measure and is one of the most widely used risk assessment measures in current research and practice (Andrews, Bonta, & Wormith, 2006). Other third generation risk assessment measures such as the Historical, Clinical, Risk Management – 20 (HCR-20; Webster, Douglas, Eaves, & Hart, 1997), the Psychopathy Checklist – Revised (PCL-R; Hare, 2003), and the Sexual Violence Risk – 20 (SVR-20; Boer, Hart, Kropp, & Webster, 1997) are widely used in research and practice and have been well validated across diverse samples (Douglas, Yeomans, & Boer; 2005). The fourth and most recent generation of risk assessment measures includes the capacity for case management planning in addition to predicting recidivism; one of the most well-known fourth generation measures is the Level of Service/Case Management

Inventory (LS/CMI; Andrews, Bonta, & Wormith, 2004) that has been well validated across many diverse groups of offenders (Girard & Wormith, 2004).

While risk assessment measures across the generations have their own advantages and limitations, comprehensive research comparing assessment measures from specific generations is sparse. One example of this research is a meta-analysis from Campbell, French, and Gendreau (2009) that examined five risk assessment measures from the four generations regarding violence prediction. Second generation measures ($Z+ = .34$, CI = .33 to .35) and static variables ($Z+ = .32$, CI = .316 to .324) were better predictors of institutional violence than third generation measures ($Z+ = .20$, CI = .17 to .23) and dynamic variables ($Z+ = .21$, CI = .18 to .24). This trend reversed, however, for the prediction of violent recidivism where third generation measures ($Z+ = .23$, CI = .21 to .25) and dynamic variables ($Z+ = .25$, CI = .15 to .25) were better predictors than second generation measures ($Z+ = .18$, CI = .17 to .19) and static variables ($Z+ = .22$, CI = .20 to.24). Campbell et al. (2009) also found that fourth generation measures had the largest prediction estimates for violent recidivism with non-overlapping confidence intervals between first, second, and third generation measures. While the debate continues over which generation of risk assessment measures should be utilized, key principles for forensic risk assessment have evolved from the last five decades of research.

1.2 Key Principles in Risk Assessment

Doubts about the efficacy of various correctional strategies brought to light a period where institutional and forensic practices were widely discussed and criticized. Martinson's (1974) commentary on "what works" in prisons was instrumental in reigniting the debate on effective correctional practices and how to reduce recidivism. Martinson reviewed various programs for adult offenders such as vocational training, counselling, and psychotherapy and

concluded that there had not yet been a clear answer from the accumulated research as to which correctional practices or programs had the greatest effects for reducing recidivism. Rather than arguing that nothing works, Martinson argued that poorly designed programs are not going to have positive effects and that in a period of uncertainty in the world of correctional psychology, it was more likely that there had not been any properly conducted studies to determine what works best. Following Martinson's declaration that better research was needed, a meta-analysis conducted by Andrews, Zinger et al. (1990) and the establishment of the psychology of criminal conduct were pivotal moments in the fields of forensic and correctional psychology. Andrews et al. outlined the risk, need, and responsivity (RNR) principles recommended for practice in forensic psychology and correctional services. The risk principle states that higher intensity programs should be delivered to higher risk offenders, the need principle states that criminogenic needs (i.e., dynamic factors that can change with rehabilitation and programs) should be addressed in assessment and case management circumstances, and the responsivity principle states that programs and rehabilitation services should be delivered to each offender to meet their individual needs. The responsivity principle is further divided into general and specific components, where general responsivity refers to using cognitive social learning strategies in program delivery and specific responsivity refers to tailoring programs to offenders' unique needs, taking into consideration aspects such as learning style, motivation, and culture (Andrews, Bonta, & Wormith, 2010).

Andrews, Zinger et al. (1990) applied the RNR principles to their analyses of correctional services and defined the services as either appropriate (i.e., meeting the RNR principles), unspecified, inappropriate, or non-service criminal sanctioning. Andrews, Zinger et al. found that appropriate services had the greatest reductions in recidivism (mean phi = .30) and they had

significantly greater reductions than unspecified correctional services (mean phi = .13), inappropriate services (mean phi = -.06), and non-service criminal sanctioning (mean phi = -.07). The implications from this meta-analysis spurred a new movement in correctional psychology towards effective correctional services following the RNR principles. Andrews, Bonta, and Hoge (1990) supplemented the RNR principles with the addition of the professional override as the fourth principle. The professional override was defined as making decisions about an offender's case only after determining an offender's level of risk and their criminogenic needs and responsivity concerns to address. Andrews et al. also stated that the use of professional overrides should be systematically monitored over time to understand their frequency and outcomes.

Gendreau, Little, and Goggin (1996) further contributed to the "what works" literature with a meta-analysis of 131 recidivism outcome studies. Gendreau et al. found that the strongest predictors of recidivism were criminogenic needs, antisocial history, and demographic variables, and that dynamic factors were as predictive of recidivism as were static factors. Gendreau et al. argued for the continued examination and use of the LSI-R and dynamic risk factors in risk assessments. In a summary of the research conducted between the 1970s to the 1990s, Ogloff (2002) concluded that efforts had increased over time to examine offender rehabilitation strategies in order to reduce recidivism following the innovative research of Andrews, Zinger et al. (1990). Ogloff argued that although many positive changes had come of this research, there remained a need to examine the RNR principles in regards to offenders of different ethnicities, female offenders, and offenders with mental health concerns. Research from the last four decades on the best practices for correctional and forensic psychology has continued to show support for rehabilitation strategies instead of criminal sanctions (Andrews and Bonta, 2010), the importance of dynamic risk factors in addition to static risk factors (Douglas and Skeem, 2005),

and increasing the prevalence of actuarial risk measures over clinical judgment (Janus and Prentky, 2003; Singh and Fazel, 2010).

1.3 The Clinical versus Actuarial Debate

Since the emergence of empirically-based actuarial risk assessment measures providing alternatives to clinical judgment there has been much debate over which approach has the best predictive accuracy for recidivism. This debate gained footing with an early book by Meehl (1954) comparing clinical and statistical prediction in which he found more support for the predictive accuracy of statistical prediction measures. Meehl (1986) continued this research by reiterating his support for actuarial predictions and stating that almost nothing needed to be changed from the conclusions and recommendations in his original manuscript after thirty years of continued research. Dawes, Faust, and Meehl (1989) continued this research citing over 100 studies where the vast majority supported actuarial predictions over clinical predictions. Dawes et al. argued that actuarial predictions have fewer human errors, they are more reliable than clinical predictions, and that adjustments to actuarial predictions often result in lower accuracy. Dawes et al. also argued that the disadvantages to clinical predictions are intensified due to the lack of feedback clinicians receive on the results of their predicted cases. Grove and Lloyd (2006) commended Meehl's work for providing insight and concrete evidence to the controversy between actuarial and clinical prediction. Grove and Lloyd further supported Meehl's rejection of the idea to combine the two prediction types into one method.

This research was supported by the work of Bonta, Law, and Hanson (1998) who conducted a meta-analysis on predictions of recidivism for mentally disordered offenders. Bonta et al. found that clinical variables had the smallest effect sizes in comparison to criminal history variables and that clinical predictions were much more heterogeneous than objective predictions

(i.e., validated risk scales or scales derived from multiple regression analyses). In an extensive meta-analysis covering the research literature from 1966 to 1988, Grove, Zald, Lebow, Snitz, and Nelson (2000) examined clinical and mechanical predictions of various behaviours and physical health outcomes where mechanical predictions were defined as statistical, actuarial, or algorithmic approaches. Grove et al. found that mechanical predictions were on average 10% more accurate than clinical predictions. Furthermore, 47% (n = 63) of all studies showed an advantage for actuarial predictions, 48% (n = 65) of the studies demonstrated that actuarial and clinical predictions had comparable outcomes, and only 5% (n = 8) of all studies showed an advantage for clinical predictions. Moreover, Grove et al. found that there was a trend for greater accuracy for the actuarial predictions in studies examining medical and forensic outcomes. Grove et al. also found that actuarial predictions maintained greater accuracy over clinical predictions even when there was more information available to the assessor for clinical predictions. In light of the advantage for actuarial predictions, Grove et al. suggested that clinicians are vulnerable to human errors such as ignoring base rates, regressing toward the mean which can compromise the quality of risk assessments, in addition to rarely receiving feedback on the accuracy of their predictions.

Strong supporters of actuarial predictions, Harris, Rice, and Cormier (2002) examined the predictive accuracy of the VRAG over a five-year follow-up period with 467 forensic patients. Harris et al. found that the VRAG was a more accurate predictor of violent recidivism (r = .24, p < .01, AUC = .80, 95% CI = ±.14) than a composite clinical predictor of averaged security level recommendations (r = .17, p < .05, AUC = .70, 95% CI = ±.11). Harris et al. further argued that clinical methods are “suboptimal” when compared to the VRAG’s higher accuracy for short-term and long-term predictions. These assertions have been complemented with additional research

from Harris and Rice (2007a, 2007b) arguing that actuarial and clinical methods should not be combined and that actuarial predictions should not be adjusted by clinical judgment. Furthermore, Mills (2005) argued that clinical assessment approaches and clinical judgment in general has proven to be consistently weaker than actuarial approaches and is more vulnerable to a variety of human errors. Mills also stated that actuarial risk assessment measures have progressed far past the limitations ascribed to them in previous critiques and that clinical judgment remains an inconsistent assessment approach.

In another extensive meta-analysis of clinical and actuarial predictions of recidivism Ægisdottir et al. (2006) found an advantage for actuarial predictions over clinical predictions where actuarial prediction approaches accrued a 13% increase in accuracy over clinical approaches. Across 48 effect sizes, 52% showed an advantage for actuarial predictions, 38% showed no difference between actuarial and clinical predictions, and only 10% showed an advantage for clinical prediction. Ægisdottir et al. concluded that actuarial approaches consistently showed an advantage over clinical approaches when predicting for violent recidivism and that disregarding the higher performing actuarial approaches could be considered unethical and to the detriment of public safety and offender rights. Likewise, Abbott (2011) has argued that actuarial assessment approaches are stronger than clinical approaches and they avoid the common errors inherent in clinically-based predictions. Abbott notably criticized clinical judgment as an approach that "obscures the transparency, accountability, and consistency necessary to establish the reliability and validity of the risk prediction," (Abbott, 2011, pp. 226-227).

While much of the debate between actuarial and clinical assessment measures has focused on predicting violent recidivism, considerable research has also been conducted to

determine the most accurate methods for predicting sexual recidivism. Hanson and Bussière (1998) examined clinical and statistical prediction methods for general, sexual, and non-sexual violent recidivism. Clinical prediction methods included information from interviews, case work, and file reviews whereas statistical prediction methods used algorithms and multiple regression techniques to predict recidivism. Hanson and Bussière found that statistical predictions had higher accuracy rates than clinical predictions for general recidivism (r_+ = .42 vs. r_+ = .14), sexual recidivism (r_+ = .46 vs. r_+ = .10), and for non-sexual violent recidivism (r_+ = .46 vs. r_+ = .06). This research was further extended with an extensive meta-analysis by Hanson and Morton-Bourgon (2009) on the risk assessment of 45,398 sexual offenders across 16 countries. Hanson and Morton-Bourgon compared five classifications of risk assessment measures: empirical actuarial measures with explicit scoring methods and evidence linking total scores to recidivism; mechanical measures with explicit scoring methods without evidence linking total scores to recidivism; adjusted actuarial measures where the evaluator could adjust the final scoring; structured professional judgment measures lacking explicit scoring methods for how to combine the factors into a total score; and unstructured professional judgment measures lacking any direction regarding the risk factors or scoring methods.

Hanson and Morton-Bourgon found that empirical actuarial measures designed to predict sexual recidivism had the best predictive accuracy rates for sexual recidivism (*d.* = 0.67) followed by mechanical measures designed for sexual recidivism (*d.* = 0.66) and then empirical actuarial measures designed for general recidivism (*d.* = 0.62). Likewise, empirical actuarial measures designed for general recidivism had the best predictive accuracy for predicting any recidivism (*d.* = 0.97) followed by empirical actuarial measures designed for violent recidivism (*d.* = 0.74). Unstructured professional judgment measures did not strongly predict general (*d.* =

0.11), violent (*d.* = 0.22), or sexual recidivism (*d.* = 0.42). Hanson and Morton-Bourgon demonstrated that actuarial measures had better predictive accuracy than all other types of assessment measures for both sexual and violent recidivism for sexual offenders. Actuarial measures that were empirically-based also had the greatest predictive accuracy for predicting general recidivism compared to all other measures. Hanson and Morton-Bourgon concluded that empirically-based actuarial measures consistently performed with the highest accuracy, followed by structured professional judgment measures and then unstructured professional judgment.

In contrast to the research supporting the use of actuarial and mechanical predictions there are some researchers that advocate for the widespread use of SPJ and clinical predictions over mechanical or actuarial predictions. After Meehl's (1954) support for actuarial predictions, Holt (1958) argued that clinical predictions are more flexible than "rigid" actuarial predictions and had fewer limitations than actuarial predictions in their widespread use and implementation by clinicians. Many of these limitations, however, were due to the limited technology and statistical analyses possible at that time. Dolan and Doyle (2000) have also argued for the use of structured guidelines in risk assessment especially when predicting the risk of violent recidivism. Further support for clinical predictions has come from Litwack (2001) who stated that, previously, there was no methodologically sound research to show support for the superiority of actuarial predictions over clinical predictions. Although he conceded that adding additional information to an actuarial prediction could impede its accuracy, Litwack argued that it was too soon to completely replace clinical predictions with actuarial measures. These arguments were echoed by Dahle (2006) who compared three actuarial assessment measures in a sample of German offenders. Dahle argued that although the actuarial measures were predictive of

reincarceration their limitations rendered him unable to advocate for their use over clinical judgment and instead argued for actuarial measures to complement clinical judgment.

Through their research comparing multiple violence risk assessment measures including the VRAG, PCL-R, HCR-20, Violent Offender Risk Assessment Scale (VORAS; Howells, Watt, Hall, & Baldwin, 1997), and the Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995), Douglas et al. (2005) also supported the notion that there was no clear indication that actuarial measures were superior to clinical measures. Gray, Taylor, and Snowden (2008, 2011) have also argued for the continued support of SPJ measures for violence risk assessments and for offenders with mental and behavioural disorders. Likewise, McEwan, Pathé, and Ogloff (2011) have supported the use of SPJ measures for stalking risk assessments and Rettenberger, Boer, and Eher (2011) have supported the use of SPJ measures for sexual violence risk assessments. Moreover, Hart, Michie, and Cooke (2007) have argued that the confidence intervals of actuarial risk assessments were too large and overlapping to warrant their continued use. Hart et al. suggested that as their study found such large limitations of actuarial risk assessment measures, specifically with the Static-99 (Hanson & Thornton, 1999) and the VRAG, professionals should recognize that "it is impossible to make accurate predictions about individuals using these tests," (Hart et al., 2007, pp. s64). Further criticisms of the Static-99 and actuarial risk assessment measures have come from Sreenivasan, Weinberger, Frances, and Cusworth-Walker (2010) who argued that actuarial measures have numerous limitations including a lack of sample representation and that actuarial measures lack the incorporation of multiple case-related elements that clinical judgments have and benefit from.

Additional research has been conducted in an effort to bridge the gap between actuarial and clinical assessment approaches. In reference to assessments that inform release decision-

making, Dvoskin and Heilbrun (2001) argued that forcing professionals to choose between actuarial or clinical risk assessment measures is not advisable and that the two approaches should be combined. While Dvoskin and Heilbrun stated that it is unclear how far into the future actuarial risk assessment measures are valid for, they also stated that clinical judgment should not be used to replace or modify actuarial assessments. Instead, they argued for clinical judgment to be incorporated into case reports to guide risk communication. Additionally, Doyle and Dolan (2002) argued that decision-making in forensic mental health fields concerning the risk of recidivism should be made by a multidisciplinary team combining actuarial and clinical factors. Similarly, Webster, Hucker, and Bloom (2002) stated that clinical and actuarial assessment approaches should be used in conjunction for predicting future violent offending. Specifically, Webster et al. argued for clinical information to supplement actuarial and prediction-based assessment measures to form a more complete assessment report and integrated understanding of each case.

Despite the overwhelming literature on forensic risk assessment measures arguing for one measure's predictive validity over another, research from Kroner, Mills, and Reddon (2005) employed a novel technique and determined that four well-validated risk assessment measures (i.e., PCL-R, LSI-R, VRAG, and GSIR) predicted recidivism at an equal rate as four randomly generated measures derived from the original measures' combined items. Similar research from Yang, Wong, and Coid (2010) has also concluded that there is currently no single risk assessment measure that consistently has greater predictive validity over all other measures. Yang et al. conducted a meta-analysis on nine of the most commonly used risk assessment measures and determined that they are essentially interchangeable when used to predict violent offending.

Although the research literature on forensic risk assessment measures is in a continuous state of debate, general guidelines for effective assessment measures have been clearly outlined by one of the leading researchers in the field. Bonta (2002) has established guidelines that include the stipulations that risk assessments should be based on actuarial risk measures; risk assessments should be based on theories relevant to criminal behaviour; and that professionals using these risk assessment measures should demonstrate professional responsibility at all times. Evidently, there has yet to be a clear consensus as to which assessment approach yields the best predictive accuracy and is the most widely used by professionals. Further research is therefore required to provide more evidence for both sides of this debate in order to eventually reach an agreement between the two approaches. This research can follow Litwack's (2002) suggestions for more in-depth comparisons of clinical and actuarial approaches, specifically incorporating studies of a qualitative nature that can supplement the expansive literature base of quantitative analyses.

1.4 The Level of Service Family of Risk Assessments

The Level of Service Inventory (LSI; Andrews, 1982; Andrews & Robinson, 1984) was developed on RNR principles to match an offender's risk level to their treatment intensity, to incorporate their criminogenic needs into their treatment programs, and to deliver treatment programs in methods that meet the offender's individual needs and learning style. The LSI has been proven to have good predictive validity of general recidivism (Andrews, 1982; Andrews & Robinson, 1984) and was later updated as the Level of Service Inventory – Revised (LSI-R; Andrews & Bonta, 1995). The LSI-R has 54 items with 10 subscales: criminal history, education/employment, financial, family/marital, accommodations, leisure/recreation, companions, alcohol/drug problems, emotional/personal, and attitude/orientation. All items are

scored based on information collected from an interview and a file review. Through decades of research the LSI-R has shown to be reliable and valid across multiple offender groups. High inter-rater reliability of the LSI-R has been found for male offenders ($\alpha = .88$; Andrews, 1982) and female offenders in Ontario ($\alpha = .92$; Rettinger, 1998). The predictive validity of the LSI-R has also been widely established for general recidivism, violent recidivism, and institutional misconduct (Campbell, French, & Gendreau, 2009; Gendreau, Goggin, & Law, 1997; Gendreau, Goggin, & Smith, 2002). Further, the dynamic items of the LSI-R have shown to have strong predictive validity predicting general recidivism ($r = .44$), violent recidivism ($r = .26$), rearrest ($r = .44$), reincarceration ($r = .50$), and supervision violations ($r = .46$; Simourd, 2004). Additional support for the LSI-R has been shown in various populations such as spousal abuse offenders (Hanson & Wallace-Capretta, 2000), Aboriginal offenders (Holsinger, Lowenkamp, & Latessa, 2006), female offenders (Goggin & Gendreau, 2004; Lowenkamp, Smith, Latessa, & Cullen, 2007), mentally disordered offenders (Andrews, Dowden, & Rettinger, 2001), and offenders in the UK (Hollin & Palmer, 2006), Germany (Dahle, 2006), and Australia (Cumberland & Boyle, 1997).

The LSI-R was subsequently modified for use in the Ontario provincial correctional service as the Level of Service Inventory – Ontario Revision (LSI-OR; Andrews, Bonta, & Wormith, 1995). There were eight changes made to form the LSI-OR: a reduction in the total number of items from 54 to 43; an introduction of strengths, protective factors, and specific risk/need items; more attention given to the criminal profiles resulting from the subscales; an increased number of risk levels from three (i.e., low, medium, and high) to five (i.e., very low, low, medium, high, and very high); more attention given to the professional override; and an introduction of sections for other clinical needs and special responsivity considerations

(Wormith, 1997). Though the LSI-OR is only used in Ontario, Canada it has been updated and published for world-wide use as the Level of Service/Case Management Inventory (LS/CMI; Andrews, Bonta, & Wormith, 2004). The LSI-OR and LS/CMI have a large research base supporting their reliability and validity across various settings. The LSI-OR has shown to be highly correlated with the LSI-R (r = .96; Rowe, 1996) and predictive of recidivism for adult female offenders in institutional and community settings (Rettinger, 1998). The LS/CMI has further demonstrated its predictive validity across various offender groups including male sexual offenders, male batterers, and male offenders with psychiatric diagnoses (Girard & Wormith, 2004).

The principle of the professional override has been included in the Level of Service (LS) family of assessment measures since the original conception of the RNR principles (Andrews, Zinger, et al., 1990). This principle allows for an initial risk level determined by scale items to be either increased or decreased to form a final risk level. An offender's initial risk level can be overridden to increase or decrease the risk level which results in an override change score with the initial risk level subtracted from the final risk level where higher override change scores indicate a greater change from initial to final risk level. Despite the lack of consistent research pertaining to the override it remains a part of the LS assessment framework and an integral component in the risk/need assessment process shown in Figure 1. The professional override is often outlined with the caveats that it should be used sparingly and only with reasonable justifications (Andrews, Bonta, & Wormith, 2006) although its use has not received the systematic monitoring as originally recommended (Andrews, Bonta, & Hoge, 1990). Lately, the professional override has been contested as to whether it is adding incremental validity to the

assessment measure or if it is detracting from the assessment measure's original predictive accuracy (Wormith, Gendreau, & Bonta, 2012).

Figure A.1. A Comprehensive Model of Risk/Need Assessment in Relationship to the Principles of Effective Correctional Intervention

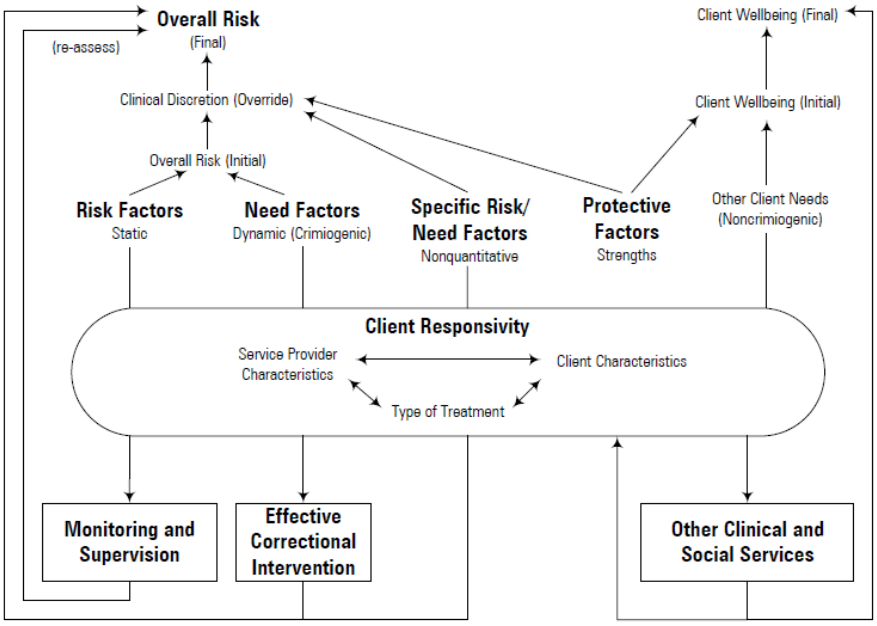

Figure 1. The Level of Service model of risk/need assessment including the principle of the professional override from the LS/CMI manual (Andrews, Bonta, & Wormith, 2004). Figure A.1 derived from the LS/CMI User's Manual. Copyright ©2004 Multi-Health Systems, Inc.

1.5 Research Examining Professional Overrides

Although there has been much research in the past five decades surrounding risk assessment measures to determine which assessment approach garners the best results, there has been a critical lack of research exploring the effects of professional overrides and adjusted actuarial measures. One of the first studies to examine the effects of overrides in forensic risk assessment was conducted by Girard (1999) who examined the LSI-OR in a sample of male

Ontario custody and probation offenders. Girard noted that the override was used in only 3% (*n* = 19) of the whole sample though there were no significant differences between the number of overrides used to increase or decrease risk levels. Girard also noted there was only one significant correlation between the override change and LSI-OR section totals: counter-intuitively, the override change score was positively correlated with the total Strength score indicating that offenders with more strengths were overridden to higher risk levels than offenders with fewer strengths. While there were only a small number of cases where the override was used Girard noted that some cases did contain documented reasons for the use of the override. Of the nine offenders whose risk levels were decreased, one offender had an above-average number of strengths and seven offenders' assessment reports contained positive comments from the assessor; all nine offenders whose risk levels were decreased lacked negative comments in the report from the assessor. For the 10 offenders whose risk levels were increased, seven offenders lacked strengths, five offenders had negative comments in the assessment report, and seven offenders' index offences were violent. The two offenders whose risk levels were increased to the very high risk level had histories of violence and sexual assaults and one offender had a diagnosis of psychopathy. Girard concluded that the nature of the index offence was the best possible explanation for the decision to override the initial risk levels.

More recently, Gore (2007) examined the impact of an adjusted actuarial approach in the risk assessment of sexual offenders using the Minnesota Sex Offender Screening Tool – Revised (MnSOST-R; Epperson, Kaul, & Hesselton, 1998). The authors of the MnSOST-R originally provided nine guidelines for assessors to refer to when considering using an override. Eight guidelines referred to MnSOST-R items that reflect an increased risk of sexual recidivism that would guide the assessor to increase an offender`s risk level while only one guideline referred to

MnSOST-R items that reflect a decreased risk of sexual recidivism and would guide the assessor to decrease an offender`s risk level. In Gore's sample, risk assessments conducted by psychologists were compared to risk assessments conducted by the End of Confinement Review Committee (ECRC), a committee under Minnesota state law that conducts an additional MnSOST-R assessment and has the final judgment for the risk of reoffending for sexual offenders who were not civilly committed. In the sample of assessments completed by psychologists, overrides were used in 71% (n = 272) of all cases and the overrides were used more often to decrease risk levels than to increase risk levels (61% vs. 39%, respectively). Further, overrides were allowed to be either one-level changes (i.e., from low to moderate or from moderate to high) in either direction or two-level changes (i.e., from low to high or from high to low). However, two-level overrides were only used in 16% of all cases; overall, the majority of overrides were one-level overrides to increase risk levels from low to moderate risk.

Additionally, there was a general tendency for psychologists to override risk levels towards the moderate risk level, either increased from low risk or decreased from high risk. Similarly, in the sample of assessments completed by the ECRC, overrides were used in 96% (n = 364) of all cases, with overrides to decrease risk levels used twice as often than overrides to increase risk levels. Again, two-level overrides were only used in a small amount of cases (20%) and the ECRC displayed the same trend for overriding risk levels toward the moderate risk level. Overall, the ECRC used the override 33% more than the psychologists. Gore noted that there was a trend for scores and risk levels to regress toward the mean, such that scores near the upper limit of the low risk level and scores near the lower limit of the high risk level were overridden to the moderate risk level. Although this trend persisted for both the ECRC and the

psychologists, these overrides did not account for a large portion of the total number of overrides across the total sample.

Gore (2007) also examined the reasons provided by the ECRC and psychologists as to why the override was used and whether or not these reasons fell under the nine guidelines provided in the MnSOST-R manual (Epperson et al., 1998). Gore deemed any reasons stated by the assessors that matched the provided guidelines as "established" reasons and any reasons stated by the assessors that did not match the guidelines as "unestablished" reasons. It is important to note that both established and unestablished reasons could have been used in the same case and therefore it was not possible to determine which reasons were used for which direction of the override. Gore noted that the psychologists and the ECRC provided more reasons when using the override to increase risk levels than to decrease risk levels although both groups were more likely to state unestablished reasons for their use of the override and the ECRC was more likely to state no reasons at all. Receiver operator characteristic (ROC) analyses were conducted to determine area under the curve (AUC) values to examine the predictive validity of the MnSOST-R for sexual recidivism in both the psychologist and ECRC groups. AUC values were higher for the initial risk level than for the final risk level, although these differences were not significant.

Across an extremely diverse sample, Hanson, Harris, Scott, and Helmus (2007) examined the use of the Static-99 (Hanson & Thornton, 1999) used throughout all Canadian provinces and territories as well as two American states. After scoring the Static-99, assessors were asked to indicate whether or not the initial risk level should be overridden and in which direction. The original assessments were compared with consensus ratings done through file reviews by the authors and additional colleagues to determine intraclass correlations coefficients (ICC) which

are often used as a reliability measure. Among all of the variables in the study, the only item with unacceptable rater agreement was the override rating where the ICC was not significantly above chance indicating low agreement between the multiple ratings of individual files for when to use the override. Moreover, Hanson et al. found that the use of the override led to decreased predictive accuracy for general, violent, and sexual recidivism. Overall, the authors argued for the use of empirically-based assessment measures as the use of the override in their study either had no effect or decreased the predictive validity of the assessment tool.

In contrast to the abundance of research on male offenders, Brews (2009) examined the reliability and validity of the LSI-OR in a sample of female offenders in Ontario, Canada. Overrides were used in 11.9% (n = 328) of all cases where the vast majority of overrides were used to increase rather than decrease risk levels (260 vs. 68, respectively). Furthermore, Brews found that across custody, conditional, and probation offenders, correlations and AUC values were stronger for the initial risk levels compared to the final risk levels for general, violent, and sexual recidivism. Although the final risk levels were still predictive of recidivism they were not as strongly predictive as the initial risk levels. Hsu, Caputi, and Byrne (2009) examined the LSI-R in a sample of Australian offenders to determine the cross-cultural validity of the LSI-R. Hsu et al. found that 12% to 15% of male offenders had their risk levels overridden and 6.6% to 9.8% of female offenders had their risk levels overridden, although information was not available for the number of overrides used to increase or decrease risk levels for either gender. While Hsu et al.'s study provided evidence for differences in the rates of overrides between male and female offenders in addition to cross-cultural evidence of the use of the override no further analyses were conducted on this data to examine any effects of the override on predictive validity.

Hogg (2011) examined the LSI-OR in relation to gender and ethnicity in an extensive sample of 24,450 male and female offenders in Ontario, Canada. Overrides were used in 16.5% (n = 4,363) of all cases with a majority of the overrides (90%) used to increase risk levels. Across the total sample the initial risk levels (r = .423) correlated more strongly with a dichotomous general recidivism variable (i.e., yes or no) than did the final risk levels (r = .365) although both correlations were highly significant. Furthermore, the initial risk levels had higher and non-overlapping AUC values (AUC = .744, 95% CI = .738 to .750) than the final risk levels (AUC = .710, 95% CI = .703 to .716) for the prediction of any recidivism. Interestingly, the final risk levels had slightly stronger correlations with the dichotomous recidivism variable than the initial risk levels for Aboriginal females ($r_{initial}$ = .297, r_{final} = .304) and Black females ($r_{initial}$ = .376, r_{final} = .386). In line with previous research conducted on overrides Hogg recommended that overrides should be used as sparingly as possible as the initial risk levels continued to show higher predictive accuracy over the final risk levels. Likewise, Mills, Kroner, and Morgan (2011) have argued against the use of professional overrides in risk assessments as it decreases the predictive validity and undermines the established psychometric properties of the risk assessment measure.

Storey, Watt, Jackson, and Hart (2012) examined the use of the override in the Static-99 in 100 male sexual offenders. Overrides were used in 30 cases, where 17 offenders had their risk levels increased and 13 offenders had their risk levels decreased. Overall, the final risk levels were found to be less predictive of sexual recidivism than the initial risk levels and further analyses indicated that the cases that were overridden actually predicted recidivism in the opposite direction such that increased risk levels were associated with lower recidivism and decreased risk levels were associated with higher recidivism. The results from Storey et al.'s

study indicating that the overrides used in this sample were inaccurately predicting recidivism provide further support for more research to be conducted on the reasons why overrides are used and in which direction.

Wormith, Hogg, and Guzzo (2012) recently conducted one of the most extensive investigations of the professional override in forensic risk assessments with the LS/CMI used with sexual and non-sexual offenders. Of the study's sexual offenders, 35.1% (n = 669) had their initial risk levels overridden whereas only 15% (n = 3,694) of the non-sexual offenders had their initial risk levels overridden. Furthermore, the override was used to increase risk levels much more frequently than to decrease risk levels (14.9% vs. 1.6%, respectively). For sexual offenders, the predictive validity of the LS/CMI decreased from the initial to the final risk levels for general recidivism (r = .45 to r = .26), violent recidivism (r = .27 to r = .18), and sexual recidivism (r = .16 to r = .11). This trend persisted for non-sexual offenders as the predictive validity of the LS/CMI decreased from the initial to the final risk levels for general recidivism (r = .42 to r = .37), violent recidivism (r = .27 to r = .23), and sexual recidivism (r = .17 to r = .15). All correlations for sexual and non-sexual offenders were significant at $p < .001$. In addition to having their initial risk levels overridden more than non-sexual offenders, sexual offenders had significantly higher initial risk levels, final risk levels, and override change scores than non-sexual offenders. Furthermore, an initial-by-final risk level matrix was created for the sexual offenders with recidivism frequencies in each cell. Surprisingly, Wormith et al. found that some offenders who had their initial risk levels increased actually recidivated less than the offenders in their initial risk level cohort. This was a clear demonstration of how the professional override used with sexual offenders can contribute to a decrement in predictive accuracy. However, Wormith et al. also found that some offenders who had their initial risk levels decreased did

recidivate less than the offenders in their initial risk level cohort, indicating that these offenders were appropriately overridden downward. Due to the discrepancies between effects of the override for predicting recidivism more research needs to be conducted to further elaborate on these trends.

Wormith et al. conducted further studies and found that controlling for sexual offenders' General Risk/Need scores, overrides used to increase risk levels were not related to either age or race but were negatively related to being female. Overrides used to increase risk levels were also related to low criminal history, high procriminal attitudes, high antisocial pattern, and the Specific Risk/Need score and its five subscales: personal problems with criminogenic potential; history of perpetration; prison experience; social, health, and mental health problems; and responsivity considerations. A similar pattern was found for the non-sexual offenders although criminal history was not related to increased risk levels. Moreover, Wormith et al. found that of the LS/CMI items that contributed incrementally to increased risk levels controlling for the General Risk/Need score, not all of those items also contributed incrementally to the prediction of recidivism controlling for the General Risk/Need score. Likewise, not all of the items that contributed incrementally to the prediction of recidivism controlling for the General Risk/Need score were the same items that contributed incrementally to increased risk levels. As such, there appeared to be a misuse of LS/CMI items by assessors when determining if an offender's risk level should be overridden. Even though the LS/CMI manual provides guidelines for which items should guide assessors when making override decisions it is evident from Wormith et al.'s study that they can be either ignored or misused. The authors suggested that in light of this perceived assessor bias, training for LS/CMI assessors should emphasized the guidelines for the use of the override and which offender characteristics should influence that decision.

Most recently, DeClue (2013) summarized the literature from 1997 to 2012 on professional overrides and adjusted actuarial estimates regarding the risk of sexual offending. DeClue noted that recommendations urging caution when using adjusted actuarial-based risk estimates increased over this time period starting with Hanson (1998). DeClue cited research from Petrila and Otto (2001) and Hanson (2002), both of whom called for increased examinations into the effects of adjusted actuarial risk estimates especially concerning sexual offending. DeClue concluded that some researchers have advocated for the reduced reliance on adjusted actuarial scores (Hanson & Thornton, 2000) whereas other researchers have argued for the introduction of more strict guidelines on when to adjust actuarial risk scores (Storey et al., 2012). It seems that though the research community is aware of the limitations of professional overrides and adjusted actuarial risk scores there is still no consensus on how to mediate this issue. Even though the research examining the effects of professional overrides in forensic risk assessment is limited the research that is available has revealed certain trends. Specifically, the reported rates of overrides in forensic risk assessments have increased over time; overrides are used more often to increase rather than decrease risk levels, a trend that is seen more often in sexual offenders than other groups of offenders; there is a general loss in predictive accuracy from the initial risk levels to the final risk levels; and the reasons provided by assessors as to why they used the override vary greatly and do not always match the guidelines provided by the assessment measure's authors.

1.6 The Current Study

The current study was designed to fill the gap in the research literature examining the effects that professional overrides can have in forensic risk assessments. While there has been recent research conducted indicating that overrides or adjusted actuarial risk assessments are not

as accurate as purely actuarial methods (Gore, 2007; Hanson et al., 2007; Hogg, 2011; Wormith, Hogg, & Guzzo, 2012) there is a lack of research conducted solely on the use of professional overrides in forensic risk assessment. The current study aims to answer the following questions: (1) Does the use of the override decrease the predictive validity of the LSI-OR? (2) Do overrides that increase an offender's risk level have the same decrease in predictive validity as overrides that decrease an offender's risk level? (3) Are overrides used more with some groups of offenders than others? (4) What subscales and scale items are related to the use of the override? (5) Are the variables related to the use of the override related to recidivism? (6) Are the variables related to recidivism related to the use of the override? In addition to the prediction of general recidivism for all offenders, the current study will examine the ability of the LSI-OR to predict violent recidivism for violent offenders and to predict sexual recidivism for sexual offenders, with and without the use of the professional override.

1.6.1 Hypotheses

The hypotheses for the current study have been divided into those that are directly related to the use of the override and those that are not. First, there are five general hypotheses: (H1) the General Risk/Need score will correlate most strongly with non-violent recidivism for all offenders, then violent recidivism, then sexual recidivism; (H2) the General Risk/Need score will correlate comparably with non-violent recidivism between male and female offenders; (H3) the correlations between recidivism and the initial risk levels will be similar to the correlations between recidivism and the General Risk/Need score, but the numerical General Risk/Need score will have better predictive validity than the categorical risk level; (H4) the total Strength score will negatively correlate with recidivism for all offenders; and (H5) the General Risk/Need score

will generate the highest AUC values for non-violent recidivism, then violent recidivism, then sexual recidivism.

There are four hypotheses specifically related to the use of the override: (H6) more overrides will be used to increase risk levels than to decrease risk levels; (H7) sexual offenders will have more overrides increasing their risk levels than violent and non-violent offenders; (H8) the initial risk levels will have stronger correlations with non-violent, violent, and sexual recidivism compared to correlations with the final risk levels, and these differences will be significant; and (H9) the AUC values will decrease when comparing the initial risk levels to the final risk levels predicting recidivism, and these differences will be significant.

2.0 METHODOLOGY

2.1 Sample

The original sample was comprised of all male and female offenders in Ontario, Canada who either 1) were released from custody after serving at least one month's sentence, 2) commenced a conditional sentence, or 3) commenced a probation or intermittent sentence in the calendar years of 2007 and 2008 within the Ontario Ministry of Community Safety and Correctional Services (MCSCS). The original sample consisted of 44,295 offenders. There were 770 cases deleted based on release reasons (e.g., were released for deportation or died while serving their sentence). Additionally, there were numerous cases in which the same offender was twice included in the original data extraction from two or more of the disposition groups (i.e., custody, conditional, probation, or intermittent) with a majority of offenders having their custody sentences linked to a probation sentence following their release from custody. In these situations only the information from the custody sentence was kept resulting in 2,986 cases further deleted. The final sample consisted of 40,539 offenders (83.9% male and 16.1% female) across the four types of disposition: custodial (24.8%), conditional (8.7%), probation (65.0%), and intermittent (1.5%).

In the original data extraction, ethnicity was grouped into 11 categories: White, Black, Aboriginal, East Asian, Hispanic, South Asian, Southeast Asian, West Asian/Arabic, Other, Unknown, and Declined to Specify. Offenders who were coded as East Asian, South Asian, Southeast Asian, and West Asian/Arabic were recoded into one "Asian" category. Similarly, offenders coded as Other, Unknown, and Declined to Specify were recoded into one "Other" category for a total of six ethnicity categories. A value of one to 26 from the Offence Severity Scale (OSS; Stasiuk, Winter, & Nixon, 1996) was included in the information for each

offender's index offence obtained from OTIS. OSS values correspond to criminal offences along a continuum of severity where a value of one corresponds to homicide and related offences and a value of 25 corresponds to municipal bylaw offences. A dummy value of 26 was used to indicate unknown offence severity (see Appendix B for full OSS). Table 1 provides a summary of demographic variables for all offenders.

Table 1

Demographic and index offence frequencies for all offenders

	N (%) or Mean (*SD*)
Total	
Males	34,001 (83.9%)
Females	6,538 (16.1%)
Age Group[a]	
17-29	17,942 (44.2%)
30-49	18,589 (45.8%)
50-69	3,847 (9.5)
70-88	159 (0.4%)
Ethnicity	
White	25,535 (63.0%)
Black	3,120 (7.7%)
Aboriginal	2,856 (7.0%)
Hispanic	436 (1.1%)
Asian	2,425 (6.0%)
Other	6,167 (15.2%)
Disposition	
Custody	10,039 (24.8%)
Conditional	3,517 (8.7%)
Probation	26,353 (65.0%)
Intermittent	630 (1.5%)
Index Offence	
Violent	21,471 (53.0%)
Sexual	1,357 (3.3%)
Non-violent	17,709 (43.7)
Unknown	2 (0.0%)
Most Serious Offence Ranking	10.21 (4.193)

[a] *N* = 40,537.

2.2 Measures

2.2.1 The Level of Service Inventory – Ontario Revision. The Level of Service Inventory – Ontario Revision (LSI-OR; Andrews, Bonta, & Wormith, 1995) is a required assessment measure for all offenders in Ontario, Canada serving a sentence of at least 30 days (Wormith, 1997). The main assessors of the LSI-OR are probation and parole officers (PPOs) and correctional officers. The LSI-OR contains both a General Risk/Need and Specific Risk/Need section. The General Risk/Need scale (Section A) contains eight subscales: Criminal History (8 items); Education/Employment (9 items); Family/Marital (4 items); Leisure/Recreation (2 items); Companions (4 items); Procriminal Attitude/Orientation (4 items); Substance Abuse (8 items); and Antisocial Pattern (4 items). Each of these 43 items are scored on a dichotomous scale (i.e., 1 = present, 0 = absent) and are summed to create a total General Risk/Need score and eight subscale scores. Additionally, any of the eight subscales where offenders do not have risk factors are considered strength factors. A total Strength score is created for each offender ranging from zero to eight.

The General Risk/Need score has a possible range of scores from zero to 43 which correspond with one of five risk categories: very low, low, medium, high, or very high, coded as one to five, respectively. Total scores of zero to four correspond with very low risk, scores of five to 10 correspond with low risk, scores of 11 to 19 correspond with medium risk, scores of 20 to 29 correspond with high risk, and scores of 30 to 43 correspond with very high risk. For each offender, assessors are given the option of utilizing a professional override which allows them to increase or decrease an offender's initial risk level to a different final risk level. However, assessors are cautioned to use the professional override sparingly and to incorporate risk information and strength factors into their decision. For offenders whose initial risk levels are

overridden, an override change score is computed by subtracting the initial risk level from the final risk level (e.g., +3 for an offender overridden from low [2] to very high [5] risk).

The Specific Risk/Need scale (Section B) contains two subscales: Personal Problems with Criminogenic Potential (14 items) and History of Perpetration (9 items). These items are also scored on a dichotomous basis (i.e., 1 = present, 0 = absent). The LSI-OR manual indicates that these 23 items should be used by assessors when determining if an offender's initial risk level should be overridden in either direction. The Prison Experience: Institutional Factors scale (Section C) contains 10 items that reflect issues observed during past incarceration sentences such as previous security classifications or misconduct reports. The Risk/Need Summary (Section D) is where the General Risk/Need total score and total Strength score from Section A and the Specific Risk/Need factors from Section B are recorded. This section also contains areas for assessors to note their reasons for overriding an offender's risk level; assessors are meant to give a summary of strengths to justify decreasing an offender's risk level or a summary of added concerns to justify increasing an offender's risk level.

The Risk/Need Profile (Section E) contains a chart of the score ranges for each of the eight subscales from Section A that assessors circle for a visual representation of the offender's scores, their General Risk/Need total score, and their initial and final risk levels. The Other Client Issues scale (Section F) contains two subscales: Social, Health, and Mental Health (18 items) and Barrier to Release (1 item). The Special Responsivity Considerations scale (Section G) contains eight items that reflect characteristics of the offender that need to be addressed during treatment and case management planning such as a lack of motivation or any mental or physical disabilities. Lastly, the Program/Placement Decision section (Section H) provides

assessors with an opportunity to recommend institutional custody or community release classifications for each offender.

2.2.2 Recidivism. Recidivism was defined as any offence that returned the offender to MCSCS custody as recorded by and obtained from OTIS. Six recidivism variables were computed for each offender. First, a dichotomous general recidivism variable (yes = 1, no = 0) was created to distinguish between recidivists and non-recidivists. Second, the OSS values ranging from one to 26 for the most serious recidivism offence was used to create a recidivism type variable (i.e., 1 = violent, 2 = sexual, 3 = non-violent, 4 = unknown). Three dichotomous variables (yes = 1, no = 0) were created individually for violent, sexual, and non-violent recidivism. The sixth recidivism variable was a hybrid variable in number of days that indicated the survival time for all recidivists or the follow-up time for all non-recidivists. For custody offenders who recidivated this was calculated as the number of days between their custody release date and their date of return to the MCSCS. For conditional and probation offenders who recidivated this was calculated as the number of days between their LSI-OR assessment date and their date of return to the MCSCS. For custody non-recidivists this was calculated as the number of days between their custody release date and the date of data extraction. For the conditional and probation non-recidivists this was calculated as the number of days between their LSI-OR assessment date and the date of data extraction. As such, the values contained in the hybrid variable have different interpretations based on the offenders' disposition type and recidivism status.

Furthermore, there were 1,850 offenders whose files indicated that they were recidivists but who had negative values in the hybrid time variable due to the fact that the start date for their recidivism offence was prior to either their custody release date or their LSI-OR assessment date.

As such, these new offences could not be considered recidivism offences as they could have been committed prior to the index offence or were committed before the LSI-OR assessment. These 1,850 offenders were therefore removed from all recidivism analyses leaving a sample of 38,689 offenders with hybrid values above zero. The majority of these 1,850 offenders were probation offenders (91.2%) followed by intermittent (4.5%), conditional (77%) and custody offenders (0.1%). Most offenders had violent index offences (55.1%) followed by non-violent (42.9%) and sexual index offences (1.9%). These offenders were predominantly male (81.9%), had an average age of 31.4, had an average General Risk/Need score of 21.24, and were primarily White (62.4%; Black, 12.2%; Aboriginal, 10.5%; Hispanic, 1.3%; Asian, 5.0%; Other, 8.6%).

2.3 Procedure

The data were extracted on May 15, 2013 from the MCSCS's Offender Tracking Information System (OTIS). Offenders who met the criteria for being released from a custodial sentence release or starting a conditional, probation, or intermittent sentence in 2007 and 2008 were identified in OTIS and had their demographic, criminal history, and LSI-OR information extracted. This information was then merged with the offenders' release from supervision and recidivism information. Using this offender sample from the 2007 and 2008 calendar years allowed for a follow-up period between four to five years for all offenders.

2.4 Research Design

This study was designed to examine the effects of the professional override on the predictive validity of the LSI-OR across multiple offender groups such gender, ethnicity, and offence type (i.e., violent, sexual, or nonviolent). The data were extracted by an MCSCS employee who provided all information in SPSS and Excel files. The data were screened for

outliers and data entry errors prior to analyses which were conducted with IBM SPSS Statistics version 21.0.

2.5 Statistical Analyses

2.5.1. Reliability. Cronbach's alpha analyses were conducted for the overall measure as well as all subscales in each section to assess the internal consistency of the LSI-OR within the current sample.

2.5.2. Validity. Correlations and receiver operator characteristic (ROC) analyses to generate area under the curve (AUC) values were conducted to assess the predictive validity of the LSI-OR for all recidivism variables. Higher AUC values indicate stronger accuracy of the LSI-OR (e.g., an AUC of 0.75 would indicate that there is a 75% probability of a randomly selected recidivist scoring higher on the LSI-OR than a randomly-selected non-recidivist). AUC values higher than 0.50 indicate that the risk assessment measure has a predictive ability greater than chance levels. Mossman (1994) has long been an advocate for the use of ROC analyses when examining the predictive accuracy of assessment measures, particularly regarding violent recidivism, as AUC analyses are not as affected by base rates or clinician biases as are other statistical analyses.

These analyses were stratified across multiple offender groups including demographics, index offence, disposition, and recidivism type. Each analysis was conducted using the initial and final risk levels to determine the effect of the professional override on predictive validity. Further correlations and multiple regression analyses were conducted to identify which variables and LSI-OR items were related to the use of the override. These regression analyses were conducted to determine if the items related to the use of the override were related to recidivism and if the items related to recidivism were related to the use of the override. There was an initial-

by-final risk level matrix created for all offenders with recidivism rates in each cell which allowed for visual inspection of the recidivism rates comparing across offenders whose scores were overridden in either direction from their initial risk level. Additional risk level matrices were created for offenders by gender, ethnicity, and index offence type. Furthermore, recidivism frequencies across multiple stratifications of offenders were conducted pre- and post-override to determine if there was a linear increase in recidivism from very low to very high risk for both the initial and final risk levels.

3.0 RESULTS

3.1 Sample Descriptives

Offenders were grouped according to their index offence as violent, sexual, or non-violent offenders. The third group of offenders were labelled non-violent offenders instead of general offenders as the term general encompasses all types of criminal behaviour including violent and sexual offences. Therefore, the label of non-violent was used to designate offenders who committed offences that were neither violent nor sexual in nature. The sample consisted of 24,171 (53.0%) violent offenders, 1,357 (3.3%) sexual offenders, and 17,709 (43.7%) non-violent offenders. Table 2 provides a summary of index offence types for all offenders. Further, the sample consisted of 16,816 (43.5%) recidivists and 21,873 (56.5%) non-recidivists. Table 3 displays the frequencies of recidivists and non-recidivists and Table 4 displays the frequencies of recidivism offence types. Table 5 displays the mean survival time (number of days) for recidivists and mean follow-up time for offenders by their index offence groupings. The average survival time to recidivate was significantly different for violent, sexual, and non-violent offenders, $F(2, 16813) = 8.432$, $p < .001$, $\eta^2 = .001$, where both violent and non-violent offenders recidivated significantly faster than sexual offenders (Table 6). Further, the average follow-up time was significantly different for violent, sexual, and non-violent offenders, $F(2, 21868) = 79.022$, $p < .001$, $\eta^2 = .007$, where both violent and non-violent offenders had significantly longer survival times than sexual offenders (Table 6).

Table 2

Demographic frequencies for all offenders by index offence type

	Violent (n = 21,471)	Sexual (n = 1,357)	Non-Violent (n = 17,709)
Total[a]			
Males	18,932 (88.2%)*	1,341 (98.8%)*	13,726 (77.5%)*
(Row %)	(55.7%)	(3.9%)	(40.4%)
Females	2,539 (11.8%)*	16 (1.2%)*	3,983 (22.5%)*
(Row %)	(38.8%)	(0.2%)	(60.9%)
Age Group			
17-29	9,747 (45.4%)*	334 (24.6%)*	7,860 (44.4%)*
(Row %)	(54.3%)	(1.9%)	(43.8%)
30-49	9,824 (45.7%)*	694 (51.1%)*	8,070 (45.5%)*
(Row %)	(52.8%)	(3.8%)	(43.4%)
50-69	1,824 (8.5%)*	287 (21.1%)*	1,736 (9.8%)*
(Row %)	(47.4%)	(7.5%)	(45.1%)
70-88	75 (0.3%)*	42 (3.1%)*	42 (0.2%)*
(Row %)	(47.2%)	(26.4%)	(26.4%)
Ethnicity			
White	13,514 (62.9%)*	881 (64.9%)*	11,138 (62.9%)*
(Row %)	(52.9%)	(3.5%)	(43.6%)
Black	1,473 (6.9%)*	54 (3.9%)*	1,593 (8.9%)*
(Row %)	(47.2%)	(1.7%)	(51.1%)
Aboriginal	1,965 (9.2%)*	100 (7.4%)*	791 (4.6%)*
(Row %)	(68.8%)	(3.5%)	(27.7%)
Hispanic	260 (1.2%)*	16 (1.2%)*	160 (0.9%)*
(Row %)	(59.6%)	(3.7%)	(36.7%)
Asian	1,197 (5.6%)*	61 (4.5%)*	1,167 (6.6%)*
(Row %)	(49.4%)	(2.5%)	(48.1%)
Other	3,062 (14.2%)*	245 (18.1%)*	2,860 (16.1%)*
(Row %)	(49.7%)	(3.9%)	(46.4%)
Most Serious Offence Ranking	9.06 (2.962)	3.88 (0.993)	12.08 (4.620)

Note. Values indicate *n* (%) or *M* (*SD*).

[a] N = 40,537.

* Column percentages.

Table 3

Frequencies of recidivists and non-recidivists by demographics and index offence

		Recidivists (n = 16,816; 43.5%)	Non-Recidivists (n = 21,873; 56.5%)
Total			
Males		14,636 (87.0%)*	17,849 (81.6%)*
	(Row %)	(45.1%)	(54.9%)
Females		2,180 (13.0%)*	4,024 (18.4%)*
	(Row %)	(35.1%)	(64.9%)
Age Group[a]			
17-29		8,449 (50.2%)*	8,600 (39.3%)*
	(Row %)	(49.6%)	(50.4%)
30-49		7,479 (44.5%)*	10,249 (46.9%)*
	(Row %)	(42.2%)	(57.8%)
50-69		871 (5.2%)*	2,881 (13.2%)*
	(Row %)	(23.2%)	(76.8%)
70-88		17 (0.1%)*	141 (0.6%)*
	(Row %)	(10.8%)	(89.2%)
Ethnicity			
White		11,150 (66.3%)*	13,231 (60.5%)*
	(Row %)	(45.7%)	(54.3%)
Black		1,452 (8.6%)*	1,443 (6.6%)*
	(Row %)	(50.2%)	(49.8%)
Aboriginal		1,697 (10.1%)*	964 (4.4%)*
	(Row %)	(63.8%)	(36.2%)
Hispanic		189 (1.1%)*	223 (1.0%)*
	(Row %)	(45.9%)	(54.1%)
Asian		709 (4.2%)*	1,624 (7.4%)*
	(Row %)	(30.4%)	(69.6%)
Other		1,619 (9.6%)*	4,388 (20.1%)*
	(Row %)	(27.0%)	(73.0%)
Disposition			
Custody		6,084 (36.2%)*	3,953 (18.1%)*
	(Row %)	(60.6%)	(39.4%)
Conditional		1,115 (6.6%)*	2,325 (10.6%)*
	(Row %)	(32.4%)	(67.6%)
Probation		9,372 (55.7%)*	15,293 (69.9%)*
	(Row %)	(38.0%)	(62.0%)
Intermittent		245 (1.5%)*	302 (1.4%)*
	(Row %)	(44.8%)	(55.2%)
Index Offence[a]			
Violent		9,066 (53.9%)*	11,385 (52.1%)*
	(Row %)	(44.3%)	(55.7%)
Sexual		339 (2.0%)*	982 (4.5%)*

	(Row %)	(25.7%)	(74.3%)
Non-violent		7,411 (44.1%)*	9,504 (43.5%)*
	(Row %)	(43.8%)	(56.2%)

Note. N = 38,689.
[a] N = 38,687.
* Column percentages.

Table 4

Frequencies of recidivism offence types for all recidivists by demographics and index offence

	Violent (*n* = 6,855; 40.2%)	Sexual (*n* = 226; 1.3%)	Non-Violent (*n* = 9,733; 58.5%)
Total			
Males	6,245 (91.1%)*	224 (99.1%)*	8,165 (83.9%)*
(Row %)	(42.7%)	(1.5%)	(55.8%)
Females	610 (8.9%)*	2 (0.9%)*	1,568 (16.1%)*
(Row %)	(28.0%)	(0.1%)	(71.9%)
Age Group			
17-29	3,636 (53.0%)*	83 (36.7%)*	4,730 (48.6%)*
(Row %)	(43.0%)	(1.0%)	(56.0%)
30-49	2,912 (42.5%)*	114 (50.4%)*	4,451 (45.7%)*
(Row %)	(38.9%)	(1.5%)	(59.6%)
50-69	303 (4.4%)*	29 (12.9%)*	539 (5.5%)*
(Row %)	(34.8%)	(3.3%)	(61.9%)
70-88	4 (0.1%)*	--	13 (0.2%)*
(Row %)	(23.5%)		(76.5%)
Ethnicity			
White	4,486 (65.4%)*	152 (67.3%)*	6,512 (66.9%)*
(Row %)	(40.2%)	(1.4%)	(58.4%)
Black	512 (7.5%)*	16 (7.1%)*	924 (9.5%)*
(Row %)	(35.3%)	(1.1%)	(63.6%)
Aboriginal	886 (12.9%)*	26 (11.5%)*	784 (8.1%)*
(Row %)	(52.2%)	(1.5%)	(46.3%)
Hispanic	78 (1.1%)*	5 (2.2%)*	106 (1.1%)*
(Row %)	(41.3%)	(2.6%)	(56.1%)
Asian	250 (3.7%)*	8 (3.5%)*	451 (4.6%)*
(Row %)	(35.3%)	(1.1%)	(63.6%)
Other	643 (9.4%)*	19 (8.4%)*	956 (9.8%)*
(Row %)	(39.7%)	(1.2%)	(59.1%)
Index Offence			
Violent	4,775 (69.7%)*	91 (40.2%)*	4,199 (43.1%)*
(Row %)	(52.7%)	(1.0%)	(46.3%)
Sexual	109 (1.6%)*	77 (34.1%)*	153 (1.6%)*
(Row %)	(32.2%)	(22.7%)	(45.1%)
Non-violent	1,971 (28.7%)*	58 (25.7%)*	5,381 (55.3%)*
(Row %)	(26.6%)	(0.8%)	(72.6%)

Note. N = 16,814.

* Column percentages.

Table 5

Mean number of days to recidivate (recidivists) and mean follow-up time (non-recidivists) by index offence

	Survival Time (to Recidivate)	Follow-up Time
Recidivists		
Violent Offenders (n = 9,066)	M = 606.9 (SD = 505.315)	
Sexual Offenders (n = 339)	M = 720.35 (SD = 550.755)	
Non-violent Offenders (n = 7,411)	M = 604.81 (SD = 510.889)	
Non-recidivists		
Violent Offenders (n = 11,385)		M = 2,066.6 (SD = 147.67)
Sexual Offenders (n = 982)		M = 2,002.55 (SD = 197.979)
Non-violent Offenders (n = 9,504)		M = 2,062.52 (SD = 154.584)

Note. N = 38,687.

Table 6

Games-Howell post hoc ANOVA analyses for violent, sexual, and non-violent offenders for mean time to recidivate and survival time

	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
Time to Recidivate	Violent	Sexual	-113.454	30.38	.001	-184.95	-41.96
		Non-violent	2.088	7.961	.963	-16.57	20.75
	Sexual	Non-violent	115.542	30.496	.001	43.78	187.31
Follow-up Time	Violent	Sexual	64.042	6.468	.000	48.86	79.22
		Non-violent	4.082	2.105	.128	-.85	9.02
	Sexual	Non-violent	-59.96	6.514	.000	-75.25	-44.67

3.2 LSI-OR Total Scores and Internal Consistency

Across all offenders, the General Risk/Need scores ranged from zero to 43 (M = 14.53, SD = 9.180), the Total Strength scores ranged from zero to eight (M = .81, SD = 1.499), and the Specific Risk/Need scores ranged from zero to 18 (M = 2.96, SD = 2.511). Male offenders had significantly higher General Risk/Need scores, $t(40537) = 13.13$, $p < .001$, $d = .18$, lower Strength scores $t(40537) = -12.12$, $p < .001$, $d = .15$, and higher Specific Risk/Need scores $t(40537) = 29.49$, $p < .001$, $d = .43$ than female offenders. Further, violent, sexual, and non-violent offenders differed significantly across the General Risk/Need scores, $F(3, 40535) = 24.94$, $p < .001$, $\eta^2 = .002$, Strength scores, $F(3, 40535) = 7.23$, $p < .001$, $\eta^2 = .001$, and Specific Risk/Need scores, $F(3, 40535) = 687.41$, $p < .001$, $\eta^2 = .048$. Further analyses were conducted to determine if different groups of offenders had significantly scores on LSI-OR sections. Tables 6, 7, and 8 display these mean differences for male and female offenders, violent, sexual, and non-violent offenders, and offenders by ethnicity, respectively. Games-Howell post hoc analyses indicated that the vast majority of the mean differences on the LSI-OR sections totals between violent, sexual, and non-violent offenders in Table 8 and all offenders by ethnicity in Table 9 were significantly different (Appendix D).

Table 7

Mean differences between male and female offenders on LSI-OR section scores

	Males (n = 34,001)	Females (n = 6,538)	t-test[a]
General Risk/Need Score	0 – 43 14.79 (9.204)	0 – 42 13.17 (8.933)	t(9402.81) = 13.40***, d = .28
Total Strength Score	0 – 8 .77 (1.457)	0 – 8 1.01 (1.687)	t(8513.80) = -10.98***, d = .24
Specific Risk/Need Score	0 – 18 3.12 (2.563)	0 – 13 2.13 (2.034)	t(10941.01) = 34.43***, d = .66
A1: Criminal History	0 – 8 3.10 (2.568)	0 – 8 1.94 (2.246)	t(10112.67) = 37.24***, d = .74
A2: Education/ Employment	0 – 9 3.20 (2.762)	0 – 9 3.45 (2.810)	t(9130.66) = -6.62***, d = .14
A3: Family/Marital	0 – 4 1.39 (1.123)	0 – 4 1.69 (1.194)	t(8901.05) = -18.75***, d = .40
A4: Leisure/ Recreation	0 – 2 1.16 (.754)	0 – 2 1.08 (.752)	t(9237.04) = 7.92***, d = .16
A5: Companions	0 – 4 1.23 (1.078)	0 – 4 1.14 (1.108)	t(9078.07) = 6.09***, d = .13
A6: Procriminal Attitude/Orientation	0 – 4 1.07 (1.197)	0 – 4 .80 (1.081)	t(9873.93) = 18.58***, d = .37
A7: Substance Abuse	0 – 8 2.83 (2.434)	0 – 8 2.46 (2.516)	t(9043.67) = 11.04***, d = .23
A8: Antisocial Pattern	0 – 4 .81 (.955)	0 – 4 .61 (.840)	t(10071.66) = 17.0***, d = .34
B1: Criminogenic Potential	0 – 11 1.98 (1.706)	0 – 9 1.53 (1.476)	t(10198.70) = 22.34***, d = .44
B2: History of Perpetration	0 – 8 1.14 (1.229)	0 – 5 .61 (.890)	t(11896.91) = 41.38***, d = .76
C1: Institutional Factors	0 – 9 .44 (.854)	0 – 5 .17 (.479)	t(15816.54) = 36.84***, d = .59
F1: Social, Mental, and Mental Health	0 – 16 1.87 (2.128)	0 – 14 2.92 (2.634)	t(8257.11) = -30.47***, d = .67
F2: Barrier to Release	0 – 1 .11 (.316)	0 – 1 .05 (.225)	t(12086.83) = 18.02***, d = .33
G1: Responsivity Considerations	0 – 7 1.02 (.985)	0 – 8 .80 (.941)	t(9504.63) = 17.03***, d = .35

Note. N = 40,539. Values represent range, mean, and standard deviation.

[a] Equal variances not assumed. Cohen's d values were calculated with software retrieved from http://www.missouristate.edu/rstats.

*** $p < .001$.

Table 8

Mean differences between violent, sexual, and non-violent offenders on LSI-OR section scores

	Violent (n = 21,471)	Sexual (n = 1,357)	Non-Violent (n = 17,709)	ANOVA
General Risk/ Need Score	0 – 43 14.77 (9.383)	0 – 43 12.77 (8.612)	0 – 43 14.37 (8.953)	F(2, 40534) = 35.25***, η^2 = .002
Total Strength Score	0 – 8 .83 (1.510)	0 – 8 .64 (1.296)	0 – 8 .80 (1.500)	F(2, 40534) = 10.56***, η^2 = .001
Specific Risk/ Need Score	0 – 18 3.41 (2.515)	0 – 15 3.92 (2.720)	0 – 18 2.34 (2.346)	F(2, 40534) = 1030.71***, η^2 = .048
A1: Criminal History	0 – 8 2.92 (2.597)	0 – 8 2.34 (2.253)	0 – 8 2.95 (2.520)	F(2, 40534) = 36.64***, η^2 = .002
A2: Education/ Employment	0 – 9 3.28 (2.802)	0 – 9 2.93 (2.660)	0 – 9 3.21 (2.740)	F(2, 40534) = 12.45***, η^2 = .001
A3: Family/ Marital	0 – 4 1.54 (1.130)	0 – 4 1.55 (1.161)	0 – 4 1.31 (1.137)	F(2, 40534) = 205.09***, η^2 = .010
A4:Leisure/ Recreation	0 – 2 1.15 (.755)	0 – 2 1.16 (.770)	0 – 2 1.15 (.752)	F(2, 40534) = .152*n.s.*, η^2 = .000
A5: Companions	0 – 4 1.19 (1.099)	0 – 4 .80 (.987)	0 – 4 1.29 (1.064)	F(2, 40534) = 145.28***, η^2 = .007
A6: Procriminal Attitude/Orientation	0 – 4 1.07 (1.192)	0 – 4 1.26 (1.206)	0 – 4 .96 (1.167)	F(2, 40534) = 64.95***, η^2 = .003
A7: Substance Abuse	0 – 8 2.83 (2.487)	0 – 8 1.93 (2.301)	0 – 8 2.76 (2.406)	F(2, 40534) = 85.56***, η^2 = .004
A8: Antisocial Pattern	0 – 4 .80 (.965)	0 – 4 .81 (.896)	0 – 4 .74 (.911)	F(2, 40534) = 16.75***, η^2 = .001
B1: Criminogenic Potential	0 – 11 2.18 (1.680)	0 – 10 2.68 (1.928)	0 – 11 1.53 (1.572)	F(2, 40534) = 909.26***, η^2 = .043
B2: History of Perpetration	0 – 8 1.24 (1.219)	0 – 7 1.23 (1.219)	0 – 8 .82 (1.123)	F(2, 40534) = 637.59***, η^2 = .031
C1: Institutional Factors	0 – 9 .40 (.831)	0 – 7 .79 (1.041)	0 – 7 .36 (.759)	F(2, 40534) = 177.28***, η^2 = .009
F1: Social, Mental, and Mental Health	0 – 16 2.08 (2.286)	0 – 13 2.51 (2.355)	0 – 14 1.96 (2.195)	F(2, 40534) = 43.94***, η^2 = .002
F2: Barrier to Release	0 – 1 .11 (.309)	0 – 1 .20 (.400)	0 – 1 .09 (.288)	F(2, 40534) = 84.22***, η^2 = .004
G1: Responsivity Considerations	0 – 8 1.04 (.996)	0 – 6 1.31 (1.075)	0 – 7 .88 (.944)	F(2, 40534) = 220.10***, η^2 = .011

Note. N = 40,537. Values represent range, mean, and standard deviation.
*** $p < .001$.

Table 9

Mean differences between offenders by ethnicity on LSI-OR section scores

	White	Black	Aboriginal	Hispanic	Asian	Other	ANOVA
General Risk/Need Score	0 – 43 15.38 (9.006)	0 – 40 14.56 (8.785)	0 – 43 21.87 (9.182)	0 – 39 12.21 (7.947)	0 – 39 9.33 (7.192)	0 – 41 9.82 (7.367)	$F(5, 40533)$ = 1004.91*** η^2 = .110
Total Strength Score	0 – 8 .78 (1.428)	0 – 8 .57 (1.277)	0 – 8 .73 (1.498)	0 – 7 .79 (1.443)	0 – 8 .79 (1.510)	0 – 8 1.09 (1.821)	$F(5, 40533)$ = 61.89*** η^2 = .008
Specific Risk/Need Score	0 – 18 3.10 (2.492)	0 – 18 2.93 (2.489)	0 – 18 4.74 (3.112)	0 – 12 2.71 (2.139)	0 – 14 2.06 (1.920)	0 – 12 1.98 (1.877)	$F(5, 40533)$ = 595.78*** η^2 = .068
A1: Criminal History	0 – 8 3.21 (2.534)	0 – 8 3.18 (2.530)	0 – 8 4.30 (2.512)	0 – 8 2.26 (2.269)	0 – 8 1.72 (2.142)	0 – 8 1.44 (1.982)	$F(5, 40533)$ = 846.71*** η^2 = .095
A2: Education/ Employment	0 – 9 3.28 (2.723)	0 – 9 3.60 (2.828)	0 – 9 5.16 (2.754)	0 – 9 2.96 (2.715)	0 – 9 2.17 (2.450)	0 – 9 2.44 (2.543)	$F(5, 40533)$ = 491.03*** η^2 = .057
A3: Family/ Marital	0 – 4 1.50 (1.144)	0 – 4 1.34 (1.064)	0 – 4 2.04 (1.166)	0 – 4 1.20 (1.026)	0 – 4 .95 (.947)	0 – 4 1.13 (1.055)	$F(5, 40533)$ = 378.64** η^2 = .045
A4: Leisure/ Recreation	0 – 2 1.18 (.745)	0 – 2 1.23 (.766)	0 – 2 1.35 (.734)	0 – 2 1.15 (.749)	0 – 2 1.02 (.759)	0 – 2 .96 (.748)	$F(5, 40533)$ = 147.15*** η^2 = .018
A5: Companions	0 – 4 1.26 (1.080)	0 – 4 1.34 (1.051)	0 – 4 1.88 (1.029)	0 – 4 1.01 (1.056)	0 – 4 .82 (.986)	0 – 4 .86 (.988)	$F(5, 40533)$ = 454.15*** η^2 = .053
A6: Procriminal Attitude/	0 – 4 1.06 (1.195)	0 – 4 1.27 (1.249)	0 – 4 1.37 (1.323)	0 – 4 .89 (1.090)	0 – 4 .82 (1.040)	0 – 4 .70 (.984)	$F(5, 40533)$ = 195.01*** η^2 = .023

Orientation							
A7: Substance Abuse	0 – 8 3.08 (2.420)	0 – 8 1.71 (2.130)	0 – 8 4.51 (2.328)	0 – 8 2.12 (2.208)	0 – 8 1.34 (1.906)	0 – 8 1.84 (2.148)	$F(5, 40533) = 928.47^{***}$ $\eta^2 = .103$
A8: Antisocial Pattern	0 – 4 .81 (.956)	0 – 4 .88 (.920)	0 – 4 1.27 (1.110)	0 – 4 .62 (.829)	0 – 4 .50 (.698)	0 – 4 .46 (.728)	$F(5, 40533) = 375.60^{***}$ $\eta^2 = .044$
B1: Criminogenic Potential	0 – 11 1.98 (1.678)	0 – 10 1.92 (1.651)	0 – 11 2.86 (2.014)	0 – 8 1.74 (1.465)	0 – 8 1.39 (1.373)	0 – 9 1.38 (1.383)	$F(5, 40533) = 380.12^{***}$ $\eta^2 = .045$
B2: History of Perpetration	0 – 8 1.11 (1.206)	0 – 8 1.01 (1.66)	0 – 8 1.88 (1.523)	0 – 5 .98 (1.005)	0 – 6 .66 (.867)	0 – 6 .60 (.811)	$F(5, 40533) = 551.54^{***}$ $\eta^2 = .064$
C1: Institutional Factors	0 – 9 .44 (.855)	0 – 6 .45 (.836)	0 – 6 .64 (.949)	0 – 6 .30 (.752)	0 – 6 .21 (.595)	0 – 7 .15 (.494)	$F(5, 40533) = 215.35^{***}$ $\eta^2 = .026$
F1: Social, Mental, and Mental Health	0 – 16 2.23 (2.299)	0 – 13 1.39 (1.701)	0 – 14 3.30 (2.801)	0 – 9 1.40 (1.752)	0 – 10 .98 (1.374)	0 – 13 1.45 (1.858)	$F(5, 40533) = 495.95^{***}$ $\eta^2 = .058$
F2: Barrier to Release	0 – 1 .10 (.305)	0 – 1 .12 (.327)	0 – 1 .26 (.437)	0 – 1 .06 (.237)	0 – 1 .05 (.220)	0 – 1 .04 (.204)	$F(5, 40533) = 217.45^{***}$ $\eta^2 = .026$
G1: Responsivity Considerations	0 – 6 .95 (.932)	0 – 7 1.09 (1.000)	0 – 8 1.56 (1.218)	0 – 5 1.06 (1.026)	0 – 7 1.04 (1.054)	0 – 6 .76 (.903)	$F(5, 40533) = 283.72^{***}$ $\eta^2 = .034$

Note. $N = 40{,}539$. Values represent range, mean, and standard deviation.
*** $p < .001$.

Internal consistency coefficients were conducted for all subscales and yielded acceptable results for the General Risk/Need score and Other Client Issues; the internal consistencies for the remaining sections were below the 0.70 acceptable level. Table 10 displays the internal consistency values for LSI-OR sections for all offenders.

Table 10

Internal consistency statistics for all LSI-OR sections

	Cronbach's alpha	Number of Items
Section A: General Risk/Need Factors	α = .919	43
Section B: Specific Risk/Need Factors	α = .681	23
Section C: Prison Experience – Institutional Factors	α = .486	9
Section F: Other Client Issues	α = .707	20
Section G: Special Responsivity Considerations	α = .374	8
Total Scale	α = .934	103

N = 40,539.

3.3 Hypothesis One: Predictive Validity by Recidivism Type

The first hypothesis stated that the General Risk/Need score will correlate most strongly with non-violent recidivism for all offenders, then violent recidivism, then sexual recidivism. Pearson bivariate correlations were conducted between the General Risk/Need score and the three recidivism variables (*N* = 38,689). Consistent with the hypothesis, the General Risk/Need score correlated most strongly with non-violent recidivism, $r = .289$, $p < .001$, then violent

recidivism, $r = .237$, $p < .001$, and then sexual recidivism, $r = .029$, $p < .001$. The General Risk/Need score also correlated strongly with general recidivism, $r = .440$, $p < .001$.

3.4 Hypothesis Two: Predictive Validity by Gender

The second hypothesis stated that the General Risk/Need score will correlate comparably with non-violent recidivism between male and female offenders. Pearson bivariate correlations were conducted between the General Risk/Need score and non-violent recidivism for male and female offenders ($N = 38{,}689$). Fisher's r-to-z ratio was computed with online software by Preacher (2002) to test the significance of the difference in correlations. Consistent with the hypothesis, the General Risk/Need score correlated similarly yet significantly different between non-violent recidivism for male offenders, $r = .280$, $p < .001$, and female offenders, $r = .347$, $p < .001$, $z = -5.365$, $p < .001$. The General Risk/Need score correlated significantly more strongly with violent recidivism for male offenders, $r = .241$, $p < .001$, than for female offenders, $r = .174$, $p < .001$, $z = 5.055$, $p < .001$. The General Risk/Need score correlated significantly more strongly, albeit weakly, with sexual recidivism for male offenders, $r = .029$, $p < .001$, than for female offenders, $r = .006$, *n.s*; these correlations were not significantly different. Further, the General Risk/Need score correlated strongly with general recidivism for both male offenders, $r = .439$, $p < .001$, and female offenders, $r = .425$, $p < .001$; these correlations were not significantly different.

3.5 Hypothesis Three: Risk Score versus Initial Risk Level

The third hypothesis stated that the correlations between recidivism and the initial risk levels will be similar to the correlations between recidivism and the General Risk/Need score, but the numerical Risk/Need score will have better predictive validity than the categorical risk levels. Pearson bivariate correlations were conducted between the General Risk/Need score, the

initial risk levels, and the recidivism variables (N = 38,689). Software retrieved from DeCoster and Iselin (2009) based on research by Steiger (1980) was used to test the significance of the difference in correlations. Consistent with the hypothesis, non-violent recidivism correlated significantly more strongly with the General Risk/Need score, r = .289, p < .001, than the initial risk levels, r = .279, p < .001, z = 7.002, p < .001. Violent recidivism also correlated significantly more strongly with the General Risk/Need score, r = .237, p < .001, than the initial risk levels, r = .228, p <.001, z = 6.21, p < .001. Sexual recidivism correlated similarly well with the General Risk/Need score, r = .029, p < .001, compared to the initial risk levels, r = .030, p < .001, but these correlations were not significantly different. Further, general recidivism correlated significantly more strongly with the General Risk/Need score, r = .440, p < .001, than the initial risk levels, r = .425, p < .001, z = 11.19, p < .001.

3.6 Hypothesis Four: Strength Score and Recidivism

The fourth hypothesis stated that the total Strength score will negatively correlate with recidivism for all offenders. Pearson bivariate correlations were conducted between the total Strength score and general recidivism (N = 38,689). Consistent with the hypothesis, the total Strength score correlated negatively with non-violent recidivism, r = -.088, p < .001, violent recidivism, r = -.060, p < .001, and sexual recidivism, r = -.013, p < .01. The total Strength score also correlated negatively with general recidivism, r = -.126, p < .001.

3.7 Hypothesis Five: Area Under the Curve by Recidivism Type

The fifth hypothesis stated that the General Risk/Need score will generate the highest AUC values for non-violent recidivism, then violent recidivism, then sexual recidivism. Receiver operator characteristic (ROC) analyses were conducted to generate area under the curve (AUC) values for the General Risk/Need score's predictive ability for the recidivism variables.

Consistent with the hypothesis, the General Risk/Need score had the highest AUC values for the prediction of non-violent recidivism, AUC = .694, p <.001, 95% CI [.688, .700], then violent recidivism, AUC = .676, p < .001, 95% CI [.669, .683], then sexual recidivism, AUC = .611, p < .001, 95% CI [.575, .647]. The non-overlapping confidence intervals for these three recidivism variables indicate that the predictive validity of the General Risk/Need score is significantly different across the three types of recidivism. The General Risk/Need score generated the highest AUC value overall for general recidivism, AUC = .756, p < .001, 95% CI [.751, .760]. Table 11 displays the AUC values for the General Risk/Need score's predictive validity of the recidivism variables for all, violent, sexual, non-violent, male, and female offenders (ROC curves are shown in Appendix E).

Table 11

AUC values for the General Risk/Need score's predictive validity for recidivism

	Sexual Recidivism	Violent Recidivism	Non-violent Recidivism	General Recidivism
All Offenders	.611*** (.575 to .647)	.676*** (.669 to .683)	.694*** (.688 to .700)	.756*** (.751 to .760)
Violent Offenders	.664*** (.613 to .715)	.676*** (.667 to .684)	.699*** (.691 to .708)	.762*** (.756 to .769)
Non-violent Offenders	.566 *n.s.* (.490 to .642)	.678*** (.666 to .690)	.695*** (.686 to .703)	.747*** (.739 to .754)
Sexual Offenders	.635*** (.572 to .699)	.727*** (.681 to .774)	.748*** (.709 to .786)	.762*** (.733 to .791)
Male Offenders	.602*** (.566 to .638)	.674*** (.666 to .681)	.688*** (.682 to .695)	.755*** (.750 to .760)
Female Offenders	.655 *n.s.* (.495 to .816)	.668*** (.646 to .689)	.724*** (.709 to .738)	.751*** (.738 to .764)

Note. 95% confidence intervals in parentheses.
*** p < .001.

3.8 Hypothesis Six: Use of the Override to Change Risk Levels

The sixth hypothesis stated that more overrides will be used to increase risk levels than decrease risk levels. An initial-by-final risk level matrix was constructed for all offenders where the values in each cell of the matrix represent the number of offenders with the corresponding initial and final risk levels. Table 12 displays the initial-by-final risk level matrix for all offenders with offenders' recidivism rates in each cell in parentheses (e.g., of the 211 offenders with an initial very low risk level and a final low risk level, 14.7% recidivated). The highlighted cells on the matrix diagonal indicate the offenders whose initial risk levels were not overridden in either direction. Consistent with the hypothesis, there were 5,954 cases overridden, with 5,601 (14.5%) overrides used to increase risk levels and 353 (0.9%) overrides used to decrease risk levels. There were 32,734 (84.6%) offenders whose risk levels were not overridden.

Table 12

Distribution and recidivism rates for all offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	4,313 (13.8%)	211 (14.7%)	1,060 (16.6%)	140 (11.4%)	12 (8.3%)	5,736 (14.3%)
Low	9 (22.2%)	7,102 (26.0%)	2,433 (28.3%)	348 (23.6%)	29 (20.7%)	9,921 (26.4%)
Medium	7 (28.6%)	57 (33.3%)	11,366 (45.6%)	1,050 (45.9%)	89 (44.9%)	12,569 (45.6%)
High	3 (33.3%)	8 (50.0%)	213 (69.0%)	7,286 (69.4%)	229 (61.2%)	7,739 (69.2%)
Very High	0 n/a	1 n/a	35 (82.9%)	20 (90.0%)	2,667 (84.0%)	2,723 (84.0%)
Total	4,332 (13.9%)	7,379 (25.7%)	15,107 (41.2%)	8,844 (64.0%)	3,026 (80.5%)	38,688 (43.5%)

Further, initial-by-final risk level matrices were constructed for male and female offenders. Of the 5,321 overrides for male offenders, there were 5,053 (15.6%) overrides used to increase risk levels and 268 (0.8%) overrides used to decrease risk levels. There were 27,164 (83.6%) male offenders whose risk levels were not overridden. Similarly, of the 633 overrides for female offenders, there were 548 (8.8%) overrides used to increase risk levels and 85 (1.4%) overrides used to decrease risk levels. There were 5,570 (89.8%) female offenders whose risk levels were not overridden. Tables 13 and 14 display the initial-by-final risk level matrices for male and female offenders, respectively. The highlighted cells on the diagonal of the matrix in both tables indicate the offenders whose initial risk levels were not overridden. Male offenders had significantly higher initial risk levels, final risk levels, and override change scores than female offenders as shown in Table 15.

Table 13

Distribution and recidivism rates for male offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	3,276 (14.7%)	176 (14.2%)	939 (16.6%)	130 (10.8%)	12 (8.3%)	4,533 (14.9%)
Low	7 (28.6%)	5,624 (27.2%)	2,155 (28.8%)	336 (23.5%)	29 (20.7%)	8,151 (27.5%)
Medium	7 (28.6%)	37 (37.8%)	9,568 (46.8%)	973 (45.6%)	84 (45.2%)	10,669 (46.6%)
High	2 (50.0%)	4 (50.0%)	164 (72.0%)	6,336 (70.3%)	219 (62.6%)	6,725 (70.0%)
Very High	0 n/a	0 n/a	30 (90.0%)	17 (94.1%)	2,360 (84.4%)	2,407 (84.6%)
Total	3,292 (14.8%)	5,841 (26.9%)	12,856 (42.0%)	7,792 (64.2%)	2,704 (80.4%)	32,485 (45.1%)

Table 14

Distribution and recidivism rates for female offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	1,037	35	121	10	0	1,203
	(11.0%)	(17.1%)	(16.5%)	(20.0%)	n/a	(11.8%)
Low	2	1,478	278	12	0	1,770
	n/a	(21.2%)	(24.1%)	(25.0%)	n/a	(21.6%)
Medium	0	20	1,798	77	5	1,900
	n/a	(25.0%)	(39.5%)	(49.4%)	(40.0%)	(39.8%)
High	1	4	49	950	10	1,014
	n/a	(50.0%)	(59.2%)	(63.8%)	(100.0%)	(63.8%)
Very High	0	1	5	3	307	316
	n/a	n/a	(40.0%)	(66.7%)	(80.8%)	(79.7%)
Total	1,040	1,538	2,251	1,052	322	6,203
	(11.0%)	(21.2%)	(36.8%)	(61.9%)	(80.7%)	(35.1%)

Table 15

Mean differences between male and female offenders on initial risk levels, final risk levels, and override change scores

	Total (N = 38,689)	Males (n = 32,485)	Females (n = 6,204)	t-test[a]
Initial Risk Level	M = 2.79 (SD = 1.134)	M = 2.83 (SD = 1.132)	M = 2.59 (SD = 1.123)	t(8780.13) = 14.95***, d = .32
Very Low	5,736 (14.8%)	4,533 (14.0%)	1,203 (19.4%)	
Low	9,921 (25.6%)	8,151 (25.1%)	1,770 (28.5%)	
Medium	12,570 (32.5%)	10,669 (32.8%)	1,901 (30.6%)	
High	7,739 (20.0%)	6,725 (20.7%)	1,014 (16.3%)	
Very High	2,723 (7.1%)	2,407 (7.4%)	316 (5.1%)	
Final Risk Level[b]	M = 2.97 (SD = 1.086)	M = 3.02 (SD = 1.076)	M = 2.69[c] (SD = 1.095)	t(8640.95) = 22.05***, d = .47
Very Low	4,332 (11.2%)	3,292 (10.1%)	1,040 (16.8%)	
Low	7,379 (19.1%)	5,841 (18.0%)	1,538 (24.8%)	
Medium	15,107 (39.0%)	12,856 (39.6%)	2,251 (36.3%)	
High	8,844 (22.9%)	7,792 (24.0%)	1,052 (17.0%)	
Very High	3,026 (7.8%)	2,704 (8.3%)	322 (5.1%)	
***t*-test**	t(38687) = -67.72***, d = -.16	t(32484) = -65.50***, d = -.17	t(6202) = -18.24***, d = -.09	
Override Change[b]	M = .18 (SD = .530)	M = .20 (SD = .547)	M = .10[c] (SD = .423)	t(10580.02) = 16.31***, d = .32
-3	4 (0.0%)	2 (0.0%)	2 (0.0%)	
-2	50 (0.1%)	41 (0.1%)	9 (0.1%)	
-1	299 (0.8%)	225 (0.7%)	74 (1.2%)	
0	32,734 (84.6%)	27,164 (83.6%)	5,570 (89.8%)	
+1	3,923 (10.1%)	3,523 (10.8%)	400 (6.4%)	
+2	1,497 (3.9%)	1,359 (4.2%)	138 (2.2%)	
+3	169 (0.4%)	159 (0.5%)	10 (0.2%)	
+4	12 (0.0%)	12 (0.0%)	--	

Note. Cohen's d values were calculated with software retrieved from http://www.missouristate.edu/rstats.

[a] Test of significance between male and female offenders, equal variances not assumed. [b] N = 38,688. [c] n = 6,203.

*** $p < .001$.

Additionally, initial-by-final risk level matrices were constructed for offenders by ethnicity. Of the 3,437 overrides for White offenders, 3,162 (13.0%) overrides were used to increase risk levels and 275 (1.1%) overrides were used to decrease risk levels. There were 20,943 (85.9%) White offenders whose risk levels were not overridden. Of the 460 overrides for Black offenders, 448 (15.5%) overrides were used to increase risk levels and 12 (0.4%) overrides were used to decrease risk levels. There were 2,435 (84.1%) Black offenders whose risk levels were not overridden. Of the 192 overrides for Aboriginal offenders, 150 (5.6%) overrides were used to increase risk levels and 42 (1.6%) overrides were used to decrease risk levels. There were 2,469 (92.8%) Aboriginal offenders whose risk levels were not overridden. All of the 86 (20.9%) overrides for Hispanic offenders were used to increase risk levels. There were 326 (79.1%) Hispanic offenders whose risk levels were not overridden.

Similarly, all of the 597 (25.6%) overrides for Asian offenders were used to increase risk levels. There were 1,736 (74.4%) Asian offenders whose risk levels were not overridden. Finally, of the 1,182 overrides for offenders with an ethnicity classified as Other, 1,158 (19.3%) were used to increase risk levels and 24 (0.4%) were used to decrease risk levels. There were 4,825 (80.3%) Other offenders whose risk levels were not overridden. Tables 16 through 21 display the initial-by-final risk level matrices for White, Black, Aboriginal, Hispanic, Asian, and Other offenders, respectively. The highlighted cells on the diagonal of the matrix in all tables indicate the offenders whose initial risk levels were not overridden in either direction. Table 22 shows that offenders grouped by ethnicities differed significantly on initial risk levels, final risk levels, and override change scores. Games-Howell post hoc analyses indicate that nearly all mean comparisons on the initial risk levels, final risk levels, and override change scores between offenders by ethnicity are significant (Appendix D).

Table 16

Distribution and recidivism rates for White offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	2,165 (13.9%)	101 (16.8%)	473 (16.5%)	75 (9.3%)	4 n/a	2,818 (14.3%)
Low	5 (20.0%)	4,211 (26.9%)	1,339 (28.5%)	226 (20.8%)	17 (17.6%)	5,798 (27.0%)
Medium	5 n/a	44 (36.4%)	7,703 (46.3%)	699 (45.8%)	67 (46.3%)	8,518 (46.2%)
High	2 n/a	8 (50.0%)	167 (69.5%)	5,079 (69.0%)	161 (62.7%)	5,417 (68.8%)
Very High	0 n/a	1 n/a	25 (80.0%)	18 (88.9%)	1,785 (83.2%)	1,829 (83.2%)
Total	2,177 (13.9%)	4,365 (26.8%)	9,707 (42.9%)	6,097 (63.9%)	2,034 (79.6%)	24,380 (45.7%)

Table 17

Distribution and recidivism rates for Black offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	299 (20.1%)	19 (15.8%)	85 (27.1%)	5 (20.0%)	0 n/a	408 (21.2%)
Low	0 n/a	525 (36.0%)	200 (37.5%)	19 (26.3%)	0 n/a	744 (36.2%)
Medium	2 (100%)	0 n/a	847 (51.6%)	95 (56.8%)	6 (33.3%)	950 (52.1%)
High	0 n/a	0 n/a	8 (50.0%)	607 (74.1%)	19 (68.4%)	634 (73.7%)
Very High	0 n/a	0 n/a	1 (100%)	1 (100%)	157 (84.1%)	159 (84.3%)
Total	301 (20.6%)	544 (35.3%)	1,141 (47.3%)	727 (70.3%)	182 (80.8%)	2,895 (50.2%)

Table 18

Distribution and recidivism rates for Aboriginal offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	58 (17.2%)	1 n/a	7 (57.1%)	2 n/a	2 n/a	70 (20.0%)
Low	0 n/a	237 (34.6%)	43 (30.2%)	7 (14.3%)	1 (100%)	288 (33.7%)
Medium	0 n/a	6 (33.3%)	723 (51.5%)	59 (44.1%)	6 (66.7%)	794 (50.9%)
High	1 (100%)	0 n/a	27 (81.5%)	867 (73.1%)	22 (68.2%)	917 (73.3%)
Very High	0 n/a	0 n/a	7 (85.7%)	1 (100%)	584 (86.1%)	592 (86.1%)
Total	59 (18.6%)	244 (34.4%)	807 (51.7%)	936 (70.7%)	615 (85.0%)	2,661 (63.8%)

Table 19

Distribution and recidivism rates for Hispanic offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	53 (28.3%)	4 (25.0%)	12 (25.0%)	1 n/a	1 n/a	71 (26.8%)
Low	0 n/a	81 (34.6%)	49 (44.9%)	6 (33.3%)	1 (100%)	137 (38.7%)
Medium	0 n/a	0 n/a	127 (44.9%)	10 (60.0%)	0 n/a	137 (46.0%)
High	0 n/a	0 n/a	0 n/a	55 (80.0%)	2 (100%)	57 (80.7%)
Very High	0 n/a	0 n/a	0 n/a	0 n/a	10 (80.0%)	10 (80.0%)
Total	53 (28.3%)	85 (34.1%)	188 (43.6%)	72 (72.2%)	14 (78.6%)	412 (45.9%)

Table 20

Distribution and recidivism rates for Asian offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	487 (12.6%)	24 (8.3%)	185 (13.5%)	16 (31.3%)	1 n/a	713 (13.0%)
Low	0 n/a	526 (21.9%)	281 (24.2%)	18 (50.0%)	2 (50.0%)	827 (23.3%)
Medium	0 n/a	0 n/a	505 (44.6%)	61 (59.0%)	5 (60.0%)	571 (46.2%)
High	0 n/a	0 n/a	0 n/a	193 (69.9%)	4 (100%)	197 (70.6%)
Very High	0 n/a	0 n/a	0 n/a	0 n/a	25 (80.0%)	25 (80.0%)
Total	487 (12.6%)	550 (21.3%)	971 (32.7%)	288 (64.2%)	37 (75.7%)	2,333 (30.4%)

Table 21

Distribution and recidivism rates for Other offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	1,251 (11.8%)	62 (12.9%)	298 (14.4%)	41 (7.3%)	4 (25.0%)	1,656 (12.3%)
Low	4 (25.0%)	1,522 (19.7%)	521 (24.8%)	72 (25.0%)	8 n/a	2,127 (21.1%)
Medium	0 n/a	7 (14.3%)	1,461 (35.9%)	126 (31.7%)	5 n/a	1,599 (35.4%)
High	0 n/a	0 n/a	11 (45.5%)	485 (59.8%)	21 (57.1%)	517 (59.4%)
Very High	0 n/a	0 n/a	2 (100%)	0 n/a	106 (87.7%)	108 (88.0%)
Total	1,255 (11.9%)	1,591 (19.4%)	2,293 (30.7%)	724 (48.5%)	144 (73.6%)	6,007 (27.0%)

Table 22

Mean differences between offenders by ethnicity on initial risk levels, final risk levels, and override change scores

	White (n = 24,381)	Black (n = 2,895)	Aboriginal (n = 2,661)	Hispanic (n = 412)	Asian (n = 2,333)	Other (n = 6,007)	ANOVA
Initial Risk Level	M = 2.90 (SD = 1.101)	M = 2.79 (SD = 1.103)	M = 3.63 (SD = 1.026)	M = 2.51 (SD = 1.010)	M = 2.14 (SD = .983)	M = 2.22 (SD = 1.001)	F(5, 38683) = 898.50*** η^2 = .104
Very Low	2,818 (11.6%)	408 (14.1%)	70 (2.6%)	71 (17.2%)	713 (30.6%)	1,656 (27.6%)	
Low	5,798 (23.8%)	744 (25.7%)	288 (10.8%)	137 (33.3%)	827 (35.4%)	2,127 (35.4%)	
Medium	8,519 (34.9%)	950 (32.8%)	794 (29.8%)	137 (33.3%)	571 (24.5%)	1,599 (26.6%)	
High	5,417 (22.2%)	634 (21.9%)	917 (34.5%)	57 (13.8%)	197 (8.4%)	517 (8.6%)	
Very High	1,829 (7.5%)	159 (5.5%)	592 (22.2%)	10 (2.4%)	25 (1.1%)	108 (1.8%)	
Final Risk Level	M = 3.06[a] (SD = 1.057)	M = 2.98 (SD = 1.052)	M = 3.68 (SD = .999)	M = 2.78 (SD = .993)	M = 2.50 (SD = 1.005)	M = 2.49 (SD = 1.026)	F(5, 38682) = 635.52*** η^2 = .076
Very Low	2,177 (8.9%)	301 (10.4%)	59 (2.2%)	53 (12.9%)	487 (20.9%)	1,255 (20.9%)	
Low	4,365 (17.4%)	544 (18.8%)	244 (9.2%)	85 (20.6%)	550 (23.6%)	1,591 (26.5%)	
Medium	9,707 (39.8%)	1,141 (39.4%)	807 (30.3%)	188 (45.6%)	971 (41.6%)	2,293 (38.2%)	
High	6,097 (25.0%)	727 (25.1%)	936 (35.2%)	72 (17.5%)	288 (12.3%)	724 (12.1%)	
Very High	2,034 (8.3%)	182 (6.3%)	615 (23.1%)	14 (3.4%)	37 (1.6%)	144 (2.4%)	
***t*-test**	t(24379) = -48.82***	t(2894) = -20.42***	t(2660) = -7.23***	t(411) = -9.33***	t(2332) = -25.74***	t(6006) = -33.50***	
Override Change	M = .16[a] (SD = .499)	M = .19 (SD = .503)	M = .05 (SD = .351)	M = .27 (SD = .586)	M = .36 (SD = .679)	M = .27 (SD = .623)	F(5, 38682) = 135.95*** η^2 = .017
-3	3 (0.0%)	--	1 (0.0%)	--	--	--	
-2	38 (0.2%)	3 (0.1%)	7 (0.3%)	--	--	2 (0.0%)	
-1	234 (1.0%)	9 (0.3%)	34 (1.3%)	--	--	22 (0.4%)	
0	20,943 (85.9%)	2,435 (84.1%)	2,469 (92.8%)	326 (79.1%)	1,736 (74.4%)	4,825 (80.3%)	
+1	2,300 (9.4%)	333 (11.5%)	125 (4.7%)	65 (15.8%)	370 (15.9%)	730 (12.2%)	
+2	766 (3.1%)	110 (3.8%)	20 (0.8%)	18 (4.4%)	208 (8.9%)	375 (6.2%)	
+3	92 (0.4%)	5 (0.2%)	3 (0.1%)	2 (0.5%)	18 (0.8%)	49 (0.8%)	
+4	4 (0.0%)	--	2 (0.1%)	1 (0.2%)	1 (0.0%)	4 (0.1%)	

[a] n = 24,380.

*** p < .001.

3.9 Hypothesis Seven: Use of Override for Sexual Index Offenders

The seventh hypothesis stated that sexual offenders will have more overrides increasing their risk levels than violent and non-violent offenders. An initial-by-final risk level matrix was constructed for sexual offenders where the values in each cell of the matrix represent the number of offenders with the corresponding initial and final risk levels. Consistent with the hypothesis, 650 (49.2%) sexual offenders had their risk levels increased compared to eight (0.6%) sexual offenders who had their risk levels decreased and 663 (50.2%) sexual offenders whose risk levels were not overridden. This contrasts greatly with violent offenders, where 3,676 (18.0%) violent offenders had their risk levels increased, 180 (0.9%) violent offenders had their risk levels decreased, and 16,594 (81.1%) violent offenders' risk levels were not overridden. The high rate of sexual offenders whose risk levels were increased also contrasts with non-violent offenders, where 1,284 (7.6%) non-violent offenders had their risk levels increased, 165 (1.0%) non-violent offenders had their risk levels decreased, and 15,466 (91.4%) non-violent offenders' risk levels were not overridden. Tables 23 to 25 display the initial-by-final risk level matrices with recidivism rates for sexual, violent, and non-violent offenders, respectively. The highlighted cells on the diagonal of the matrix in all tables indicate the offenders whose initial risk levels were not overridden in either direction. Violent, sexual, and non-violent offenders differed significantly across initial risk levels, final risk levels, and override change scores as shown in Table 26 but only differed significantly across final risk levels and override change scores when controlling for the General Risk/Need score. Sexual offenders had the highest mean override change score (M = .86, SD = 1.045) followed by violent offenders (M = .22, SD = .556) then non-violent offenders (M = .08, SD = .368).

Table 23

Distribution and recidivism rates for sexual offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	82 (2.4%)	10 n/a	56 (12.5%)	87 (6.9%)	11 (9.1%)	246 (6.5%)
Low	1 n/a	145 (9.7%)	70 (11.4%)	156 (18.6%)	19 (15.8%)	391 (13.8%)
Medium	1 (100%)	0 n/a	195 (27.7%)	172 (26.2%)	34 (23.5%)	402 (26.9%)
High	0 n/a	0 n/a	6 (16.7%)	184 (55.4%)	35 (57.1%)	225 (54.7%)
Very High	0 n/a	0 n/a	0 n/a	0 n/a	57 (66.7%)	57 (66.7%)
Total	84 (3.6%)	155 (9.0%)	327 (21.4%)	599 (30.4%)	156 (44.9%)	1,321 (25.6%)

Table 24

Distribution and recidivism rates for violent offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	1,998 (13.6%)	147 (13.6%)	832 (15.3%)	38 (23.7%)	0 n/a	3,006 (14.2%)
Low	6 (33.3%)	3,292 (26.0%)	1,746 (26.5%)	154 (27.3%)	8 (25.0%)	5,206 (26.2%)
Medium	4 (25.0%)	19 (26.3%)	5,834 (46.5%)	588 (48.1%)	31 (51.6%)	6,476 (46.6%)
High	2 (50.0%)	4 (25.0%)	112 (70.5%)	3,890 (69.8%)	132 (62.1%)	4,140 (69.5%)
Very High	0 n/a	0 n/a	22 (81.8%)	11 (90.9%)	1,589 (84.8%)	1,622 (84.8%)
Total	2,010 (13.7%)	3,462 (25.4%)	8,537 (39.8%)	4,681 (65.4%)	1,760 (82.3%)	20,450 (44.3%)

Table 25

Distribution and recidivism rates for non-violent offenders in an initial-by-final risk level matrix

	Final Risk Level					
Initial Risk Level	Very Low	Low	Medium	High	Very High	Total
Very Low	2,233	54	181	15	1	2,484
	(14.4%)	(20.4%)	(23.2%)	(6.7%)	n/a	(15.1%)
Low	2	3,665	617	38	2	4,324
	n/a	(26.6%)	(35.4%)	(28.9%)	(50.0%)	(27.9%)
Medium	2	38	5,337	290	24	5,691
	n/a	(36.8%)	(45.3%)	(53.1%)	(66.7%)	(45.7%)
High	1	4	95	3,211	62	3,373
	n/a	(75.0%)	(70.5%)	(69.8%)	(72.6%)	(69.8%)
Very High	0	1	13	9	1,020	1,043
	n/a	n/a	(84.6%)	(88.9%)	(83.8%)	(83.8%)
Total	2,238	3,762	6,243	3,563	1,109	16,915
	(14.3%)	(26.7%)	(44.1%)	(67.8%)	(82.7%)	(43.8%)

Table 26

Mean differences between violent, sexual, and non-violent offenders on initial risk levels, final risk levels, and override change scores

	Violent (n = 20,451)	Sexual (n = 1,321)	Non-Violent (n = 16,915)	ANOVA	ANCOVA[b]
Initial Risk Level	M = 2.81 (SD = 1.152)	M = 2.59 (SD = 1.102)	M = 2.77 (SD = 1.113)	F(2, 38684) = 26.73***, η^2 = .001	F(2, 38683) = 2.52 *n.s.*, η^2 = .000
Very Low	3,006 (14.7%)	246 (18.6%)	2,484 (14.7%)		
Low	5,206 (25.5%)	391 (29.6%)	4,324 (25.6%)		
Medium	6,477 (31.7%)	402 (30.4%)	5,691 (33.6%)		
High	4,140 (20.2%)	225 (17.0%)	3,373 (19.9%)		
Very High	1,622 (7.9%)	57 (4.3%)	1,043 (6.2%)		
Final Risk Level	M = 3.04[a] (SD = 1.065)	M = 3.45 (SD = 1.049)	M = 2.85 (SD = 1.097)	F(2, 38683) = 262.03***, η^2 = .013	F(2, 38682) = 1289.96***, η^2 = .063
Very Low	2,010 (9.8%)	84 (6.4%)	2,238 (13.2%)		
Low	3,462 (16.9%)	155 (11.7%)	3,762 (22.2%)		
Medium	8,537 (41.7%)	327 (24.8%)	6,243 (36.9%)		
High	4,681 (22.9%)	599 (45.3%)	3,563 (21.1%)		
Very High	1,760 (8.6%)	156 (11.8%)	1,109 (6.6%)		
***t*-test**	t(20449) = -57.22***, d = -.21	t(1320) = -29.80***, d = -.80	t(16914) = -28.75***, d = -.07		
Override Change	M = .22[a] (SD = .556)	M = .86 (SD = 1.045)	M = .08 (SD = .368)	F(2, 38683) = 1550.80***, η^2 = .074	F(2, 38682) = 1630.87***, η^2 = .078
-3	2 (0.0%)	--	2 (0.0%)		
-2	30 (0.1%)	1 (0.1%)	19 (0.1%)		
-1	148 (0.7%)	7 (0.5%)	144 (0.9%)		
0	16,603 (81.2%)	663 (50.2%)	15,466 (91.4%)		
+1	2,613 (12.8%)	287 (21.7%)	1,023 (6.0%)		
+2	1,008 (4.9%)	246 (18.6%)	243 (1.4%)		
+3	46 (0.2%)	106 (8.0%)	17 (0.1%)		
+4	--	11 (0.8%)	1 (0.0%)		

Note. N = 38,687.
[a] n = 20,450. [b] Controlling for General Risk/Need Score.
*** p < .001.

Games-Howell post hoc ANOVA analyses in Table 27 indicate that all mean comparisons on the initial risk levels, final risk levels, and override change scores between violent, sexual, and non-violent offenders were significantly different with the largest differences found when comparing sexual offenders to violent or non-violent offenders. Post hoc ANCOVA comparisons in Table 28 indicate that violent, sexual, and non-violent offenders differed significantly only on the final risk levels and override change scores when controlling for the General Risk/Need score. Again, the largest mean differences were found when comparing sexual offenders to violent or non-violent offenders.

Table 27

Games-Howell post hoc ANOVA analyses for violent, sexual, and non-violent offenders on initial risk levels, final risk levels, and override change scores

DV	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
Initial Risk Levels[a]	Violent	Sexual	.224*	.031	.000	.15	.30
		Non-violent	.039*	.012	.003	.01	.07
	Sexual	Non-violent	-.185*	.032	.000	-.26	-.11
Final Risk Levels[b]	Violent	Sexual	-.410*	.030	.000	-.48	-.34
		Non-violent	.180*	.011	.000	.15	.21
	Sexual	Non-violent	.590*	.030	.000	.52	.66
Override Change Scores[b]	Violent	Sexual	-.634*	.029	.000	-.70	-.57
		Non-violent	.141*	.005	.000	.13	.15
	Sexual	Non-violent	.776*	.029	.000	.71	.84

[a] N = 38,687. [b] N = 38,686.

Table 28

Post hoc ANCOVA pairwise comparisons for violent, sexual, and non-violent offenders on initial risk levels, final risk levels, and override change scores

DV	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval	
						Lower	Upper
Initial Risk Levels[b]	Violent	Sexual	.000	.009	1.000	-.022	.022
		Non-violent	-.008	.003	.081	-.016	.001
	Sexual	Non-violent	-.008	.009	1.000	-.030	.015
Final Risk Levels[c]	Violent	Sexual	-.603*	.015	.000	-.640	-.566
		Non-violent	.140*	.006	.000	.127	.154
	Sexual	Non-violent	.743*	.015	.000	.706	.780
Override Change Scores[c]	Violent	Sexual	-.603*	.014	.000	-.636	-.570
		Non-violent	.148*	.005	.000	.136	.160
	Sexual	Non-violent	.751*	.014	.000	.718	.784

Note. Based on estimated marginal means.
[a] Adjustment for multiple comparisons: Bonferroni. [b] N = 38,687. [c] N = 38,686.

3.10 Hypothesis Eight: Predictive Validity by the Initial and Final Risk Levels

The eighth hypothesis stated that the initial risk level will have stronger correlations with non-violent, violent, and sexual recidivism compared to correlations with the final risk level, and these differences in correlations will be significant. Pearson bivariate correlations were conducted between the three recidivism variables and the initial and final risk levels. As shown in Table 29, the initial risk levels had stronger correlations with violent recidivism, non-violent recidivism, and general recidivism than the final risk levels. However, contrary to the hypothesis the final risk levels correlated more strongly with sexual recidivism than the initial risk levels although both correlations were small in magnitude. Moreover, the override change score correlated negatively with general recidivism, violent recidivism, and non-violent recidivism but was positively correlated with sexual recidivism. The difference in correlations between the

initial and final risk levels was tested by software retrieved by DeCoster and Iselin (2009) and was significant for sexual recidivism, $z = 6.63$, $p < .001$, violent recidivism, $z = 7.22$, $p < .001$, non-violent recidivism, $z = 16.32$, $p < .001$, and general recidivism, $z = 20.03$, $p < .001$.

Partial correlations were conducted between the initial risk levels, final risk levels, override change score, and the recidivism outcomes controlling for General Risk/Need score. The initial risk levels were only significantly positively correlated with general recidivism but at a much smaller magnitude. The final risk levels remained significantly positively correlated with sexual and violent recidivism but were negatively correlated with non-violent recidivism and were not significantly correlated with general recidivism. The override change score remained significantly positively correlated with sexual recidivism and significantly negatively correlated with non-violent recidivism yet became significantly positively correlated with violent recidivism. The override change score was not significantly correlated with general recidivism when controlling for the General Risk/Need score. This was to be expected as the General Risk/Need score determines how much the risk levels can be increased or decreased (i.e., offenders with lower scores have more room to be overridden upward and offenders with higher scores have more room to be overridden downward). As such, there is no relationship between the override change score and general recidivism when controlling for the General Risk/Need score.

Table 29

Correlations between risk levels and recidivism

	Sexual Recidivism	Violent Recidivism	Non-violent Recidivism	General Recidivism
Bivariate Correlations				
Initial Risk Levels	.030***	.228***	.279***	.425***
Final Risk Levels	.046***	.211***	.241***	.381***
Override Change Score	.030***	-.057***	-.103***	-.129***
Partial Correlations[a]				
Initial Risk Levels	.008*n.s.*	.005*n.s.*	.009*n.s.*	.013**
Final Risk Levels	.041***	.014**	-.014**	.006*n.s.*
Override Change Score	.040***	.013*	-.022***	-.002*n.s.*

Note. N = 38,688.
[a] Controlling for General/Risk Need score.
* $p < .05$ ** $p < .01$ *** $p < .001$.

3.11 Hypothesis Nine: Area Under the Curve for Initial and Final Risk Levels

The ninth hypothesis stated that the AUC values will decrease when comparing the initial risk levels to the final risk levels for predicting recidivism and that these differences in AUC values will be significant. ROC analyses were conducted to generate AUC values for the prediction of the four recidivism variables by the initial risk levels, final risk levels, and override change score. Somewhat consistent with the hypothesis, AUC values decreased significantly from initial risk levels to final risk levels for all offenders for violent, non-violent, and general recidivism. However, the final risk levels had higher AUC values for sexual recidivism than the initial risk levels although this difference was not significant. Violent and sexual offenders'

initial risk levels produced significantly higher AUC values than the final risk levels for violent, non-violent and general recidivism whereas none of the difference in AUC values between initial and final risk levels for non-violent offenders were significant. Table 30 displays the AUC values for the initial risk levels', final risk levels', and override change score's predictive validity for recidivism for all, violent, sexual, and non-violent offenders.

Table 30

AUC values for the initial risk levels', final risk levels', and override change score's predictive validity for recidivism

	Sexual Recidivism	Violent Recidivism	Non-violent Recidivism	General Recidivism
All Offenders				
Initial Risk Levels	.612*** (.576 to .648)	.666*** (.659 to .673)	.681*** (.675 to .687)	.740*** (.735 to .745)
Final Risk Levels	.671*** (.636 to .706)	.652*** (.645 to .659)	.655*** (.649 to .661)	.713*** (.708 to .718)
Override Change Score	.570*** (.530 to .610)	.476*** (.469 to .483)	.458*** (.452 to .465)	.456*** (.450 to .461)
Violent Offenders				
Initial Risk Levels	.663*** (.611 to .715)	.665*** (.657 to .674)	.687*** (.678 to .696)	.746*** (.740 to .753)
Final Risk Levels	.668*** (.613 to .723)	.648*** (.639 to .657)	.661*** (.652 to .670)	.717*** (.710 to .724)
Override Change Score	.499 *n.s.* (.441 to .557)	.463*** (.454 to .472)	.446*** (.437 to .456)	.438*** (.430 to .446)
Non-violent Offenders				
Initial Risk Levels	.558 *n.s.* (.481 to .635)	.667*** (.655 to .679)	.681*** (.673 to .690)	.730*** (.723 to .738)
Final Risk Levels	.589* (.510 to .668)	.660*** (.648 to .673)	.677*** (.669 to .686)	.724*** (.717 to .732)
Override Change Score	.536 *n.s.* (.459 to .614)	.486* (.473 to .500)	.493 *n.s.* (.484 to .503)	.489* (.480 to .498)
Sexual Offenders				

Initial Risk Levels	.643*** (.579 to .707)	.718*** (.671 to .765)	.727*** (.687 to .768)	.750*** (.720 to .780)
Final Risk Levels	.608*** (.551 to .665)	.616*** (.565 to .667)	.643*** (.599 to .687)	.654*** (.622 to .686)
Override Change Score	.483 *n.s.* (.421 to .545)	.391*** (.339 to .442)	.405*** (.362 to .449)	.401*** (.368 to .434)
Male Offenders				
Initial Risk Levels	.604*** (.567 to .641)	.663*** (.656 to .670)	.675*** (.669 to .682)	.738*** (.733 to .744)
Final Risk Levels	.659*** (.624 to .694)	.646*** (.638 to .653)	.646*** (.640 to .653)	.707*** (.701 to .713)
Override Change Score	.563*** (.523 to .603)	.470*** (.463 to .478)	.454*** (.447 to .461)	.449*** (.442 to .455)
Female Offenders				
Initial Risk Levels	.632*n.s.* (.509 to .755)	.662*** (.641 to .684)	.712*** (.697 to .726)	.739*** (.726 to .752)
Final Risk Levels	.786*n.s.* (.504 to 1.000)	.659*** (.638 to .681)	.702*** (.687 to .717)	.730*** (.717 to .743)
Override Change Score	.725*n.s.* (.281 to 1.000)	.495*n.s.* (.471 to .519)	.479* (.463 to .495)	.481* (.466 to .496)

Note. 95% confidence intervals in parentheses.
* $p < .05$ ** $p < .01$ *** $p < .001$.

3.12 Comparing Recidivists and Non-recidivists

Compared to non-recidivists, recidivists had significantly higher General Risk/Need scores, significantly higher Specific Risk/Need scores, and significantly lower Total Strength scores. Further, recidivists also had significantly higher initial risk levels and final risk levels than non-recidivists. While both groups increased their mean risk level, non-recidivists did so significantly more than recidivists which seemed counterintuitive. However, this difference disappeared when controlling for the General Risk/Need score. Table 31 displays the LSI-OR section totals while Table 32 displays the initial risk levels, final risk levels, and override change scores for recidivists and non-recidivists, respectively.

Table 31

Mean differences between recidivists and non-recidivists on LSI-OR section scores

	Recidivists (n = 16,816)	Non-Recidivists (n = 21,873)	t-test[a]
General Risk/Need Score	0 – 43 18.77 (9.026)	0 – 42 10.71 (7.417)	t(32144.62) = 93.99***, d = 1.05
Total Strength Score	0 – 8 .61 (1.270)	0 – 8 .99 (1.660)	t(38686.04) = 25.76***, d = .26
Specific Risk/Need Score	0 – 18 3.84 (2.746)	0 – 16 2.20 (2.006)	t(29611.98) = 65.23***, d = .76
A1: Criminal History	0 – 8 4.01 (2.511)	0 – 8 1.93 (2.175)	t(33291.84) = 85.77***, d = .94
A2: Education/ Employment	0 – 9 4.17 (2.791)	0 – 9 2.39 (2.458)	t(33647.69) = 65.64***, d = .72
A3: Family/Marital	0 – 4 1.67 (1.166)	0 – 4 1.23 (1.074)	t(34601.38) = 37.80***, d = .41
A4: Leisure/ Recreation	0 – 2 1.35 (.719)	0 – 2 .97 (.738)	t(36634.67) = 50.18***, d = .52
A5: Companions	0 – 4 1.58 (1.071)	0 – 4 .89 (.976)	t(34363.74) = 65.34***, d = .70
A6: Procriminal Attitude/Orientation	0 – 4 1.32 (1.278)	0 – 4 .75 (1.005)	t(31186.30) = 48.01***, d = .54
A7: Substance Abuse	0 – 8 3.55 (2.456)	0 – 8 2.07 (2.209)	t(34094.19) = 61.72***, d = .67
A8: Antisocial Pattern	0 – 4 1.11 (1.047)	0 – 4 .48 (.716)	t(28279.67) = 66.72***, d = .79
B1: Criminogenic Potential	0 – 11 2.47 (1.802)	0 – 11 1.42 (1.395)	t(30838.02) = 62.16***, d = .71
B2: History of Perpetration	0 – 8 1.37 (1.356)	0 – 7 .78 (.962)	t(29008.41) = 48.42***, d = .57
C1: Institutional Factors	0 – 7 .61 (.981)	0 – 9 .22 (.581)	t(25671.22) = 46.01***, d = .57
F1: Social, Mental, and Mental Health	0 – 14 2.49 (2.441)	0 – 16 1.63 (1.982)	t(31879.93) = 37.17***, d = .42
F2: Barrier to Release	0 – 1 .17 (.374)	0 – 1 .05 (.218)	t(25425.16) = 36.49***, d = .46
G1: Responsivity Considerations	0 – 8 1.19 (1.034)	0 – 7 .79 (.892)	t(33207.13) = 40.15***, d = .44

Note. Values represent range, mean, and standard deviation.

[a] Equal variances not assumed. Cohen's d values were calculated with software retrieved from http://www.missouristate.edu/rstats.

*** $p < .001$.

Table 32

Mean differences between recidivists and non-recidivists on initial risk levels, final risk levels, and override change scores

	Recidivists (n = 16,816)	Non-Recidivists (n = 21,873)	t-test[a]	Controlling for General Risk/Need[b]
Initial Risk Level	M = 3.34 (SD = 1.049)	M = 2.37 (SD = 1.009)	t(35463.24) = 91.84***, d = .98	.010** (SE = .004)
Very Low	819 (4.9%)	4,917 (22.5%)		
Low	2,623 (15.6%)	7,298 (33.4%)		
Medium	5,729 (34.1%)	6,841 (31.3%)		
High	5,357 (31.9%)	2,382 (10.9%)		
Very High	2,288 (13.6%)	435 (1.9%)		
Final Risk Level	M = 3.44 (SD = .988)	M = 2.61 (SD = 1.017)[c]	t(36655.30) = 81.24***, d = .85	.007 *n.s.* (SE = .006)
Very Low	600 (3.6%)	3,732 (17.1%)		
Low	1,899 (11.3%)	5,480 (25.1%)		
Medium	6,226 (37.0%)	8,881 (40.6%)		
High	5,656 (33.6%)	3,188 (14.6%)		
Very High	2,435 (14.5%)	591 (2.6%)		
***t*-test**	t(16815) = -32.56***, d = -.10	t(21871) = -60.14***, d = -.24		
Override Change	M = .10 (SD = .416)	M = .24 (SD = .597)[c]	t(38333.56) = -26.83***, d = -.27	.003 *n.s.* (SE = .006)
-3	1 (0.0%)	3 (0.0%)		
-2	35 (0.2%)	15 (0.1%)		
-1	186 (1.1%)	113 (0.5%)		
0	14,925 (88.8%)	17,809 (81.4%)		
+1	1,348 (8.0%)	2,575 (11.8%)		
+2	298 (1.8%)	1,199 (5.5%)		
+3	22 (0.1%)	147 (0.6%)		
+4	1 (0.0%)	11 (0.1%)		

[a] Equal variances not assumed. Cohen's d values were calculated with software retrieved from http://www.missouristate.edu/rstats. [b] Pairwise comparisons displaying mean differences controlling for General Risk/Need score based on marginal means. Significance levels adjusted for multiple comparisons using the Bonferroni correction. [c] n = 21,872.
* $p < .05$ ** $p < .01$ *** $p < .001$.

3.13 Survival Analyses

Kaplan-Meier survival analyses were conducted to visually display the initial and final risk levels' ability to discriminate the number of recidivists in each of the five risk levels. Table 32 displays the mean number of days for survival time for all offenders across the initial and final risk levels for general recidivism. A Log Rank (Mantel-Cox) test of equality of survival distributions for the different risk levels was significant for both the initial risk levels, χ^2 (4, N = 38689) = 9270.64, $p < .001$, and the final risk levels, χ^2 (4, N = 38689) = 7320.90, $p < .001$. As seen in Table 33, the number of recidivists and non-recidivists in each risk level changed between the initial and final risk levels, although the overall recidivism rates did not change.

Table 33

Mean number of days for survival time for all offenders across the initial and final risk levels for general recidivism

	Number of Recidivists	Number of Non-recidivists	Mean Estimate in Days (*SE*)	95% Confidence Interval
Initial Risk Levels[a]				
Very Low	819 (14.3%)	4,917 (85.7%)	2,110.22 (7.46)	2,095.61 to 2,124.83
Low	2,623 (26.4%)	7,298 (73.6%)	1,900.74 (7.62)	1,885.80 to 1,915.69
Medium	5,729 (45.6%)	6,841 (54.4%)	1,558.65 (8.07)	1,542.82 to 1,574.47
High	5,357 (69.2%)	2,382 (30.8%)	1,092.48 (10.33)	1,072.23 to 1,112.74
Very High	2,288 (84.0%)	435 (16.0%)	734.84 (15.01)	705.42 to 764.27
Final Risk Levels[b]				
Very Low	600 (13.9%)	3,732 (86.1%)	2,114.84 (8.51)	2,098.15 to 2131.52
Low	1,899 (25.7%)	5,480 (74.3%)	1,913.94 (8.71)	1,896.86 to 1931.01
Medium	6,266 (45.2%)	8,881 (54.8%)	1,637.23 (7.20)	1,623.11 to 1651.34
High	5,656 (74.0%)	3,188 (36.0%)	1,191.87 (9.91)	1,172.44 to 1211.29
Very High	2,435 (80.5%)	591 (19.5%)	810.49 (15.10)	780.88 to 840.09

[a] N = 38,689. [b] N = 38,688.

Compared to other offenders, interesting results were found when the survival analyses were conducted for sexual offenders. Figures 2 and 3 display the survival curves for general recidivism for sexual offenders across the initial and final risk levels, respectively. As shown below, the initial risk levels showed a greater separation between each risk level than did the final risk levels even though the overall recidivism rate remained the same. However, the difference between very low and low risk became non-significant across the final risk levels. The figures also show that when moving from the initial to the final risk levels more sexual offenders were increased to higher risk levels but did not recidivate which lowered the overall recidivism rates for the high and very high final risk levels. This indicates that there were more non-recidivists in the initial lower risk levels but were overridden upward, increasing the amount of non-recidivists in the final high and very high risk levels. A Log Rank (Mantel-Cox) test of equality of survival distributions for the different risk levels was significant for general recidivism for the initial risk levels, χ^2 (4, N = 1321) = 280.54, $p < .001$, and the final risk levels, χ^2 (4, N = 1321) = 85.64, $p < .001$.

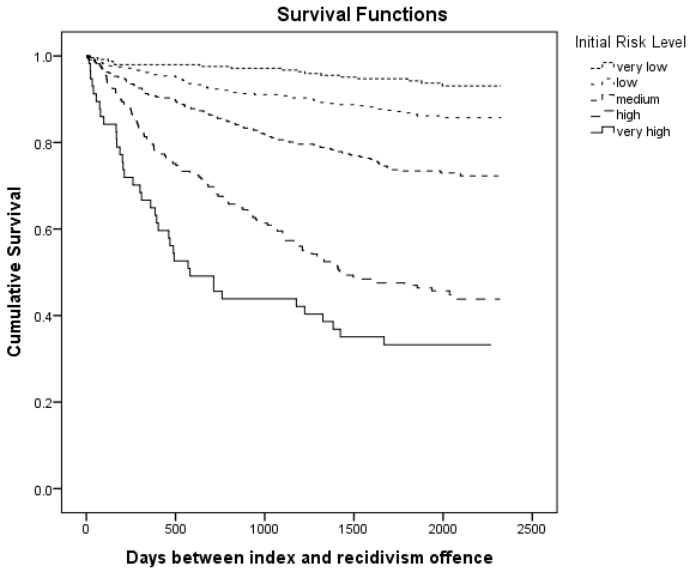

Figure 2. Survival curve for sexual offenders' general recidivism across the initial risk levels.

Table 34

Pairwise comparisons for sexual offenders' general recidivism across the initial risk levels

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	8.479	.004	40.693	.000	139.280	.000	162.304	.000
	Low			20.920	.000	129.288	.000	131.782	.000
	Medium					52.020	.000	59.227	.000
	High							6.071	.014

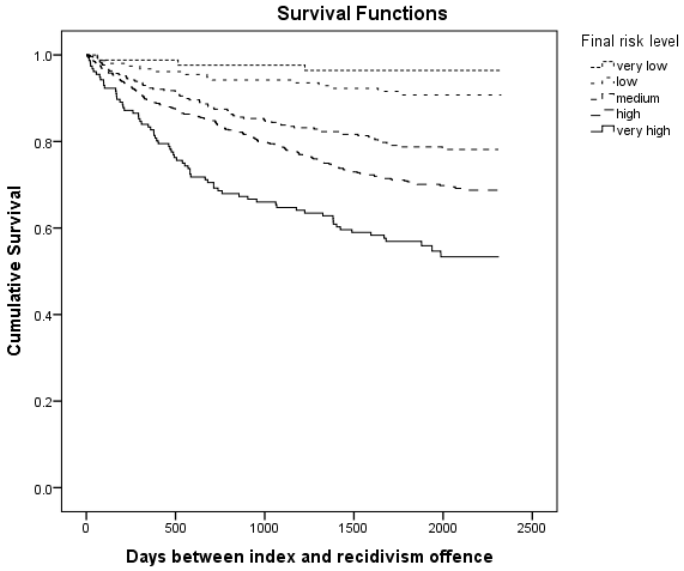

Figure 3. Survival curve for sexual offenders' general recidivism across the final risk levels.

Table 35

Pairwise comparisons for sexual offenders' general recidivism across the final risk levels

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	2.382	.123	13.513	.000	23.277	.000	41.181	.000
	Low			10.853	.001	26.403	.000	51.815	.000
	Medium					7.936	.005	31.480	.000
	High							14.735	.000

The same pattern of results emerged for sexual offenders for violent recidivism across initial (Figure 4) and final risk levels (Figure 5) and for non-violent recidivism across initial (Figure 6) and final risk levels (Figure 7). For violent recidivism, the difference between very low and low risk was non-significant across the initial and final risk levels and the differences between very low and medium risk and between medium and high risk became non-significant across the final risk levels. For non-violent recidivism, the differences between very low and low risk and between low and medium risk became non-significant across the final risk levels. The cumulative survival scales in the following figures were truncated to show greater detail in the separation of the risk levels. Log Rank (Mantel-Cox) tests of equality of survival distributions for the different risk levels were significant for violent recidivism across the initial risk levels, χ^2 (4, N = 1321) = 107.06, $p < .001$, and final risk levels, χ^2 (4, N = 1321) = 26.43, $p < .001$, and were significant for non-violent recidivism across the initial risk levels, χ^2 (4, N = 1321) = 147.67, $p < .001$, and final risk levels, χ^2 (4, N = 1321) = 47.72, $p < .001$.

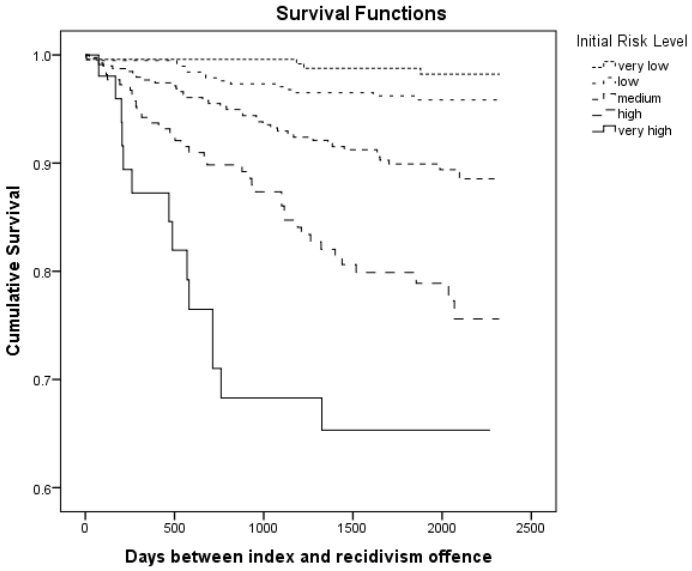

Figure 4. Survival curve for sexual offenders' violent recidivism across the initial risk levels.

Table 36

Pairwise comparisons for sexual offenders' violent recidivism across the initial risk levels

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	2.836	.092	17.700	.000	47.433	.000	71.996	.000
	Low			11.398	.001	44.448	.000	64.164	.000
	Medium					13.231	.000	25.598	.000
	High							4.510	.034

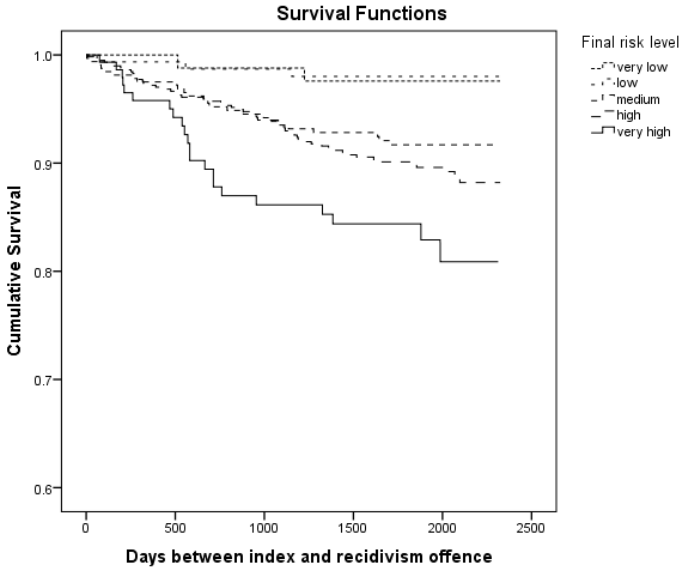

Figure 5. Survival curve for sexual offenders' violent recidivism across the final risk levels.

Table 37

Pairwise comparisons for sexual offenders' violent recidivism across the final risk levels

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	.040	.841	3.329	.068	5.567	.018	11.105	.001
	Low			6.612	.010	10.606	.001	19.866	.000
	Medium					1.238	.266	7.876	.005
	High							5.125	.024

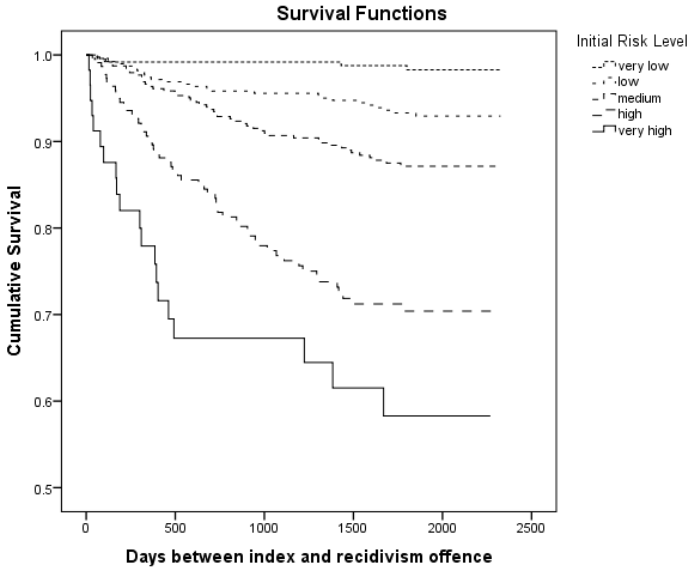

Figure 6. Survival curve for sexual offenders' non-violent recidivism across the initial risk levels.

Table 38

Pairwise comparisons for sexual offenders' non-violent recidivism across the initial risk levels

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	8.753	.003	23.183	.000	69.859	.000	96.337	.000
	Low			7.192	.007	54.949	.000	70.283	.000
	Medium					25.276	.000	39.559	.000
	High							5.050	.025

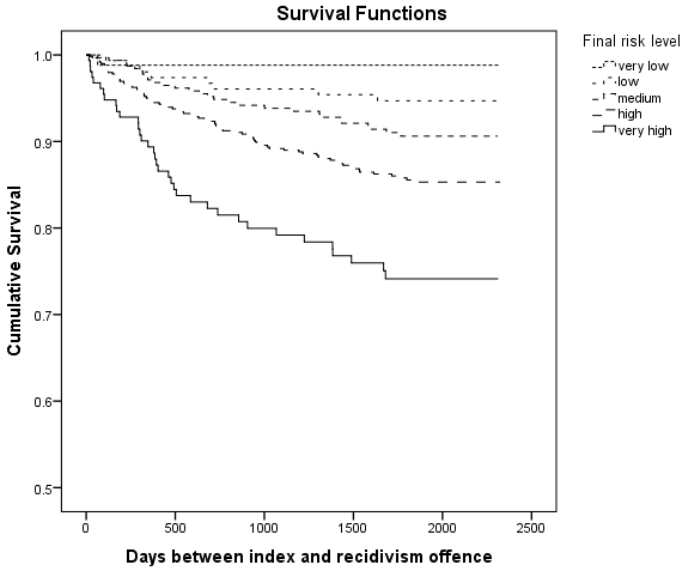

Figure 7. Survival curve for sexual offenders' non-violent recidivism across the final risk levels.

Table 39

Pairwise comparisons for sexual offenders' non-violent recidivism across the final risk levels

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	2.334	.127	5.828	.016	10.746	.001	21.601	.000
	Low			2.134	.144	8.949	.003	24.091	.000
	Medium					5.033	.025	23.633	.000
	High							11.794	.001

Further intriguing results were found when survival analyses were conducted for sexual offenders for sexual recidivism across the initial (Figure 8) and final risk levels (Figure 9). Contrary to the expected trends, there were more sexual offenders who recidivated sexually in the high risk level than the very high risk level across the initial risk levels. However, this trend reversed when compared to the final risk levels, such that there were more recidivists in the very high risk level than the high risk level. This indicates that there were appropriate overrides used to increase sexual offenders' risk levels for sexual recidivism from the initial to the final risk levels. Figure 9 shows that more recidivists were overridden upward from their initial risk levels to the very high risk level. Further, it is evident when moving from the initial to the final risk levels that there were appropriate overrides made to increase risk levels for offenders from the very low risk level to higher risk levels.

Figure 9 also shows that the very low risk offenders recidivated at a slower and smaller frequency than the very low risk offenders with the initial risk levels. Despite these differences between the survival curves, there were numerous non-significant differences between risk levels across both the initial and final risk levels. The cumulative survival scales in the following figures were truncated to show greater detail in the separation of the risk levels. The Log Rank (Mantel-Cox) test of equality of survival distributions for the different risk levels was significant for sexual recidivism across the initial risk levels, χ^2 (4, N = 1321) = 42.03, $p < .001$ and final risk levels, χ^2 (4, N = 1321) = 16.20, $p < .001$. Additional survival curves with pairwise comparison tables are included in Appendix F for all, violent, non-violent, male, and female offenders.

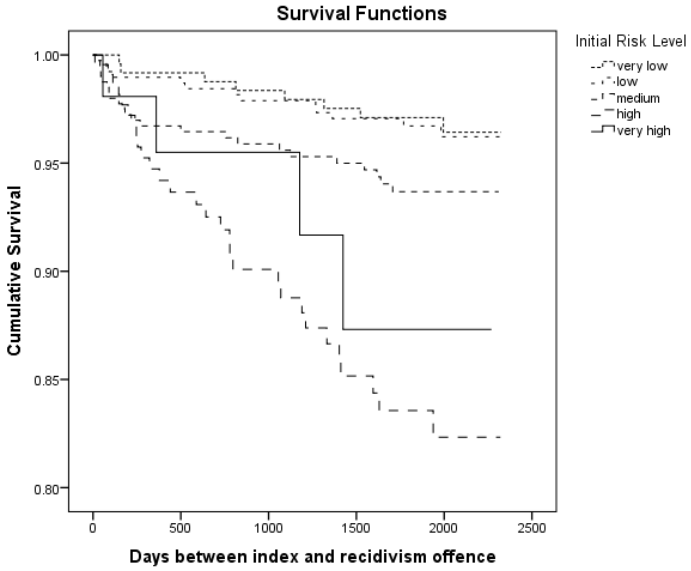

Figure 8. Survival curve for sexual offenders' sexual recidivism across the initial risk levels.

Table 40

Pairwise comparisons for sexual offenders' sexual recidivism across the initial risk levels

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	.032	.857	2.827	.093	23.888	.000	6.207	.013
	Low			3.193	.074	30.228	.000	5.826	.016
	Medium					13.864	.000	1.104	.293
	High							.411	.521

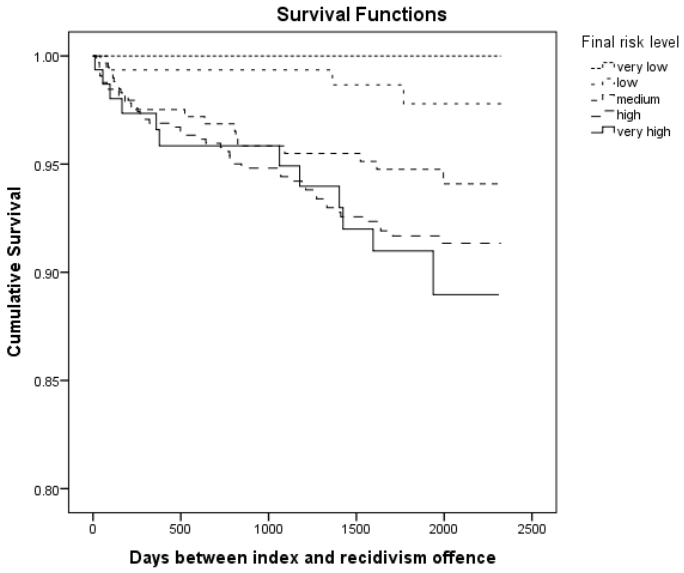

Figure 9. Survival curve for sexual offenders' sexual recidivism across the final risk levels.

Table 41

Pairwise comparisons for sexual offenders' sexual recidivism across the final risk levels

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	1.659	.198	4.696	.030	7.211	.007	8.738	.003
	Low			3.061	.080	7.234	.007	8.264	.004
	Medium					2.070	.150	2.332	.127
	High							.254	.615

3.14 Regression Analyses

3.14.1 Variables Related to Recidivism

Hierarchical logistic regression analyses were conducted to determine which demographic and LSI-OR variables were related to general recidivism for all offenders. The General Risk/Need score was entered into the model in Block 1; gender (1 = male, 2 = female), age at admission, and ethnicity (1 = White, 0 = non-White) were entered into the model in Block 2; and the LSI-OR B1 (Personal Problems with Criminogenic Potential), B2 (History of Perpetration), C1 (Prison Experience: Institutional Factors), F1 (Social, Mental, and Mental Health), F2 (Barrier to Release), and G1 (Special Responsivity Considerations) section totals were entered into the model in Block 3. As shown in Table 42, the General Risk/Need score was significantly predictive of general recidivism in Block 1. Gender (being male), age (being young), and ethnicity (being White) were incremental significant predictors of general recidivism in Block 2. Finally, all of the remaining six sections of the LSI-OR also contributed independently to the prediction of general recidivism after considering the General Risk/Need score and offender demographics.

Table 42

Hierarchical logistic regression analysis for variables related to general recidivism for all offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.114 (.001)	6267.66***	1.121 (1.118 to 1.124)
Constant	-1.908 (.024)	6510.94***	.148
Block 2			
General Risk/Need	.113 (.001)	5881.79***	1.119 (1.116 to 1.122)
Gender[b]	-.308 (.032)	90.95***	.735 (.690 to .783)
Age	-.030 (.001)	806.18***	.971 (.969 to .973)
Ethnicity[c]	.103 (.024)	17.66***	1.108 (1.056 to 1.163)
Constant	-.609 (.057)	114.97***	.544
Block 3			
General Risk/Need	.103 (.002)	2518.35***	1.109 (1.104 to 1.113)
Gender[b]	-.218 (.034)	41.07***	.804 (.753 to .860)
Age	-.031 (.001)	787.64***	.970 (.968 to .972)
Ethnicity[c]	.102 (.025)	16.86***	1.107 (1.055 to 1.163)
B1 Total	.085 (.010)	68.50***	1.089 (1.067 to 1.111)
B2 Total	.069 (.013)	29.689***	1.071 (1.045 to 1.098)
C1 Total	.066 (.019)	11.64***	1.068 (1.028 to 1.109)
F1 Total	-.027 (.006)	17.47***	.973 (.961 to .986)
F2 Total	-.103 (.048)	4.65*	.902 (.822 to .991)
G1 Total	-.045 (.015)	9.67**	.956 (.929 to .983)
Constant	-.691 (.059)	136.78***	.501

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

The same hierarchical logistic regression analyses were further conducted for violent, sexual, and non-violent offenders with the same variables entered into the models in the same blocks as the regression analysis for all offenders. For violent offenders, the General Risk/Need score was significantly predictive of general recidivism in Block 1. Gender (being male), age (being young), and ethnicity (being White) were incremental significant predictors of general recidivism in Block 2. All of the remaining six sections of the LSI-OR except F2 (Barrier to

Release) also contributed independently to the prediction of general recidivism after considering the General Risk/Need score and offender demographics. For sexual offenders, the General Risk/Need score was significantly predictive of general recidivism in Block 1. Only age (being young) was an incremental significant predictor of general recidivism in Block 2. Of the LSI-OR section, only B2 (History of Perpetration) and F2 (Barrier to Release) contributed independently to the predictive of general recidivism after considering the General Risk/Need score and offender demographics.

For non-violent offenders, the General Risk/Need score was significantly predictive of general recidivism in Block 1. Gender (being male), age (being young), and ethnicity (being White) were incremental significant predictors of general recidivism in Block 2. All of the remaining six sections of the LSI-OR except F2 (Barrier to Release) and G1 (Special Responsivity Considerations) contributed independently to the prediction of general recidivism after considering the General Risk/Need score and offender demographics. Additional hierarchical logistic regression analyses using A1 to A8 section totals in Block 1 instead of the General Risk/Need score are included in Appendix F for all, violent, sexual, and non-violent offenders.

Table 43

Hierarchical logistic regression analysis for variables related to general recidivism for violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.115 (.002)	3457.93***	1.122 (1.118 to 1.127)
Constant	-1.910 (.032)	3465.46***	.148
Block 2			
General Risk/Need	.113 (.002)	3228.18***	1.120 (1.116 to 1.125)
Gender[b]	-.409 (.051)	63.83***	.664 (.601 to .734)
Age	-.033 (.001)	482.80***	.968 (.965 to .971)
Ethnicity[c]	.075 (.034)	4.93*	1.078 (1.009 to 1.152)
Constant	-.399 (.084)	22.73***	.671
Block 3			
General Risk/Need	.105 (.003)	1356.03***	1.111 (1.105 to 1.117)
Gender[b]	-.349 (.053)	43.55***	.706 (.636 to .783)
Age	-.034 (.002)	467.96***	.967 (.964 to .970)
Ethnicity[c]	.074 (.034)	4.67*	1.077 (1.007 to 1.152)
B1 Total	.060 (.014)	18.06***	1.062 (1.033 to 1.091)
B2 Total	.052 (.017)	9.43**	1.054 (1.019 to 1.090)
C1 Total	.086 (.027)	10.45***	1.090 (1.035 to 1.149)
F1 Total	-.022 (.009)	5.99*	.978 (.962 to .996)
F2 Total	-.056 (.067)	.695*n.s.*	.946 (.829 to 1.078)
G1 Total	-.044 (.020)	4.95*	.957 (.920 to .995)
Constant	-.447 (.087)	26.60***	.640

Note. N = 20,450.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 44

Hierarchical logistic regression analysis for variables related to general recidivism for sexual offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.116 (.008)	187.55***	1.123 (1.105 to 1.142)
Constant	-2.715 (.148)	336.94***	.066
Block 2			
General Risk/Need	.110 (.009)	162.23***	1.116 (1.098 to 1.135)
Gender[b]	-.928 (.852)	.276*n.s.*	.395 (.074 to 2.097)
Age	-.036 (.006)	37.24***	.965 (.954 to .976)
Ethnicity[c]	-.019 (.152)	.016*n.s.*	.981 (.729 to 1.321)
Constant	-.310 (.909)	.116*n.s.*	.734
Block 3			
General Risk/Need	.114 (.013)	75.27***	1.121 (1.092 to 1.150)
Gender[b]	-.853 (.856)	.994*n.s.*	.426 (.080 to 2.280)
Age	-.036 (.006)	34.81***	.965 (.953 to .976)
Ethnicity[c]	.022 (.157)	.020*n.s.*	1.022 (.751 to 1.391)
B1 Total	.047 (.053)	.779*n.s.*	1.048 (.944 to 1.164)
B2 Total	.149 (.070)	4.54*	1.161 (1.021 to 1.332)
C1 Total	-.151 (.080)	3.53*n.s.*	.860 (.735 to 1.007)
F1 Total	-.028 (.036)	.593*n.s.*	.972 (.906 to 1.044)
F2 Total	-.626 (.213)	8.66**	.535 (.353 to .811)
G1 Total	.055 (.078)	.493*n.s.*	1.056 (.907 to 1.230)
Constant	-.533 (.921)	.355*n.s.*	.587

Note. N = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 45

Hierarchical logistic regression analysis for variables related to general recidivism for non-violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.112 (.002)	2591.87***	1.119 (1.114 to 1.123)
Constant	-1.846 (.036)	2679.66***	.158
Block 2			
General Risk/Need	.111 (.002)	2433.42***	1.118 (1.113 to 1.123)
Gender[b]	-.299 (.043)	49.38***	.742 (.682 to .806)
Age	-.024 (.002)	251.92***	.976 (.973 to .979)
Ethnicity[c]	.144 (.037)	15.33***	1.115 (1.075 to 1.241)
Constant	-.745 (.080)	85.81***	.474
Block 3			
General Risk/Need	.087 (.003)	747.06***	1.091 (1.084 to 1.097)
Gender[b]	-.191 (.046)	17.57***	.826 (.755 to .903)
Age	-.026 (.002)	251.86***	.975 (.972 to .978)
Ethnicity[c]	.146 (.037)	15.29***	1.158 (1.076 to 1.246)
B1 Total	.190 (.017)	125.36***	1.210 (1.170 to 1.251)
B2 Total	.102 (.021)	23.99***	1.108 (1.063 to 1.154)
C1 Total	.096 (.032)	9.06**	1.101 (1.034 to 1.171)
F1 Total	-.025 (.010)	6.15*	.976 (.957 to .995)
F2 Total	-.090 (.075)	1.45*n.s.*	.913 (.788 to 1.059)
G1 Total	-.033 (.023)	2.14*n.s.*	.968 (.926 to 1.011)
Constant	-.790 (.084)	88.10***	.454

Note. N = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

3.14.2 Variables Related to the Override

Hierarchical multiple regression analyses were conducted to determine which demographic variables and LSI-OR section totals were related to the use of the override for all offenders using the override change score as the dependent variable. The General Risk/Need score was entered into the model in Block 1; gender (1 = male, 2 = female), age at admission, and ethnicity (1 = White, 0 = non-White) were entered into the model in Block 2; and the B1

(Personal Problems with Criminogenic Potential), B2 (History of Perpetration), C1 (Prison Experience: Institutional Factors), F1 (Social, Mental, and Mental Health), F2 (Barrier to Release), and G1 (Special Responsivity Considerations) section totals were entered into the model in Block 3. As seen in Table 46, the General Risk/Need score accounted for 8.5% of the variance in the override, the demographic variables accounted for an additional 1.8% of the variance in the override, and the LSI-OR section totals accounted for an additional 3.7% of the variance in the override for a total of 14.0% of the variance accounted for. The first, $F(1, 40534) = 3749.31$, $p < .001$, second, $F(4, 40531) = 1154.86$, $p < .001$, and third blocks, $F(10, 40525) = 658.36$, $p < .001$ were all significant. The strongest significant predictors of the override for all offenders, in order, were gender, B1 (Personal Problems with Criminogenic Potential), G1 (Special Responsivity Considerations), ethnicity, the General Risk/Need score, B2 (History of Perpetration), F1 (Social, Mental, and Mental Health), and age. Table 47 displays the coefficients for each variable entered into the regression analysis for all offenders.

Table 46

Model summary for hierarchical multiple regression analysis for variables related to the override for all offenders

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
Block 1	.291[a]	.085	.085	.502	.085	$F(1, 40534) = 3749.308$***
Block 2	.320[b]	.102	.102	.497	.018	$F(3, 40531) = 265.572$***
Block 3	.374[c]	.140	.140	.487	.037	$F(6, 40525) = 293.963$***

Note. $N = 40{,}536$.
[a] Predictors: (Constant), General Risk/Need Score. [b] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White). [c] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White), B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

Table 47

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for all offenders

	β (SE)[a]	β [b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.421 (.005)		90.116*** (.412 to .430)			
General Risk/Need	-.017 (.000)	-.291	-61.232*** (-.017 to -.016)	-.291	-.291	-.291
Block 2						
Constant	.445 (.012)		36.634*** (.422 to .469)			
General Risk/Need	-.016 (.000)	-.284	-59.452*** (-.017 to -.016)	-.291	-.283	-.280
Gender[c]	-.125 (.007)	-.088	-18.640*** (-.139 to -.112)	-.069	-.092	-.088
Age	.004 (.000)	.095	20.004*** (.004 to .005)	.115	.099	.094
Ethnicity[d]	-.045 (.005)	-.042	-8.756*** (-.056 to -.035)	-.065	-.043	-.041
Block 3						
Constant	.415 (.012)		33.603*** (.391 to .439)			
General Risk/Need	-.027 (.000)	-.474	-66.416*** (-.028 to -.026)	-.291	-.313	-.306
Gender[c]	-.103 (.007)	-.072	-14.900*** (-.117 to -.090)	-.069	-.074	-.069
Age	.003 (.000)	.077	16.054*** (.003 to .004)	.115	.079	.074
Ethnicity[d]	-.031 (.005)	-.028	-5.938*** (-.041 to -.020)	-.065	-.029	-.027
B1 Total	.060 (.002)	.193	28.172*** (.056 to .064)	-.040	.139	.130
B2 Total	.012 (.003)	.027	4.616*** (.007 to .017)	-.076	.023	.021
C1 Total	.000 (.004)	.001	.101 *n.s.* (-.007 to .008)	-.095	.001	.000
F1 Total	.004 (.001)	.017	3.012** (.001 to .007)	-.107	.015	.014
F2 Total	-.002 (.010)	-.001	-.172 *n.s.* (-.020 to .017)	-.078	-.001	-.001
G1 Total	.045 (.003)	.084	14.817***	-.026	.073	.068

							(.039 to .051)

Note. N = 40,536.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Hierarchical multiple regression analyses were further conducted for violent, sexual, and non-violent offenders. The same variables were entered into the models in the same blocks as the previous hierarchical multiple regression analyses. As seen in Table 48 for violent offenders, the General Risk/Need score accounted for 12.4% of the variance in the override, the demographic variables accounted for an additional 1.5% of the variance in the override, and the LSI-OR section totals accounted for an additional 2.8% of the variance for a total of 16.7% of the variance accounted for. The first, $F(1, 21467) = 3031.708$, $p < .001$, second, $F(4, 21464) = 867.902$, $p < .001$, and third blocks, $F(10, 21458) = 430.610$, $p < .001$ were all significant. The strongest significant predictors of the override for violent offenders, in order, were gender, ethnicity, B1 (Personal Problems with Criminogenic Potential), G1 (Special Responsivity Considerations), F2 (Barrier to Release), the General Risk/Need score, B2 (History of Perpetration), F1 (Social, Mental, and Mental Health), and age. Table 49 displays the coefficients for each variable entered into the regression analysis for violent offenders.

Table 48

Model summary for hierarchical multiple regression analysis for variables related to the override for violent offenders

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
Block 1	.352[a]	.124	.124	.515	.124	$F(1, 21467) = 3031.708$***
Block 2	.373[b]	.139	.139	.511	.015	$F(3, 21464) = 128.611$***
Block 3	.409[c]	.167	.167	.503	.028	$F(6, 21458) = 119.858$***

Note. $n = 21{,}469$.
[a] Predictors: (Constant), General Risk/Need Score. [b] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White). [c] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White), B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

Table 49

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for violent offenders

	β (SE)[a]	β [b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.523 (.007)		79.659*** (.510 to .535)			
General Risk/Need	-.021 (.000)	-.352	-55.061*** (-.021 to -.020)	-.352	-.352	-.352
Block 2						
Constant	.540 (.018)		29.611*** (.504 to .576)			
General Risk/Need	-.020 (.000)	-.340	-53.032*** (-.021 to -.019)	-.352	-.340	-.336
Gender[c]	-.111 (.011)	-.065	-10.271*** (-.132 to -.090)	-.046	-.070	-.065
Age	.004 (.000)	.090	14.039*** (.004 to .005)	.123	.095	.089
Ethnicity[d]	-.075 (.007)	-.066	-10.363*** (-.090 to -.061)	-.084	-.071	-.066
Block 3						
Constant	.516 (.019)		27.797*** (.480 to .553)			
General Risk/Need	-.030 (.001)	-.514	-51.914*** (-.031 to -.029)	-.352	-.334	-.323
Gender[c]	-.099 (.011)	-.058	-9.004*** (-.121 to -.078)	-.046	-.061	-.056
Age	.003 (.000)	.071	10.859*** (.003 to .004)	.123	.074	.068
Ethnicity[d]	-.058 (.007)	-.051	-8.003*** (-.072 to -.044)	-.084	-.055	-.050
B1 Total	.052 (.003)	.159	17.487*** (.046 to .058)	-.100	.119	.109
B2 Total	.010 (.004)	.023	2.848** (.003 to .017)	-.131	.019	.018
C1 Total	.006 (.005)	.009	1.175 *n.s.* (-.004 to .017)	-.139	.008	.007
F1 Total	.004 (.002)	.016	2.004* (.000 to .007)	-.148	.014	.012
F2 Total	.032 (.014)	-.018	2.385* (.006 to .059)	-.110	.016	.015
G1 Total	.040 (.004)	.072	9.318***	-.070	.063	.058

	(.031 to .048)

Note. n = 21,469.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

As seen in Table 50 for sexual offenders, the General Risk/Need score accounted for 23.8% of the variance in the override, the demographic variables accounted for an additional 0.4% of the variance in the override, and the LSI-OR section totals accounted for an additional 1.3% of the variance for a total of 25.5% of the variance accounted for. The first, $F(1, 1355) = 423.410$, $p < .001$, second, $F(4, 1352) = 107.803$, $p < .001$, and third blocks, $F(10, 1346) = 46.123$ $p < .001$ were all significant. The strongest significant predictors of the override for sexual offenders, in order, were ethnicity, G1 (Special Responsivity Considerations), the General Risk/Need score, and B1 (Personal Problems with Criminogenic Potential). Table 51 displays the coefficients for each variable entered into the regression analysis for sexual offenders.

Table 50

Model summary for hierarchical multiple regression analysis for variables related to the override for sexual offenders

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
Block 1	.488[a]	.238	.238	.909	.238	$F(1, 1355) = 423.410$***
Block 2	.492[b]	.242	.240	.908	.004	$F(3, 1352) = 2.220$*n.s.*
Block 3	.505[c]	.255	.250	.901	.013	$F(6, 1346) = 4.035$***

Note. $n = 1{,}357$.
[a] Predictors: (Constant), General Risk/Need Score. [b] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White). [c] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White), B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

Table 51

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for sexual offenders

	β (SE)[a]	β [b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	1.601 (.044)		36.280*** (1.515 to 1.688)			
General Risk/Need	-.059 (.003)	-.488	-20.577*** (-.065 to -.053)	-.488	-.488	-.488
Block 2						
Constant	1.973 (.254)		7.781*** (1.476 to 2.471)			
General Risk/Need	-.060 (.003)	-.495	-20.450*** (-.066 to -.054)	-.488	-.486	-.484
Gender[c]	-.376 (.229)	-.039	-1.646*n.s.* (-.824 to -.072)	-.030	-.045	-.039
Age	-.001 (.002)	-.015	-.629*n.s.* (-.005 to .002)	.081	-.017	-.015
Ethnicity[d]	.101 (.052)	-.046	1.950*n.s.* (-.001 to .203)	.006	.053	.046
Block 3						
Constant	1.784 (.257)		6.948*** (1.281 to 2.288)			
General Risk/Need	-.070 (.005)	-.582	-15.327*** (-.079 to -.061)	-.488	-.385	-.361
Gender[c]	-.293 (.230)	-.030	-1.278*n.s.* (-.743 to .157)	-.030	-.035	-.030
Age	-.001 (.002)	-.016	-.661*n.s.* (-.005 to .002)	.081	-.018	-.016
Ethnicity[d]	.128 (.053)	-.058	2.414* (.024 to .231)	.006	.066	.057
B1 Total	.053 (.019)	.098	2.723** (.015 to .091)	-.264	.074	.064
B2 Total	.031 (.026)	.037	1.214*n.s.* (-.019 to .082)	-.259	.033	.029
C1 Total	-.036 (.029)	-.036	-1.251*n.s.* (-.094 to .021)	-.249	-.034	-.029
F1 Total	.002 (.013)	.004	.123*n.s.* (-.024 to .027)	-.231	.003	.003
F2 Total	-.121 (.074)	-.047	-1.650*n.s.* (-.266 to .023)	-.221	-.045	-.039
G1 Total	.072 (.028)	.074	2.611**	-.162	.071	.061

	(.018 to .126)

Note. n = 1,357.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Finally, as seen in Table 52 for non-violent offenders, the General Risk/Need score accounted for 3.4% of the variance in the override, the demographic variables accounted for an additional 0.7% of the variance in the override, and the LSI-OR section totals accounted for an additional 2.0% of the variance for a total of 6.1% of the variance accounted for. The first, $F(1, 17706) = 629.274$, $p < .001$, second, $F(4, 17703) = 190.793$, $p < .001$, and third blocks, $F(10, 17697) = 116.436$ $p < .001$ were all significant. The strongest significant predictors of the override for non-violent offenders, in order, were gender, G1 (Special Responsivity Considerations), B1 (Personal Problems with Criminogenic Potential), ethnicity, the General Risk/Need score, B2 (History of Perpetration), and age. Table 53 displays the coefficients for each variable entered into the regression analysis for non-violent offenders.

Table 52

Model summary for hierarchical multiple regression analysis for variables related to the override for non-violent offenders

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
Block 1	.185[a]	.034	.034	.360	.034	$F(1, 17706) = 629.274$***
Block 2	.203[b]	.041	.041	.359	.007	$F(3, 17703) = 43.136$***
Block 3	.248[c]	.062	.061	.355	.020	$F(6, 17697) = 64.142$***

Note. $n = 17{,}708$.
[a] Predictors: (Constant), General Risk/Need Score. [b] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White). [c] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White), B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

Table 53

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for non-violent offenders

	β (SE)[a]	β [b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.190 (.005)		37.113*** (.180 to .200)			
General Risk/Need	-.008 (.000)	-.185	-25.085*** (-.008 to -.007)	-.185	-.185	-.185
Block 2						
Constant	.190 (.013)		15.080*** (.165 to .214)			
General Risk/Need	-.007 (.000)	-.179	-23.895*** (-.008 to -.007)	-.185	-.177	-.176
Gender[c]	-.039 (.006)	-.045	-6.077*** (-.052 to -.027)	-.029	-.046	-.045
Age	.002 (.000)	.062	8.398*** (.002 to .002)	.062	.063	.062
Ethnicity[d]	-.033 (.006)	-.044	-5.790*** (-.044 to -.022)	-.067	-.043	-.043
Block 3						
Constant	.187 (.013)		14.466*** (.162 to .212)			
General Risk/Need	-.013 (.000)	-.323	-28.218*** (-.014 to -.012)	-.185	-.207	-.205
Gender[c]	-.034 (.007)	-.039	-4.990*** (-.048 to -.021)	-.029	-.037	-.036
Age	.002 (.000)	.055	7.162*** (.001 to .002)	.062	.054	.052
Ethnicity[d]	-.026 (.006)	-.034	-4.510*** (-.037 to -.015)	-.067	-.034	-.033
B1 Total	.032 (.003)	.139	12.571*** (.027 to .037)	-.032	.094	.092
B2 Total	.008 (.003)	.026	2.698** (.002 to .014)	-.046	.020	.020
C1 Total	-.008 (.005)	-.017	-1.839*n.s.* (-.017 to .001)	-.065	-.014	-.013
F1 Total	.001 (.002)	.009	.962*n.s.* (-.002 to .004)	-.067	.007	.007
F2 Total	-.010 (.011)	-.008	-.923*n.s.* (-.032 to .011)	-.048	-.007	-.007
G1 Total	.033 (.003)	.084	9.439***	-.002	.071	.069

(.026 to .039)

Note. n = 17,708.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table 54 compares violent, sexual, and non-violent offenders for the percent of variance accounted for in each block of the regression analyses for the use of the override from the previous hierarchical regression analyses. As seen below, the General Risk/Need score from Block 1 accounted for the largest percent of variance for sexual offenders at 23.8% followed by violent offenders at 12.4%, both of which were higher than the variance accounted for by the General Risk/Need score for all offenders at 8.5%. The demographic variables entered into the model in Block 2 accounted for the largest percent of additional variance for all offenders at 1.8% followed closely by violent offenders at 1.5%; the demographic variables only accounted for an additional 0.4% and 0.7% of the variance in the override for sexual and non-violent offenders, respectively. The LSI-OR section scores accounted for the largest percent of additional variance in the override for all offenders at 3.7% followed by violent offenders at 2.8% and non-violent offenders at 2.0%; the LSI-OR section scores only accounted for an additional 1.3% of the variance for sexual offenders. Overall, the 10 variables used in these hierarchical multiple regression analyses accounted for the largest percent of variance in the use of the override for sexual offenders at 25.5%, well above violent offenders at 16.7%, all offenders at 14.0%, and non-violent offenders at 6.2%.

Table 54

Summary of override regression analyses for violent, sexual, and non-violent offenders

	All Offenders[d]	Violent Offenders[e]	Sexual Offenders[f]	Non-Violent Offenders[g]
R^2 Change for Block 1[a]	.085***	.124***	.238***	.034***
R^2 Change for Block 2[b]	.018***	.015***	.004*n.s.*	.007***
R^2 Change for Block 3[c]	.037***	.028***	.013***	.020***
Total R^2	.140	.167	.255	.062

[a] Predictors: (Constant), General Risk/Need Score. [b] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White). [c] Predictors: (Constant), General Risk/Need Score, Gender (1 = Male, 2 = Female), Age, Ethnicity (1 = White, 0 = Non-White), B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total. [d] *N* = 40,536. [e] *n* = 21,469. [f] *n* = 1,357. [g] *n* = 17,708.
*** $p < .001$.

Table 55 compares the coefficient summaries for violent, sexual, and non-violent offenders for variables related to the use of the override. As seen below, the same variables varied in their direction, strength, and significance across these three offenders groups. For example, gender was significantly predictive of the override for violent and non-violent offenders both in Block 2 and Block 3 but was not significantly predictive of the override at all for sexual offenders. Further, the LSI-OR items in F1: Social, Mental, and Mental Health and F2: Barrier to Release were only significantly predictive of the override for violent offenders. Additional hierarchical multiple regression analyses using A1 to A8 section totals in Block 1 instead of the General Risk/Need score are included in Appendix H for all, violent, sexual, and non-violent offenders.

Table 55

Comparison of coefficient summaries for hierarchical multiple regression analyses for variables related to the override for violent, sexual, and non-violent offenders

	Violent Offenders[a]			Sexual Offenders[b]			Non-violent Offenders[c]		
Block 1	β (SE)[d]	β[e]	*t*-test[f]	β (SE)[d]	β[e]	*t*-test[f]	β (SE)[d]	β[e]	*t*-test[f]
Constant	.523		79.659***	1.601		36.280***	.190 (.005)		37.113***
	(.007)		(.510 to .535)	(.044)		(1.515 to 1.688)			(.180 to .200)
General	-.021	-.352	-55.061***	-.059	-.488	-20.577***	-.008 (.000)	-.185	-25.085***
Risk/Need	(.000)		(-.021 to -.020)	(.003)		(-.065 to -.053)			(-.008 to -.007)
Block 2									
Constant	.540		29.611***	1.973		7.781***	.190 (.013)		15.080***
	(.018)		(.504 to .576)	(.254)		(1.476 to 2.471)			(.165 to .214)
General	-.020	-.340	-53.032***	-.060	-.495	-20.450***	-.007 (.000)	-.179	-23.895***
Risk/Need	(.000)		(-.021 to -.019)	(.003)		(-.066 to -.054)			(-.008 to -.007)
Gender[g]	-.111	-.065	-10.271***	-.376	-.039	-1.646*n.s.*	-.039 (.006)	-.045	-6.077***
	(.011)		(-.132 to -.090)	(.229)		(-.824 to -.072)			(-.052 to -.027)
Age	.004	.090	14.039***	-.001	-.015	-.629*n.s.*	.002 (.000)	.062	8.398***
	(.000)		(.004 to .005)	(.002)		(-.005 to .002)			(.002 to .002)
Ethnicity[h]	-.075	-.066	-10.363***	.101 (.052)	-.046	1.950*n.s.*	-.033 (.006)	-.044	-5.790***
	(.007)		(-.090 to -.061)			(-.001 to .203)			(-.044 to -.022)
Block 3									
Constant	.516		27.797***	1.784		6.948***	.187 (.013)		14.466***
	(.019)		(.480 to .553)	(.257)		(1.281 to 2.288)			(.162 to .212)
General	-.030	-.514	-51.914***	-.070	-.582	-15.327***	-.013 (.000)	-.323	-28.218***
Risk/Need	(.001)		(-.031 to -.029)	(.005)		(-.079 to -.061)			(-.014 to -.012)
Gender[g]	-.099	-.058	-9.004***	-.293	-.030	-1.278*n.s.*	-.034 (.007)	-.039	-4.990***
	(.011)		(-.121 to -.078)	(.230)		(-.743 to .157)			(-.048 to -.021)
Age	.003	.071	10.859***	-.001	-.016	-.661*n.s.*	.002 (.000)	.055	7.162***
	(.000)		(.003 to .004)	(.002)		(-.005 to .002)			(.001 to .002)
Ethnicity[h]	-.058	-.051	-8.003***	.128 (.053)	-.058	2.414*	-.026 (.006)	-.034	-4.510***
	(.007)		(-.072 to -.044)			(.024 to .231)			(-.037 to -.015)
B1 Total	.052	.159	17.487***	.053 (.019)	.098	2.723**	.032 (.003)	.139	12.571***
	(.003)		(.046 to .058)			(.015 to .091)			(.027 to .037)

B2 Total	.010 (.004)	.023	2.848** (.003 to .017)	.031 (.026)	.037	1.214*n.s.* (-.019 to .082)	.008 (.003)	.026	2.698** (.002 to .014)
C1 Total	.006 (.005)	.009	1.175 *n.s.* (-.004 to .017)	-.036 (.029)	-.036	-1.251*n.s.* (-.094 to .021)	-.008 (.005)	-.017	-1.839*n.s.* (-.017 to .001)
F1 Total	.004 (.002)	.016	2.004* (.000 to .007)	.002 (.013)	.004	.123*n.s.* (-.024 to .027)	.001 (.002)	.009	.962*n.s.* (-.002 to .004)
F2 Total	.032 (.014)	-.018	2.385* (.006 to .059)	-.121 (.074)	-.047	-1.650*n.s.* (-.266 to .023)	-.010 (.011)	-.008	-.923*n.s.* (-.032 to .011)
G1 Total	.040 (.004)	.072	9.318*** (.031 to .048)	.072 (.028)	.074	2.611** (.018 to .126)	.033 (.003)	.084	9.439*** (.026 to .039)

[a] n = 21,469. [b] n = 1,357. [c] n = 17.708. [d] Unstandardized beta coefficients. [e] Standardized beta coefficients. [f] 95% confidence interval. [g] Gender: 1 = Male, 2 = Female. [h] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

4.0 DISCUSSION

Although there is a substantial body of research on forensic risk assessment measures there has been a lack of examination of a small yet important component of the risk assessment process. The current study was conducted to examine the professional override in the LSI-OR in a sample of male and female Ontario provincial offenders. This study assessed the use of the override in an exploratory manner to determine if the override affects predictive validity, if the override is used with certain offenders more than others, and what LSI-OR and demographic variables are associated with its use. The overall predictive validity of the LSI-OR will be discussed with and without the use of the override in addition to risk level matrices across offender types, survival curves, and regression analyses examining variables predictive of recidivism and variables predictive of the override. Despite few methodological limitations the results of the current study provide vital information regarding the frequency, effects, and implications of the override in the Ontario provincial system. Results showed that 94% of all overrides were used to increase risk levels, sexual offenders had their risk levels increased more than violent and non-violent offenders combined, and there were discrepancies between the variables that predicted recidivism and the variables that predicted the override.

4.1 Predictive Validity

The predictive validity of the LSI-OR was tested through multiple hypotheses. Comparable to previous research, the results showed that the General Risk/Need score was correlated most strongly with non-violent recidivism over violent or sexual recidivism (Andrews, 1982; Andrews & Bonta, 1995; Andrews, Bonta, & Wormith, 2006; Olver, Stockdale, & Wormith, 2014; Simourd, 2004). Despite the strong significance of the correlations the predictive validity for sexual recidivism was very poor for this sample, most likely due to its low

base rate. Moreover, the General Risk/Need score correlated comparably with non-violent recidivism between male and female offenders; interestingly, the General Risk/Need score was correlated more strongly with general recidivism for female offenders than for male offenders. ROC analyses showed that there were no significant differences between male and female offenders for the General Risk/Need score's predictive validity for any recidivism outcomes. These results support previous research and provide additional support for the LSI-OR's standing as an established risk assessment measure for female adult offenders (Goggin & Gendreau, 2004; Hogg, 2011; Rettinger, 1998).

The current results showing that the General Risk/Need score was strongly predictive of general recidivism for female offenders (r = .425, p < .001) are supported by a meta-analysis from Olver, Stockdale, and Wormith (2014) which found that the LS total score was similarly predictive of general recidivism for female offenders (r_w = .31, 95% CI [.26, .35]) compared to male offenders (r_w = .30, 95% CI [.27, .34]) in the random effects model. However, the General Risk/Need score's predictive validity for violent recidivism for male and female offenders was only partially supported by results from Olver et al.'s meta-analysis. In the current study, the General Risk/Need score's prediction of violent recidivism for male offenders (r = .241, p < .001) fell within the range reported by Olver et al. (r_w = .24, 95% CI [.20, .27]) but the General Risk/Need score's prediction of violent recidivism for female offenders (r = .174, p < .001) was significantly lower than the results reported by Olver et al. (r_w = .26, 95% CI [.20, .32]). Though it is unclear why the prediction of violent recidivism for female offenders is significantly lower than the results from Olver et al.'s comprehensive meta-analysis, these results suggest that the General Risk/Need score is still a good predictor of violent recidivism for female offenders but those effects are likely better seen over larger sample sizes.

ROC analyses were conducted to determine the predictive validity of the General Risk/Need score for violent, sexual, non-violent, and general recidivism for all offenders. Across the total sample and for violent and sexual offenders the General Risk/Need score was the strongest predictor of general recidivism followed by non-violent, violent, and sexual recidivism. For non-violent offenders the General Risk/Need score was the strongest predictor of general recidivism followed by non-violent and violent recidivism but was not significantly predictive of sexual recidivism. For male offenders, the General Risk/Need score was the strongest predictor or general recidivism followed by non-violent, violent, and sexual recidivism. The same pattern of results was found for female offenders although the General Risk/Need score was not significantly predictive of sexual recidivism. Interestingly, the only AUC values that were significantly different between male and female offenders were for non-violent recidivism. These results support the research on the LS family of instruments and their strong predictive validity of general, violent, and non-violent recidivism for diverse groups of offenders (Andrews & Robinson, 1984; Campbell, French, & Gendreau, 2009; Holsinger, Lowenkamp, & Latessa, 2006; Simourd, 2004).

Correlations were conducted to assess the predictive validity of the initial and final risk levels with the four recidivism outcomes. The initial risk levels correlated significantly more strongly with general, violent, and non-violent recidivism than the final risk levels although unexpectedly, the final risk levels correlated significantly more strongly with sexual recidivism than the initial risk levels. Additionally, the override change score was significantly positively correlated with sexual recidivism. These findings present interesting patterns where the initial risk levels appear to be better predictors of general, violent, and non-violent recidivism whereas the final risk levels appear to be better predictors of sexual recidivism. Moreover, even though

the correlations were small, the results still suggest that the use of the override to increase risk levels can be appropriate when considering the risk of sexual recidivism. Similar patterns of results were found when examining the ROC analyses between the initial and final risk levels with recidivism. The initial risk levels for all offenders had significantly stronger predictive validity than the final risk levels for general, violent, and non-violent recidivism; the final risk levels produced a higher AUC than the initial risk levels for sexual recidivism although this difference was not significant.

Violent and sexual offenders' initial risk levels had significantly stronger predictive validity than the final risk levels for general, non-violent, and violent recidivism. Both violent and sexual offenders' final risk levels produced higher AUCs than the initial risk levels for sexual recidivism but these differences were not significant. Non-violent offenders' initial risk levels produced higher AUCs than the final risk levels for general, non-violent, and violent recidivism and a lower AUC for sexual recidivism yet none of these differences were significant. The override change score produced an AUC significantly above chance for sexual recidivism for all offenders but did not produce an AUC significantly above chance for any recidivism outcomes for violent, sexual, or non-violent offenders. Consequently, the override change score's AUC above chance for sexual recidivism for the total sample could have been a fluke finding as it was not replicated elsewhere, especially for sexual offenders. These results indicating that the initial risk levels generally had stronger predictive validity of recidivism outcomes than the final risk levels are supported by additional research on the adjusted actuarial scores (Brews, 2009; Gore, 2007; Hanson et al., 2007; Hogg, 2011). Lastly, recidivists had significantly higher General Risk/Need scores, initial risk levels, and final risk levels than non-recidivists similar to results reported from Hogg (2011). Although non-recidivists had

significantly higher override change scores than recidivists this was not significant when controlling for the General Risk/Need score. This was due to the fact that offenders with lower risk levels have more room to have their risk levels increased than offenders with higher initial risk levels.

4.2 Risk Level Matrices

One of the main objectives of this study was to examine the frequency of the override and what effects and implications its use yielded. Consistent with hypotheses, more overrides were used to increase rather than decrease risk levels. More overrides were used to increase risk levels for males compared to females, supporting research from Hsu, Caputi, and Byrne (2009) who reported that 12% to 15% of male offenders and 6.6% to 9.8% of female offenders in their study had their risk levels overridden. Further, more overrides were used to increase rather than decrease risk levels for White, Black, Aboriginal, and Other offenders; interestingly, overrides for Hispanic and Asian offenders were used only to increase risk levels. It was not possible in the current study to assess why Hispanic and Asian offenders' risk levels were only increased, therefore further research should examine the use of the override across ethnicities focusing on factors that influence the override used to increase or decrease risk levels.

Across the total sample, the override was used in 5,954 (15.4%) cases with more overrides used to increase (14.5%) rather than decrease (0.9%) risk levels. Of the total overrides in the current sample, 5,601 (94.1%) were used to increase risk levels whereas only 353 (5.9%) were used to decrease risk levels. These results indicate that the use of the override has increased tremendously since Girard's (1999) original study where overrides were used in only 3% of cases and in Brew's (2009) study where overrides were used in 11.9% of cases. The override in the current study was used less overall than in Hogg's (2011) study where the override was used

in 16.5% of cases, although 94% of the overrides in the current sample were used to increase risk levels whereas 90% of the overrides in Hogg's sample were used to increase risk levels. The current results most resemble the research from Wormith et al. (2012) where there were more overrides used to increase (14.9%) rather than decrease (1.6%) risk levels. As evident, the use of the override to decrease risk levels has been used much less frequently in recent research. These results could suggest that assessors could be becoming more averse to lowering offenders' risk levels, perhaps as an attempt at ensuring public safety, as the assessors cannot be sure that the offenders will not recidivate. These results support trends in the use of the override cited by DeClue (2013), such that the use of the override has increased over time and there are more overrides used to increase risk levels and fewer overrides to decrease risk levels.

The risk level matrix for the total sample shows that there were instances where offenders who had their risk levels decreased recidivated less than their original cohort indicating that those overrides were appropriate as they recidivated less than originally predicted by the LSI-OR. Alternatively, there were some offenders who had their risk levels increased who recidivated at a lower rate than their original cohort. There are two possible interpretations of this discrepancy in recidivism rates across the risk levels. First, those offenders could truly have been at a low risk to recidivate and did not need to have their risk levels increased, demonstrated by the fact that they recidivated less than their original cohort. Alternatively, those offenders could have been at a genuinely higher risk to recidivate than their original cohort and the decision to increase their risk levels was correct; however, the treatment programs and increased security measures they would have been subjected to as outlined by the RNR principles could have "worked" and thereby decreased the offenders' recidivism. While both of these explanations

could have applied to the offenders in the current study, it was not possible to assess these hypotheses.

Although sexual offenders had significantly lower initial risk levels than violent and non-violent offenders they still had significantly higher final risk levels and override change scores than violent and non-violent offenders. Sexual offenders also had the highest proportion of overrides used to increase their risk levels, higher than violent and non-violent offenders combined. In fact, there were more sexual offenders who had their risk levels increased (650, 49.2%) than there were sexual offenders who recidivated (339, 25.7%). These results replicate Wormith et al.'s (2012) research where more than twice the amount of sexual offenders had their risk levels overridden compared to non-sexual offenders. The risk level matrix for sexual offenders indicated that almost all of the final risk level cohorts of sexual offenders whose risk levels were increased had higher recidivism rates than their original cohorts and only two out of the eight sexual offenders whose risk levels were decreased recidivated. These results suggest that although sexual offenders have their risk levels increased more than other offenders, these overrides are based on accurate predictors of recidivism. It is possible that high scores on sexual recidivism assessments appropriately influenced overrides for sexual offenders in the current study; however, information on any additional assessments for offenders was not available and thus could not have been examined. Future research should examine the use of the override for sexual offenders taking into consideration any prior assessment results that could influence assessors on the LSI-OR for general, violent, sexual, and non-violent recidivism.

The risk level matrix for violent offenders indicated that almost all of the final risk level cohorts of violent offenders whose risk levels were increased had higher recidivism rates than their original cohorts and most of the final risk level cohorts of violent offenders whose risk

levels were decreased had lower recidivism rates than their original cohorts. The risk level matrix for non-violent offenders indicated that the vast majority of final risk level cohorts of non-violent offenders whose risk levels were increased had higher recidivism rates than their original cohorts but only the non-violent offenders who were decreased from the initial low or medium risk levels had lower recidivism rates than their original cohorts. Future research should examine the use of the override with violent and non-violent offenders to determine which factors can contribute to yielding the most accurate predictions of general, violent, sexual, and non-violent recidivism.

Further notable results arose when comparing the initial-by-final risk level matrices for male and female offenders. All of the final risk level cohorts of female offenders whose risk levels were increased had higher recidivism rates than their original cohorts and all of the final risk level cohorts of female offenders whose risk levels were decreased had lower recidivism rates than their original cohorts. Despite these patterns, the AUC values for the initial and final risk levels' predictive validity for recidivism showed that the final risk levels had slightly weaker predictive validity for females than the initial risk levels. Further research should examine which factors are related to the use of the override in female offenders paying specific attention to factors such as substance abuse, poverty, and history of victimization (Andrews et al., 2012; Smith, Cullen, & Latessa, 2009). Regardless, these overall results with AUCs greater than .70 for general and non-violent recidivism demonstrate that there is moderate support for the LSI-OR as a valid predictor of recidivism for female offenders following the gender neutral theory of offender risk assessment.

The majority of final risk level cohorts of male offenders whose risk levels were increased had lower recidivism rates than their original cohorts and many of the final risk level

cohorts of male offenders whose risk levels were decreased had higher recidivism rates than their original cohorts. Of particular interest were the male offenders with an initial risk level of very high risk who were decreased to either medium or high risk, all of whom recidivated at a higher rate than their original cohort. These results indicate that there were more accurate overrides used for female offenders than for male offenders indicating that the factors used in override decisions by gender greatly need to be monitored and examined.

4.3 Survival Analyses

Peculiar results were found when examining the survival curves for all offenders especially when considering the number of recidivists and non-recidivists distributed across the initial and final risk levels. Although there were fewer recidivists in the final very low and low risk levels there were more non-recidivists in the final high and very high risk levels. These results suggest that some overrides used to increase risk levels were accurate when moving recidivists out of the lower risk levels yet other overrides to increase risk levels were inaccurate when moving non-recidivists into the higher risk levels. Interesting results were found when examining the survival curves across the initial and final risk levels; most of the survival curves for the initial and final risk levels were similar in appearance except for sexual recidivism. In the survival curve for sexual recidivism across the final risk levels there was a greater separation between the first three risk levels and high risk and between high risk and very high risk than in the survival curve across the initial risk levels. These results suggest that the overrides used to increase offenders' risk levels were reasonably accurate in judging the offenders' risk of sexual recidivism even though not all pairwise comparisons between the risk levels were significant. These results also suggest that more recidivists had overrides used to increase their risk levels thereby increasing the number of recidivists in the high and very high risk levels, further

separating them from the lower risk levels. This pattern was replicated for sexual recidivism for violent, non-violent, male, and female offenders.

Interesting results were found when examining the survival curves for sexual offenders. In contrast to other offenders, the survival curves for sexual offenders for general, violent, and non-violent recidivism showed larger and clearer separations between the initial risk levels than the final risk levels, suggesting that the use of the override reduced the distinctions between the risk levels. Unexpectedly, in the survival curve for sexual recidivism across the initial risk levels there were more recidivists in the high risk level than the very high risk level. The survival curve across the final risk levels showed a larger separation between the risk levels and there were more recidivists in the very high risk level than the high risk level. This indicates that more sexual offenders had their risk levels accurately increased to higher final risk levels which resulted in more recidivists in the final very high risk level. However, many distinctions between the risk levels (e.g., between very low and low risk) became non-significantly different across the final risk levels compared to the initial risk levels.

This trend was most pronounced for violent recidivism followed by non-violent and general recidivism. More interesting, however, was the fact that many of the distinctions between the initial risk levels and final risk levels were not significantly different for sexual recidivism. These results indicated that although the use of the override for sexual offenders for sexual recidivism moved more recidivists into the higher risk levels, the differences between medium and high risk, medium and very high risk, and high and very high risk remained non-significant. While these results present many possible interpretations as to the accuracy of the override, it is still unclear why the effects of using the override are so different for violent, sexual, and non-violent offenders. Future research needs to be conducted to examine why these incongruent

results were found for sexual offenders and how future assessments can utilize the most appropriate overrides to classify sexual offenders.

4.4 Logistic Regression Analyses for Recidivism

Hierarchical logistic regression analyses conducted for violent, sexual, and non-violent offenders indicated that violent offenders had many significant predictors of general recidivism in common with non-violent offenders while sexual offenders had the lowest number of significant predictors for general recidivism. Logistic regression analyses conducted for the total sample indicated that the General Risk/Need score and ethnicity were significantly positively predictive whereas gender and age were negatively predictive of general recidivism. Further, the LSI-OR section scores were small yet significant predictors of general recidivism. The strongest predictor of the LSI-OR section scores for general recidivism was B1 (Personal Problems with Criminogenic Potential) indicating that factors such as a personality disorder, anger management deficits, or problems with compliance were positively related to recidivism. F1 (Social, Mental, and Mental Health), F2 (Barrier to Release), and G1 (Special Responsivity Considerations) were significantly negatively predictive of general recidivism indicating that factors such as being denied community supervision and greater responsivity issues and mental health problems were negatively related to recidivism.

Additional logistic regression analyses showed that the General Risk/Need score was a consistently significant positive predictor of general recidivism for violent, sexual, and non-violent offenders. For violent offenders, the General Risk/Need score and ethnicity were significantly positively predictive while gender and age were significantly negatively predictive of general recidivism. C1 (Prison Experience – Institutional Factors) was the strongest positive predictor of the LSI-OR section scores for general recidivism for violent offenders followed by

B1 (Personal Problems with Criminogenic Potential) and B2 (History of Perpetration). As with the total sample, F1 (Social, Mental, and Mental Health) and G1 (Special Responsivity Considerations) were significantly negatively predictive of general recidivism for violent offenders such that factors such as greater mental health problems and responsivity concerns were negatively related to recidivism. For sexual offenders, the General Risk/Need score was significantly positively predictive whereas age was significantly negatively predictive of general recidivism. F2 (Barrier to Release) was significantly negatively predictive of general recidivism whereas the General Risk/Need score and B2 (History of Perpetration) were significantly positively predictive of general recidivism for sexual offenders.

For non-violent offenders, the General Risk/Need score and ethnicity were significantly positively predictive while gender and age were significantly negatively predictive of general recidivism. The strongest LSI-OR section predictors of general recidivism for non-violent offenders were B1 (Personal Problems with Criminogenic Potential) followed by B2 (History of Perpetration) and C1 (Prison Experience – Institutional Factors) indicating that factors such as greater problems with criminogenic potential and more serious institutional concerns were positively related to recidivism, replicating previous research (Gendreau, Little, & Goggin, 1996). F1 (Social, Mental, and Mental Health) was significantly negatively predictive of general recidivism, albeit weakly, indicating that factors such as a greater number of problems including financial, housing, or immigration problems were negatively related to recidivism.

4.5 Multiple Regression Analyses for the Override

Hierarchical multiple regression analyses for all offenders indicated that the General Risk/Need score accounted for the largest proportion of variance in the use of the override followed by gender, age, ethnicity, and the LSI-OR section scores. The General Risk/Need score

was significantly negatively predictive of the use of the override due to the fact that an offender's total score dictates which direction the override can be used in (e.g., offenders with lower risk levels have more room to move upwards and offenders with higher risk levels have more room to move downwards). Further, age was significantly positively predictive whereas gender and ethnicity were significantly negatively predictive of the override. B1 (Personal Problems with Criminogenic Potential) and G1 (Special Responsivity Considerations) were significantly positively predictive of the use of the override indicating that offenders with more criminogenic problems and responsivity needs were more likely to have overrides used to increase their risk level. This is consistent with the psychology of criminal conduct literature stating that offenders are at higher risk to recidivate when they have a greater number of risk, need, and responsivity (RNR) factors (Andrews, Bonta, & Hoge, 1990; Andrews, Bonta, & Wormith, 2010; Andrews, Zinger, et al., 1990). Additionally, B2 (History of Perpetration) and F1 (Social, Mental, and Mental Health) were weakly yet significantly positively predictive of the use of the override indicating that offenders with more extensive criminal histories and mental health concerns were more likely to have overrides used to increase their risk level.

The same hierarchical multiple regression analyses revealed intriguing results for how much variance was accounted for in the use of the override by which variables for violent, sexual, and non-violent offenders. The General Risk/Need score accounted for the largest proportion of variance in the use of the override for sexual offenders, more than the proportion of variance for violent and non-violent offenders combined. Gender and ethnicity together accounted for an additional minor proportion of variance for violent and non-violent offenders but did not significantly account for any variance for sexual offenders. The LSI-OR section

scores accounted for the largest proportion of variance in the use of the override for violent offenders compared to non-violent and sexual offenders.

As expected, the General Risk/Need score was significantly negatively predictive of the use of the override for violent, sexual, and non-violent offenders. Gender and ethnicity were significantly negatively predictive while age was significantly positively predictive of the override for violent and non-violent offenders. Of the demographic variables ethnicity was significantly positively predictive whereas gender and age were not significantly predictive of the override for sexual offenders. B1 (Personal Problems with Criminogenic Potential), G1 (Special Responsivity Considerations), F2 (Barrier to Release), B2 (History of Perpetration), and F1 (Social, Mental, and Mental Health) were significantly positively predictive of the override for violent offenders. Surprisingly, only G1 (Special Responsivity Considerations) and B1 (Personal Problems with Criminogenic Potential) were significantly positively predictive of the override for sexual offenders. Lastly, G1 (Special Responsivity Considerations), B1 (Personal Problems with Criminogenic Potential), and B2 (History of Perpetration) were significantly positively predictive of the override for non-violent offenders. These differences provide important insight into how the LSI-OR sections uniquely contribute to the use of the override for violent, sexual, and non-violent offenders and can be compared with the factors contributing to recidivism to judge the accuracy of override decisions.

4.6 Limitations

There were certain limitations in the current study that were methodologically unavoidable. First, the data in the current study were analysed under the assumption that the information received from the MCSCS was free from errors although there could have been human or technological inaccuracies in the dataset. Second, there was no information received

from the MCSCS regarding the reasons given with each offender's LSI-OR assessment as to why an override was used in either direction and therefore reasons for using the override could not be investigated further. While the dataset received from the MCSCS was very thorough, it did not and could not contain all possible details of an offender's criminal and assessment history which could provide indications as to why an override was used in either direction such as an extensive violent criminal history.

Third, the definition of recidivism used in studies such as this is always subject to debate. The current study defined recidivism as any occurrence that returned an offender to the custody of the MCSCS which could have included minor breaches of probation conditions, new charges, new convictions, or charges from prior offences that could not be considered recidivism. Further, the new charges that returned the offender to the MCSCS would not necessarily result in convictions or the charges could be dismissed altogether. Setting the definition for recidivism too narrowly (e.g., convictions only) misses the more minor charges or breaches of conditions that offenders could incur whereas setting the definition for recidivism too broadly (e.g., any new charges) can result in historical offences erroneously classify offenders as recidivists. Given these considerations, the current study used a broad definition of recidivism to capture as much information as possible on offenders' recidivism keeping in mind the possibility of the relevant limitations. Recidivism variables in this study such as the hybrid follow-up time were calculated based on the date of occurrence or admission to a custodial facility in order to minimize the chance of historical offences being considered as new recidivism offences. Moreover, the "dark figure" of recidivism (i.e., crimes that are committed but are not reported) will always remain as a factor that impedes the true picture of recidivism. Furthermore, the 1,850 offenders who were excluded from recidivism analyses due to discrepancies in their offence timelines could have

genuinely been recidivists and so removing them from analyses could have underestimated the overall recidivism rates of this sample.

Moreover, all analyses pertaining to the override were conducted using the total sample, not just with offenders whose risk levels were overridden. Including offenders whose risk levels did not change in these analyses therefore produced conservative estimates of the effects of the override. Future research should be conducted only on offenders whose risk levels were increased or decreased (i.e., overridden) to gain a clearer understaning of the effect of the override on predictive validity. An additional limitation lies within the immense sample size. Although such a large sample was beneficial in many ways there remains a note of caution when interpreting results simply based on significance level. Specifically, many correlations values were very small (i.e., less than 0.10) yet they were strongly significant likely due to the power of the sample size.

Furthermore, there is a potential limitation for sexual offenders in relation to the number of risk assessment measures specifically for sexual recidivism in their file. Like all offenders, sexual offenders in the Ontario provincial correctional system are assessed for general recidivism but are also assessed for sexual recidivism on specific measures such as the Static-99 (Hanson & Thornton, 1999), the Stable-2000 (Hanson & Harris, 2000; Hanson & Harris, 2003), and the Acute-2000 (Hanson et al., 2007). The results from these sexual recidivism assessments included in the offenders' files could influence subsequent assessments such as the LSI-OR given that it is part of the MCSCS policy that a sexual offenders' risk level on the LSI-OR should be considered in combination with the specific assessment for sexual recidivism. A high score on a sexual recidivism measure or a designation of high risk to recidivate sexually could influence an assessor to override that offender's LSI-OR risk level resulting in an override based on

information from a different assessment measure rather than the explicit information included in the current assessment. Unfortunately, there was no way to determine if this applied to any of the sexual offenders in the current study yet the possibility of this situation exists and is an important variable of interest to be studied.

Further, a number of limitations concerned the lack of information related to use of the override. First, in cases where an offender's risk level was increased but he or she did not recidivate, these would not necessarily be deemed as cases where an inappropriate override was used. Overrides in these cases could have been made honestly and without bias by the assessor and so calling these overrides "inappropriate", where an increased risk level did not result in a higher recidivism rate, may not be the best choice of words; terms such as "effective" or "ineffective" overrides could be used in the future to describe such events.

Related to this is an additional limitation whereby an assessor could have intentionally increased an offender's risk level to get that offender placed into higher intensity programming with the goal that the programming would decrease the offender's likelihood of recidivating. So, the final risk levels' decreased predictive validity with recidivism could in some cases be due to the fact that the offender was not at a high risk to recidivate and their increased risk level was an incorrect decision, or it could be due to the fact that the treatment the offender received "worked" and reduced their likelihood of recidivism. Future research could monitor what types of programs offenders are placed in after their LSI-OR assessment, at what level of intensity these programs are delivered, and how this relates to future recidivism outcomes compared to matched control groups. This line of research can help to answer whether the override is being used inappropriately or ineffectively, or if the RNR treatment method is working.

4.7 Conclusion and Future Directions

This study was conducted to provide much needed insight on the professional override in the LSI-OR with Ontario provincial offenders. This study has demonstrated that the use of the override resulted in significantly lower predictive validity for general, violent, and non-violent recidivism for the total sample in addition to violent, sexual, and male offenders but did not significantly affect the predictive validity of any recidivism outcomes for non-violent or female offenders. Furthermore, the use of the override resulted in non-significantly higher predictive estimates for sexual recidivism for the total sample, violent, non-violent, male, and female offenders yet resulted in non-significantly lower predictive estimates for sexual offenders. Interestingly, these results for sexual offenders that suggest the predictive validity of the LSI-OR decreased after the use of the override for sexual recidivism contrast with the survival analyses for sexual offenders which indicate that the override appeared to correctly increase the number of recidivists to higher risk levels for sexual recidivism. Moreover, sexual offenders had an incredibly disproportionate number of overrides to increase their risk levels, more than violent and non-violent offenders combined. Risk level matrices for violent, sexual, and non-violent offenders indicated that the majority of the overrides used to increase or decrease risk levels were appropriate given the final recidivism rates per risk level. However, the risk level matrices for female offenders indicated that all of the overrides used to increase or decrease risk levels were accurate in contrast to the large proportion of inaccurate overrides for male offenders.

Interesting results that mirror the research of Wormith et al. (2012) were found when comparing variables significantly related to the override with variables significantly related to recidivism for violent, sexual, and non-violent offenders. Certain variables were significantly predictive of both the override and recidivism outcomes yet there were other variables that were

significantly related to the override but not to recidivism, and vice versa. For non-violent offenders, G1 (Special Responsivity Considerations) was the second strongest significant predictor of the override, yet it was not significantly predictive of general recidivism. In addition, non-violent offenders' age was significantly positively predictive of the override yet significantly negatively predictive of general recidivism while non-violent offenders' ethnicity was significantly negatively predictive of the override and significantly positively predictive of general recidivism. Most striking was that none of the significant predictors of the override for sexual offenders were significant predictors in the same direction of general recidivism. These major discrepancies are supported by further inconsistencies between the predictors of violent, sexual, and non-violent recidivism for violent, sexual, and non-violent offenders. Future research could conduct surveys with probation and parole officers who conduct LSI-OR assessments on how frequently they use the override, what variables influence the direction of the overrides, and how accurate their predictions are over an extended follow-up period.

The evidence presented in this study demonstrates that the override can significantly reduce the predictive validity of the LSI-OR for certain types of recidivism, overrides are used disproportionately more for sexual offenders over violent and non-violent offenders, and there are distinct inconsistencies between the significant predictors of recidivism and the significant predictors of the override. However, some analyses showed evidence of a positive effect of the override, particularly in the survival analyses for sexual offenders. These equivocal results provide support for the argument against the use of adjusted actuarial measures in forensic risk assessment, especially supporting the claim that they are often prone to human errors and come at the cost of predictive accuracy (Ægisdottir et al., 2006; Abbott, 2011; Dawes, Faust, & Meehl, 1989; Mills, 2005; Mills, Kroner, & Morgan, 2011).

The misuse of the override has numerous legal and ethical implications and can greatly affect an offender's future including their security classification, consideration for release into the community, or the type and amount of programming received. It is imperative to accurately follow the RNR principles to match an offender's risk level with the correct level of program intensity. It can be detrimental to a lower risk offender to have their risk level overridden and be placed in a higher intensity program than would be necessary; research has shown that this can lead to increased recidivism rates and higher levels of antisocial attitudes (Andrews, Zinger, et al., 1990). Moreover, recent research by Scurich and Krauss (2013) found that mock-jurors in a sexually violent predator commitment case were influenced by adjusted actuarial risk predictions that increased an offender's risk level but not by adjusted actuarial risk predictions that decreased an offender's risk level. Mock jurors were found to increase the commitment rate of hypothetical sexually violent predators only when the offender's risk levels were increased to a higher level. Scurich and Krauss suggested that the mock jurors were participating in "motivated reasoning" which validates information that confirms the mock juror's prior beliefs and intended outcome, regardless of the validity of the information. However, it was uncertain in the current study whether some LSI-OR assessors who used the override were using motivated reasoning when making their override decisions. While assessors may have concerns about the balance between ensuring the public's safety from future criminal behaviour and protecting the offender's individual rights, overrides must be based on valid and reliable empirically-derived factors.

Future research should examine the distinct reasons cited when using the override to increase or decrease an offender's risk level. This research could be both quantitative and qualitative and would benefit from comparing across gender, ethnicity, and between violent, sexual, and non-violent offenders. It is essential to have a better understanding of why overrides

in both directions are being used and if there are any patterns of biases or confounding variables when making these overrides. Especially in the case of sexual offenders, future research should examine whether or not the presence of results from sexual recidivism assessment measures bias the LSI-OR assessment scheme. Additionally, future research on the quality and amount of training given to assessors on the issues surrounding the override and determining assessors' adherence to these instructions would be beneficial to determine if and how problems are present in the LSI-OR's administration. This type of research would follow Andrews, Bonta, and Hoge's (1990) recommendation that the override be monitored over time. This would be extremely helpful as it appears that the override is not always used in an effective manner. Likewise, future research could examine rater agreement on the use of the override with the LSI-OR, similar to research conducted by Hanson et al. (2007) on the Static-99. This could supplement research on the training and monitoring of LSI-OR assessors to examine if there are any patterns in the use of the override in one direction over another for certain offender types.

Further, the results from the current study are from only one correctional jurisdiction and therefore future research across a multitude of correctional services using the LSI-OR would be beneficial to determine any jurisdiction-related effects of the override. Moreover, all current and future research on the override in forensic assessment should be relayed to correctional services who oversee the policies and implementation of assessment measures. Assessment policies must be constantly updated based on relevant research on the use and effects of the override in forensic populations to ensure the most accurate and appropriate assessments are conducted. Continued research on the use of the override in the LSI-OR will determine if this principle should be reformulated or removed altogether.

References

Ægisdottir, S., White, M.J., Spengler, P.M., Maugherman, A.S., Anderson, L.A., Cook, R.S., Nichols, C.N., Lampropoulos, G.K., Walker, B.S., Cohen, G., & Rush, J.D. (2006). The meta-analysis of clinical judgment project: Fifty-six years of accumulated research on clinical versus statistical prediction. *The Counselling Psychologist, 34,* 341-382. DOI: 10.1177/0011000005285875.

Abbott, B.R. (2011). Throwing the baby out with the bath water: Is it time for clinical judgment to supplement actuarial risk assessment? *The Journal of the American Academy of Psychiatry and the Law, 39,* 222-230.

Andrews, D.A. (1982). *The Level of Service Inventory (LSI): The first follow-up.* Toronto, ON: Ontario Ministry of Correctional Services.

Andrews, D.A., & Bonta, J.L. (1995). *The Level of Service Inventory-Revised.* Toronto, Canada: Multi-Health Systems.

Andrews, D.A., & Bonta, J.L. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law, 16,* 39-55. DOI: 10.1037/a0018362

Andrews, D.A., Bonta, J.L., & Hoge, R.D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior, 17,* 19-52.

Andrews, D.A., Bonta, J.L., & Wormith, J.S. (1995). *The LSI-OR: Interview and scoring guide.* Toronto, ON: Ontario Ministry of Solicitor General and Correctional Services.

Andrews, D. A., Bonta, J. L., & Wormith, J.S. (2004). *The Level of Service/Case Management Inventory*. Toronto, Canada: Multi-Health Systems.

Andrews, D.A., Bonta, J.L., & Wormith, J.S. (2006). The recent past and near future of risk and/or need assessment. *Crime and Delinquency, 52,* 7-27. DOI: 10.1177/0011128705281756.

Andrews, D.A., Bonta, J.L., & Wormith, J.S. (2010). The Level of Service (LS) assessment of adults and older adolescents. In R.K. Otto & K. Douglas (Eds.), *Handbook of Violence Risk Assessment* (pp.199-225.). New York, NY: Routledge.

Andrews, D.A., Dowden, C., & Rettinger, M. (2001). Special populations within corrections. In J.A. Winterdyk (Ed.), *Corrections in Canada: Social reactions to crime* (pp. 170-212). Toronto, Canada: Prentice Hall.

Andrews, D.A., Guzzo, L., Raynor, P., Rowe, R.C., Rettinger, J., Brews, A., & Wormith, J.S. (2012). Are the major risk/need factors predictive of both female and male reoffending? A test with the eight domains of the Level of Service/Case Management Inventory. *International Journal of Offender Therapy and Comparative Criminology, 56,* 113-133. DOI: 10.1177/0306624X10395716

Andrews, D.A., & Robinson, D. (1984). *The Level of Service Inventory: Second Report.* A report to Research Services (Toronto) of the Ontario Ministry of Correctional Services.

Andrews, D.A., Zinger, I., Hoge, R.D., Bonta, J.L., Gendreau, P., & Cullen, F.T. (1990). Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology, 28,* 369-404.

Boer, D.P., Hart, S.D., Kropp, P.R., & Webster, C.D. (1997). *Manual for the Sexual Violence Risk – 20: Professional guidelines for assessing risk of sexual violence.* Vancouver, BC: British Columbia Institute Against Family Violence.

Bonta, J.L. (1996). Risk-needs assessment and treatment. In A.T. Harland (Ed.), *Choosing correctional options that work* (pp. 18-32). Thousand Oaks, California: Sage.

Bonta, J.L. (2002). Offender risk assessment: Guidelines for selection and use. *Criminal Justice and Behavior, 29,* 355-379. DOI: 10.1177/0093854802029004002.

Bonta, J.L., Law, M., & Hanson, R.K. (1998). The prediction of criminal and violent recidivism among mentally disordered offenders: A meta-analysis. *Psychological Bulletin, 123,* 123-142.

Brews, A.L. (2009). *The Level of Service Inventory and Female Offenders: Addressing Issues of Reliability and Predictive Validity* (Unpublished master's thesis). University of Saskatchewan, Saskatoon, SK.

Campbell, M.A., French, S., & Gendreau, P. (2009). The prediction of violence in adult offenders: A meta-analytic comparison of instruments and methods of assessment. *Criminal Justice and Behavior, 36,* 567-590. DOI: 10.1177/0093854809333610

Cohen's d Effect Size Calculator for Independent and Paired Samples [Computer software]. Springfield, MO: RStats Institute. Retrieved from www.missouristate.edu/rstats.

Cumberland, A.K., & Boyle, G.J. (1997). Psychometric prediction of recidivism: Utility of the risk needs inventory. *Australian and New Zealand Journal of Criminology, 30,* 72-86.

Dahle, K.P. (2006). Strengths and limitations of actuarial prediction of criminal reoffence in a German prison sample: A comparative study of the LSI-R, HCR-20, and PCL-R. *International Journal of Law and Psychiatry, 29,* 431-442. DOI: 10.1016/j.ijlp.2006.03.001

Dawes, R.M., Faust, D., & Meehl, P.E. (1989). Clinical versus actuarial judgment. *Science, 243,* 1668-1674.

DeClue, G. (2013). Years of predicting dangerously. *Open Access Journal of Forensic Psychology, 5,* 16-28.

DeCoster, J, & Iseline, A-M. (2009). Comparing correlation coefficients [Computer software]. Retrieved from http://www.stat-help.com/spreadsheets.html

Dolan, M., & Doyle, (2000). Violence risk prediction: Clinical and actuarial measures and the role of the Psychopathy Checklist. *The British Journal of Psychiatry, 177,* 303-311. DOI: 10.1192/bjp.177.4.303

Douglas, K.S., Yeomans, M., & Boer, D.P. (2005). Comparative validity analysis of multiple measures of violence risk in a sample of criminal offenders. *Criminal Justice and Behavior, 32,* 479-510. DOI: 10.1177/0093854805278411

Douglas, K.S., & Skeem, J.L. (2005). Violence risk assessment: Getting specific about being dynamic. *Psychology, Public Policy, and Law, 11,* 347-383. DOI: 10.1037/1076-8971.11.3.347

Doyle, M., & Dolan, M. (2002). Violence risk assessment: Combining actuarial and clinical information to structure clinical judgments for the formulation and management of risk. *Journal of Psychiatric and Mental Health Nursing, 9,* 649-657. DOI: 10.1046/J.1365-2850.2002.00535.X.

Dvoskin, J.A., & Heilbrun, K. (2001). Risk assessment and release decision-making: Toward resolving the great debate. *The Journal of the American Academy of Psychiatry and the Law, 29,* 6-10.

Epperson, D.L., Kaul, J.D., & Hesselton, D. (1998, October). *Final report on the development of the Minnesota Sex Offender Screening Tool – Revised (MnSOST-R).* Paper presented at

the 15th annual research and treatment convention of the Association for the Treatment of Sexual Abusers: Vancouver, BC.

Gendreau, P., Goggin, C., & Law, M. (1997). Predicting prison misconducts. *Criminal Justice and Behavior, 24,* 414-431.

Gendreau, P., Goggin, C., & Smith, P. (2002). Is the PCL-R really the "unparalleled" measure of offender risk? A lesson in knowledge cumulation. *Criminal Justice and Behavior, 29,* 397-426. DOI: 10.1177/0093854802029004004

Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34,* 575-607.

Girard, L. (1999). *The Level of Service Inventory-Ontario Revision: Risk/Need Assessment and Recidivism* (Unpublished doctoral dissertation). University of Ottawa, Ottawa, ON.

Girard, L., & Wormith, J.S. (2004). The predictive validity of the Level of Service Inventory-Ontario Revision on general and violent recidivism among various offender groups. *Criminal Justice and Behavior, 31,* 150-181. DOI: 10.1177/0093854803261335

Goggin, C., & Gendreau, P. (2004). *The Empress' new clothes: The tale of a theory in spite of the data.* Unpublished manuscript available from the Centre for Criminal Justice Studies, University of New Brunswick, Saint John, NB, Canada.

Gore, K.S. (2007). *Adjusted Actuarial Assessment of Sex Offenders: The Impact of Clinical Overrides on Predictive Accuracy* (Unpublished doctoral dissertation). Iowa State University, Ames, IA.

Gray, N.S., Taylor, J., & Snowden, R.J. (2008). Predicting violent reconvictions using the HCR-20. *The British Journal of Psychiatry, 192,* 384-387. DOI: 10.1192/bjp.bp.107.044065

Gray, N.S., Taylor, J., & Snowden, R.J. (2011). Predicting violence using structured professional judgment in patients with different mental and behavioural disorders. *Psychiatry Research, 187,* 248-253. DOI: 10.1016/j.psychres.2010.10.011

Grove, W.M., & Lloyd, M. (2006). Meehl's contribution to clinical versus statistical prediction. *Journal of Abnormal Psychology*, *115*, 192-194. DOI: 10.1037/0021-843X.115.2.192

Grove, W.M., & Meehl, P.E. (1996). Comparative efficiency of informal (subjective, impressionistic) and formal (mechanical, algorithmic) prediction procedures: The clinical-statistical controversy. *Psychology, Public Policy, and Law, 2,* 293-323.

Grove, W.M., Zald, D.H., Lebow, B.S., Snitz, B.E., & Nelson, C. (2000). Clinical versus mechanical prediction: A meta-analysis. *Psychological Assessment, 12,* 19-30. DOI: 10.1037//1040-3590.12.1.19.

Hanson, R.K. (1998). What do we know about sex offender risk assessment? *Psychology, Public Policy, and Law, 4*, 50-72.

Hanson, R.K. (2002). Introduction to the Special Section on dynamic risk assessment with sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 14*, 99-101.

Hanson, R.K., & Bussière, M.T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*, 348-362.

Hanson, R.K., & Harris, A.J.R. (2000). Where should we intervene? Dynamic predictors of sexual offense recidivism. *Criminal Justice and Behavior, 27,* 6-35.

Hanson, R.K., & Harris, A.J.R. (2003). Stable-2000 coding manual. Unpublished document. Public Safety and Emergency Preparedness, Canada.

Hanson, R.K., Harris, A.J.R., Scott, T., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project* (Corrections Research User Report No. 2007-05). Ottawa, Ontario, Canada: Public Safety Canada.

Hanson, R.K., & Morton-Bourgon, K.E. (2009). The accuracy of recidivism risk assessments for sexual offenders: A meta-analysis of 118 prediction studies. *Psychological Assessment, 21,* 1-21. DOI: 10.1037/A0014421.

Hanson, R.K., & Thornton, D. (1999). *Static-99: Improving actuarial risk assessments for sex offenders* (User Report 99-02). Ontario, Canada: Department of the Solicitor General of Canada.

Hanson, R. K., & Thornton, D. (2000). Improving risk assessments for sex offenders: A comparison of three actuarial scales. *Law and Human Behavior, 24,* 119-136.

Hanson, R.K., & Wallace-Capretta, S. (2000). *A multi-site study of treatment for abusive men* (User Report 2000-05). Ontario, Canada: Department of the Solicitor General of Canada.

Hare, R.D. (2003). *Manual for the Hare Psychopathy Checklist – Revised (2nd ed.).* Toronto, ON: Multi-Health Systems.

Harris, G.T., & Rice, M.E. (2007a). Adjusting actuarial violence risk assessments based on aging or the passage of time. *Criminal Justice and Behavior, 34,* 297-313. DOI: 10.1177/0093854806293486

Harris, G.T., & Rice, M.E. (2007b). Characterizing the value of actuarial violence risk assessments. *Criminal Justice and Behavior, 34,* 1638-1658. DOI: 10.1177/0093854807307029

Harris, G.T., Rice, M.E., & Cormier, C.A. (2002). Prospective replication of the Violence Risk Appraisal Guide in predicting violent recidivism among forensic patients. *Law and Human Behaviour, 26,* 377-394.

Hart, S. D., & Boer, D. P. (2009). Structured Professional Judgement guidelines for sexual violence risk assessment: The Sexual Violence Risk-20 (SVR-20) and Risk for Sexual Violence Protocol (RSVP). In R. K. Otto & K. S. Douglas (Eds.), *Handbook of Violence Risk Assessment* (pp. 269–294). Oxford, UK: Routledge.

Hart, S.D., Cox, D.N., & Hare, R.D. (1995). *The Hare Psychopathy Checklist: Screening Version* (PCL:SV). Toronto, ON: Multi-Health Systems.

Hart, S.D., Michie, C., & Cooke, D.J. (2007). Precision of actuarial risk assessment instruments: Evaluating the 'margins of error' of group v. individual predictions of violence. *British Journal of Psychiatry, 190,* s60-s65. DOI: 10.1192/BJP.190.5.s60.

Hogg, S.M. (2011). *The Level of Service Inventory (Ontario Revision) Scale Validation for Gender and Ethnicity: Addressing Reliability and Predictive Validity* (Unpublished master's thesis). University of Saskatchewan, Saskatoon, SK.

Hollin, C.R., & Palmer, E.J. (2006). The Level of Service Inventory-Revised profile of English prisoners: Risk and reconviction analysis. *Criminal Justice & Behavior, 33,* 347-366. DOI: 10.1177/0093854806286195

Holsinger, A.M., Lowenkamp, C.T., & Latessa, E.J. (2006). Exploring the validity of the Level of Service Inventory-Revised with Native American offenders. *Journal of Criminal Justice, 34,* 331-337. DOI: .1016/j.jcrimjus.2006.03.009

Holt, R.R. (1958). Clinical and statistical prediction: A reformulation and some new data. *Journal of Abnormal Psychology, 56,* 1-12.

Howells, K., Watt, B., Hall, G., & Baldwin, S. (1997). Developing programmes for violent offenders. *Legal and criminological psychology, 2,* 117-128.

Hsu, C., Caputi, P., & Byrne, M.K. (2009). The Level of Service Inventory-Revised (LSI-R): A useful risk assessment measure for Australian offenders? *Criminal Justice and Behavior, 36,* 726-740. DOI: 10.1177/0093854809335409.

Janus, E.S., & Prentky, R.A. (2003). Forensic use of actuarial risk assessment with sex offenders: Accuracy, admissibility, and accountability. *American Criminal Law Review, 40,* 1443-1499.

Kroner, D.G., Mills, J.F., & Reddon, J.R. (2005). A coffee can, factor analysis, and prediction of antisocial behavior: The structure of criminal risk. *International Journal of Law and Psychiatry, 28,* 360-274. DOI: 10.1016/j.ijlp.2004.01.011

Litwack, T.R. (2001). Actuarial versus clinical assessments of dangerousness. *Psychology, Public Policy, and Law, 7,* 409-443. DOI: 10.1037//1076-8971.7.2.409

Litwack, T.R. (2002). Some questions for the field of violence risk assessment and forensic mental health: Or, "back to basics" revisited. *International Journal of Forensic Mental Health, 1,* 171-178.

Lowenkamp, C.T., Smith, P., Latessa, E.J., & Cullen, F.T. (2007). *Can 14,737 women be wrong?* Unpublished manuscript available from the Division of Criminal Justice, University of Cincinnati, OH.

Martinson, R. (1974). What works? Questions and answers about prison reform. *Public Interest, 35,* 22-54.

McEwan, T.E., Pathé, M., & Ogloff, J.R.P. (2011). Advances in stalking risk assessment. *Behavioural Sciences and the Law, 29,* 180-201. DOI: 10.1002/bsl.973

Meehl, P.E. (1954). *Clinical versus statistical prediction*. Minneapolis, MN: University of Minnesota Press.

Meehl, P.E. (1986). Causes and effects of my disturbing little book. *Journal of Personality Assessment, 50,* 370-375.

Mills, J.F. (2005). Advances in the assessment and prediction of interpersonal violence. *Journal of Interpersonal Violence, 20,* 236-241. DOI: 10.1177/0886260504267745.

Mills, J.F., Kroner, D.G., & Morgan, R.D. (2011). *Clinician's Guide to Violence Risk Assessment.* New York, NY: The Guilford Press.

Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. *Journal of Consulting and Clinical Psychology, 62,* 783-792.

Nufield, J. (1982). *Parole decision-making in Canada: Research towards decision guidelines.* Ottawa, Canada: Ministry of Supply and Services Canada.

Ogloff, J.R.P. (2002). Offender rehabilitation: From "nothing works" to what next? *Australian Psychologist, 37,* 245-252.

Olver, M.E., Stockdale, K.C., & Wormith, J.S. (2014). Thirty years of research on the Level of Service scales: A meta-analytic examination of predictive accuracy and sources of variability. *Psychological Assessment, 26,* 156-176. DOI: 10.1037/a0035080

Petrila, J., & Otto, R.K. (2001). Admissibility of expert testimony in sexually violent predator proceedings. In A. Schlank (Ed.), *The sexual predator: Legal issues, clinical issues, special populations – Volume II* (pp. 3-2–3-21). Kingston, NJ: Civic Research Institute.

Preacher, K.J. (2002, May). Calculation for the test of the difference between two independent correlation coefficients [Computer software]. Retrieved from http://quantpsy.org

Quinsey, V.L., Harris, G.T., Rice, M.E., & Cormier, C.A. (1998). *Violent offenders: Appraising and managing risk*. Washington, DC: American Psychological Association.

Rettinger, M. (1998). *A recidivism follow-up study investigating risk and need within a sample of provincially sentenced women.* (Unpublished doctoral dissertation). Carleton University, Ottawa, ON.

Rettenberger, M., & Hucker, S.J. (2011). Structured professional guidelines: International Applications. In D.P. Boer, R. Eher, L.A. Craig, M.H. Miner, & F. Pfäfflin (Eds.), *International Perspectives on the Assessment and Treatment of Sexual Offenders: Theory, Practice, and Research* (pp. 85-110). West Sussex, UK: John Wiley & Sons.

Rettenberger, M., Boer, D.P., & Eher, R. (2011). The predictive accuracy of risk factors in the Sexual Violence Risk-20 (SVR-20). *Criminal Justice and Behavior, 38,* 1009-1027. DOI: 10.1177/0093854811416908

Rowe, R.C. (1996). *Parole decision making in Ontario.* Toronto, ON, Canada: Ontario Ministry of the Solicitor General and Correctional Services.

Scurich, N., & Krauss, D.A. (2013). The effect of adjusted actuarial risk assessment on mock-jurors' decisions in a sexual predator commitment proceeding. *Jurimetrics Journal, 53,* 395-413.

Simourd, D.J. (2004). Use of dynamic risk/need assessment instruments among long-term incarcerated offenders. *Criminal Justice and Behavior, 31,* 306-323. DOI: 10.1177/0093854803262507

Singh, J.P., & Fazel, S. (2010). Forensic risk assessment: A meta-review. *Criminal Justice and Behavior, 37,* 965-988. DOI: 10.1177/0093854810374274

Smith, P., Cullen, F.T., & Latessa, E.J. (2009). Can 14,737 women be wrong? A meta-analysis of the LSI-R and recidivism for female offenders. *Criminology & Public Policy, 8,* 183-208. DOI: 10.1111/j.1745-9133.2009.00551.x

Sreenivasan, S., Weinberger, L.E., Frances, A., & Cusworth-Walker, S. (2010). Alice in actuarial-land: Through the looking glass of changing Static-99 norms. *Journal of the American Academy of Psychiatry and Law, 38,* 400-406.

Stasiuk, E., Winter, K. & Nixon, B. (1996). *Awaiting trial: Accused persons remanded to custody.* Toronto: Ontario Ministry of Correctional Services.

Steiger, J.H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin, 87,* 245-251.

Storey, J.E., Watt, K.A., Jackson, K.J., & Hart, S.D. (2012). Utilization and implications of the Static-99 in practice. *Sexual Abuse: A Journal of Research and Treatment, 24,* 289-302. DOI: 10.1177/1079063211423943.

Webster, C.D., Douglas, K.S., Eaves, D., & Hart, S.D. (1997). *HCR-20: Assessing Risk for Violence* (Version 2). Burnaby, BC: Mental Health, Law, and Policy Institute, Simon Fraser University.

Webster, C.D., Hucker, S.J., & Bloom, H. (2002). Transcending the actuarial versus clinical polemic in assessing risk for violence. *Criminal Justice and Behavior, 29,* 659-665. DOI: 10.1177/009385402236736.

Wormith, J.S. (1997). Research to practice: Applying risk/needs assessment to offender classification. *Forum on Corrections Research, 9,* 26-31.

Wormith, J.S., Gendreau, P., & Bonta, J. (2012). Deferring to clarity, parsimony, and evidence in reply to Ward, Yates, and Willis. *Criminal Justice and Behavior, 39,* 111-120. DOI: 10.1177/0093854811426087.

Wormith, S.J., Hogg, S., & Guzzo, L. (2012). The predictive validity of a general risk/needs assessment inventory on sexual offender recidivism and an exploration of the professional override. *Criminal Justice and Behavior, 39,* 1509-1535. DOI: 10.1177/0093854812455741.

Yang, M., Wong, S.C.P., & Coid, J. (2010). The efficacy of violence prediction: A meta-analytic comparison of nine risk assessment tools. *Psychological Bulletin, 136,* 740-767. DOI: 10.1037/a0020473

APPENDIX A: LSI-OR Sections and Items

Section A: General Risk/Need Factors

1: Criminal History
A11: Any prior YO dispositions (number = x) or adult dispositions (number = x)
A12: Two or more prior adult/youth dispositions
A13: Three or more prior adult/youth dispositions
A14: Three or more present offences (number = x)
A15: Arrested or charged under age 16
A16: Ever incarcerated upon adjudication
A17: Ever punished for institutional misconduct/behaviour report (number = x)
A18: Charge laid, probation breached, or parole suspended during prior community supervision

2: Education/Employment
A29: Currently unemployed
A210: Frequently unemployed
A211: Never employed for full year
A212: Less than regular grade 10 or equivalent
A213: Less than regular grade 12 or equivalent
A214: Suspended or expelled at least once
A215: Participation/Performance (x)
A216: Peer interactions (x)
A217: Authority interactions (x)

3: Family/Marital
A318: Dissatisfaction with marital or equivalent situation (x)
A319: Non-rewarding, parental (x)
A320: Non-rewarding, other relatives (x)
A321: Criminal – family/spouse

4: Leisure/Recreation
A422: No recent participation in an organized activity
A423: Could make better use of time (x)

5: Companions
A524: Some criminal acquaintances
A525: Some criminal friends
A526: No anti-criminal acquaintances
A527: No anti-criminal friends (x)

6: Procriminal Attitude/Orientation
A628: Supportive of crime (x)
A629: Unfavourable toward convention (x)
A630: Poor, toward sentence/offence
A631: Poor, toward supervision/treatment

7: Substance Abuse
A732: Alcohol problem, ever
A733: Drug problem, ever
A734: Alcohol problem, currently (x)
A735: Drug problem, currently (x)
A736: Law violations
A737: Marital/family
A738: School/work
A739: Medical or other clinical indicators

8: Antisocial Pattern
A840: Specialize assessment for antisocial pattern
A841: Early and diverse antisocial behaviour:
Arrested/charged under age 16 (item 5 __); plus at least one of:
a) Official record of assault/violence (x)
b) Escape history (x)
c) Charge laid, probation breached, or parole suspended during prior community supervision (item 8 __)
A842: Criminal attitude. At least one of: (Item 28 __), (Item 29 __), (Item 31 __)
A843: A pattern of generalized trouble. At least four of: Financial problems (__), 3 or more address changes (__), (Item 11 __), (Item 12 __), (Item 14 __), (Item 19 __), (Item 23 __), (Item 27 __)

Section B: Specific Risk/Need Factors

1: Personal Problems with Criminogenic Potential
B11: Clear problems of compliance (specific conditions)
B12: Diagnosis of psychopathy
B13: Diagnosis of other personality disorder
B14: Threat from third party
B15: Problem-solving/self-management skill deficits
B16: Anger management deficits
B17: Intimidating/controlling
B18: Inappropriate sexual activity
B19: Poor social skills
B110: Peers outside age range
B111: Racist/sexist behaviour
B112: Underachievement
B113: Outstanding charges
B114: Other, specify

2: History of Perpetration
B21: Sexual assault (extrafamilial)
B22: Sexual assault (intrafamilial)
B23: Physical assault (extrafamilial)
B24: Physical assault (intrafamilial)

B25: Assault on an authority figure
B26: Weapon use
B27: Fire setting
B28: Escapes/UAL
B29: Impaired driving

Section C: Prison Experience – Institutional Factors

C1: Last classification maximum
C2: Last classification medium
C3: Last classification minimum
C4: Protective custody
C5: Treatment recommended/ordered
C6: Misconduct/behavioural report current incarceration (number = x)
C7: Administrative segregation
C8: Security management concerns
C9: Past federal penitentiary

Section D: Risk/Need Summary

Total LSI-OR Score (from Section A):
Total Strengths (from Section A):
Specific risk/need factors (from Section B):
Summary of strengths (positives: reasons for lowering security/supervision or releasing clients – from Section A)
Summary of added concerns (negatives: reasons for increasing security/supervision or not releasing clients – from Sections B and C)

Section E: Risk/Need Profile

Criminal History: Very Low = 0-2; Low = 3-4; Medium = 5-6; High = 7-8
Employment/Education: Very Low = 0-2; Low = 3-7; Medium = 8-9
Family/Marital: Very Low = 0; Low = 1-2; Medium = 3-4
Leisure/Recreation: Very Low = 0; Low = 1; Medium = 2
Companions: Very Low = 0; Low = 1-2; Medium = 3; High = 4
Procriminal Attitude: Very Low = 0; Low = 1-2; Medium = 3; High = 4
Substance Abuse: Very Low = 0-1; Low = 2-5; Medium = 6-8
Antisocial Pattern: Very Low = 0; Low = 1; Medium = 2-3; High = 4
Total (Section A): Very Low = 0-4; Low = 5-10; Medium = 11-19; High = 20-29; Very High = 30+
Override: Yes or No

Section F: Other Client Issues

1: Social, Mental, and Mental Health
F11: Financial problems
F12: Homeless or transient
F13: Accommodation problems
F14: Health problems
F15: Depressed
F16: Physical disability
F17: Low self-esteem
F18: Shy/withdrawn
F19: Diagnosis of psychosis
F110: Suicide attempts/threats
F111: Learning disability
F112: Other evidence of emotional distress, specify
F113: Immigration issues
F114: Victim: family violence
F115: Victim: physical assault
F116: Victim: sexual assault
F117: Victim: emotional abuse
F118: Victim of neglect
F119: Other, specify

2: Barrier to Release
F21: Community supervision inappropriate, specify

Section G: Special Responsivity Considerations

G1: Motivation as a barrier
G2: Engages in denial/minimization
G3: Interpersonally anxious
G4: Cultural issues
G5: Ethnicity issues
G6: Low intelligence
G7: Communication barriers
G8: Other, specify

Section H: Program/Placement Decision

Institution, Secure/Open Custody: Minimum, Medium, or Maximum recommendation
Release Recommendation: Yes or No
Community: Minimum, Medium, or Maximum recommendation

APPENDIX B: Offence Severity Scale

	OSS Value	Category
1 Homicide & Related Offence	1	Violent
2 Serious violent Offences	2	Violent
3 Violent Sexual Offences	3	Sexual
4 Break & Enter & Related Offences	4	Violent
5 Non-Violent Sexual Offences	5	Sexual
6 Traffic/Import Drug Offences	6	Non-violent
7 Weapons Offences	7	Violent
8 Fraud & Related Offences	8	Non-violent
9 Misc. Offences against the Person	9	Violent
10 Theft/Possession Offences	10	Non-violent
11 Assault & Related Offences	11	Violent
12 Arson/Property Damage Offences	12	Violent
13 Morals & Gaming Offences	13	Non-violent
14 Obstruction of Justice Offences	14	Non-violent
15 Drug Possession Offences	15	Non-violent
16 Criminal Code Traffic Offences	16	Non-violent
17 Administration of Justice Offences	17	Non-violent
18 Impaired Driving Offences	18	Non-violent
19 Public Order Offences	19	Non-violent
20 Other Federal Offences	20	Non-violent
21 Parole Violations	21	Non-violent
22 Highway Traffic Act Offences	22	Non-violent
23 Liquor Control Act Offences	23	Non-violent
24 Other Provincial Offences	24	Non-violent
25 Municipal Bylaw Offences	25	Non-violent
Unknown	26	Unknown

APPENDIX C: Supplementary Correlations

Table C 1

Bivariate correlations between the General Risk/Need score and the override change score

	r
All Offenders (*N* = 38,688)	-.289***
Violent Offenders (*n* = 20,450	-.350***
Sexual Offenders (*n* = 1,321)	-.486***
Non-violent Offenders (*n* = 16,915)	-.184***
Male Offenders (*n* = 32,485)	-.307***
Female Offenders (*n* = 6,203)	-.222***

*** $p < .001$

Table C 2

Correlations between the sexual offence alert and General Risk/Need, Total Strength, and Specific Risk/Need scores

	Total Strength Score	Specific Risk/Need Score	General Risk/Need Score
Bivariate Correlations			
All Offenders (N = 33,614)	-.034***	.191***	.052***
Violent Offenders (n = 18,549)	-.035***	.212***	.128***
Sexual Offenders (n = 1,290)	-.006*n.s.*	.049*n.s.*	-.010*n.s.*
Non-violent Offenders (n = 13,773)	-.032***	.225***	.116***
Male Offenders (n = 28,754)	-.033***	.189***	.051***
Female Offenders (n = 4,860)	.006*n.s.*	.064***	.024*n.s.*
Partial Correlations[a]			
All Offenders (N = 33,614)	-.021***	.211***	---
Violent Offenders (n = 18,549)	.000*n.s.*	.172***	---
Sexual Offenders (n = 1,290)	-.008*n.s.*	.083**	---
Non-violent Offenders (n = 13,773)	-.001*n.s.*	.201***	---
Male Offenders (n = 28,754)	-.020***	.211***	---
Female Offenders (n = 4,860)	.013*n.s.*	.064**	---

[a] Controlling for General Risk/Need score.

** $p < .01$ *** $p < .001$

Table C 3

Correlations between the sexual offence alert and general, violent, sexual, and non-violent recidivism

	General Recidivism	Violent Recidivism	Sexual Recidivism	Non-violent Recidivism	Override Change
Bivariate Correlations					
All Offenders (*N* = 33,613)	-.014**	-.015**	.158***	-.031***	.190***
Violent Offenders (*n* = 18,548)	.060***	.025***	.149***	.022**	.056***
Sexual Offenders (*n* = 1,290)	-.044*n.s.*	-.014*n.s.*	-.023*n.s.*	-.031*n.s.*	.033*n.s.*
Non-violent Offenders (*n* = 13,773)	.058***	.029***	.124***	.024**	.102***
Male Offenders (*n* = 28,754)	-.021***	-.025***	.156***	-.031***	.193***
Female Offenders (*n* = 4,859)	-.016*n.s.*	.002*n.s.*	.143***	-.025*n.s.*	.060***
Partial Correlations[a]					
All Offenders (*N* = 33,613)	-.041***	-.028***	.157***	-.047***	.206***
Violent Offenders (*n* = 18,548)	.003*n.s.*	-.008*n.s.*	.146***	-.014*n.s.*	.094***
Sexual Offenders (*n* = 1,290)	-.044*n.s.*	-.012*n.s.*	-.022*n.s.*	-.029*n.s.*	.032*n.s.*
Non-violent Offenders (*n* = 13,773)	.012*n.s.*	.007*n.s.*	.124***	-.010*n.s.*	.116***
Male Offenders (*n* = 28,754)	-.047***	-.038***	.155***	-.047***	.211***
Female Offenders (*n* = 4,859)	-.028*n.s.*	-.001*n.s.*	.143***	-.035*	.064***

[a] Controlling for General Risk/Need score.

* $p < .05$ ** $p < .01$ *** $p < .001$

APPENDIX D: Post Hoc Analyses

Table D 1

Games-Howell post hoc ANOVA analyses for violent, sexual, and non-violent offenders on LSI-OR section scores

DV	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
General Risk/Need Score	Violent	Sexual	2.003*	.242	.000	1.38	2.63
		Non-violent	.405*	.093	.000	.17	.64
	Sexual	Non-violent	-1.598*	.243	.000	-2.22	-.97
Total Strength Score	Violent	Sexual	.185*	.037	.000	.09	.28
		Non-violent	.030	.015	.203	-.01	.07
	Sexual	Non-violent	-.155*	.037	.000	-.25	-.06
Specific Risk/Need Score	Violent	Sexual	-.501*	.076	.000	-.70	-.31
		Non-violent	1.070*	.025	.000	1.01	1.13
	Sexual	Non-violent	1.571*	.076	.000	1.38	1.77
A1: Criminal History	Violent	Sexual	.586*	.064	.000	.42	.75
		Non-violent	-.027	.026	.717	-.09	.04
	Sexual	Non-violent	-.614*	.064	.000	-.78	-.45
A2: Education/ Employment	Violent	Sexual	.351*	.075	.000	.16	.54
		Non-violent	.079*	.028	.025	.01	.15
	Sexual	Non-violent	-.271*	.075	.002	-.46	-.08
A3: Family/ Marital	Violent	Sexual	-.012	.032	.984	-.10	.07
		Non-violent	.229*	.012	.000	.20	.26
	Sexual	Non-violent	.241*	.033	.000	.16	.32
A4: Leisure/ Recreation	Violent	Sexual	-.008	.022	.985	-.06	.05
		Non-violent	-.004	.008	.965	-.02	.02
	Sexual	Non-violent	.004	.022	.998	-.05	.06
A5: Companions	Violent	Sexual	.393*	.028	.000	.32	.46
		Non-violent	-.096*	.011	.000	-.12	-.07
	Sexual	Non-violent	-.489*	.028	.000	-.56	-.42
A6: Procriminal Attitude/ Orientation	Violent	Sexual	-.193*	.034	.000	-.28	-.11
		Non-violent	.104*	.012	.000	.07	.14
	Sexual	Non-violent	.297*	.034	.000	.21	.38
A7: Substance Abuse	Violent	Sexual	.895*	.065	.000	.73	1.06
		Non-violent	.065*	.025	.045	.00	.13

	Sexual	Non-violent	-.830*	.065	.000	-1.00	-.66
A8: Antisocial Pattern	Violent	Sexual	-.011	.025	.975	-.08	.05
		Non-violent	.054*	.009	.000	.03	.08
	Sexual	Non-violent	.064	.025	.054	.00	.13
B1: Criminogenic Potential	Violent	Sexual	-.505*	.054	.000	-.64	-.37
		Non-violent	.648*	.016	.000	.61	.69
	Sexual	Non-violent	1.153*	.054	.000	1.02	1.29
B2: History of Perpetration	Violent	Sexual	.004	.034	1.000	-.08	.09
		Non-violent	.422*	.012	.000	.39	.45
	Sexual	Non-violent	.418*	.034	.000	.33	.51
C1: Prison Experience Institutional Factors	Violent	Sexual	-.387*	.029	.000	-.46	-.31
		Non-violent	.041*	.008	.000	.02	.06
	Sexual	Non-violent	.428*	.029	.000	.35	.50
F1: Social, Mental, and Mental Health	Violent	Sexual	-.425*	.066	.000	-.59	-.26
		Non-violent	.121*	.023	.000	.06	.18
	Sexual	Non-violent	.546*	.066	.000	.38	.72
F2: Barrier to Release	Violent	Sexual	-.094*	.011	.000	-.12	-.07
		Non-violent	.015*	.003	.000	.01	.02
	Sexual	Non-violent	.109*	.011	.000	.08	.14
G1: Special Responsivity Considerations	Violent	Sexual	-.271*	.030	.000	-.35	-.19
		Non-violent	.165*	.010	.000	.14	.19
	Sexual	Non-violent	.435*	.030	.000	.36	.51

Note. N = 40,539.

Table D 2

Games-Howell post hoc ANOVA analyses for offenders by ethnicity on LSI-OR section scores

DV	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
General Risk/Need Score	White	Black	.821*	.167	.000	.34	1.30
		Aboriginal	-6.493*	.181	.000	-7.01	-5.98
		Hispanic	3.171*	.385	.000	2.07	4.27
		Asian	6.043*	.157	.000	5.60	6.49
		Other	5.557*	.109	.000	5.24	5.87
	Black	Aboriginal	-7.314*	.233	.000	-7.98	-6.65
		Hispanic	2.351*	.412	.000	1.17	3.53
		Asian	5.222*	.215	.000	4.61	5.83
		Other	4.736*	.183	.000	4.21	5.26
	Aboriginal	Hispanic	9.664*	.418	.000	8.47	10.86
		Asian	12.536*	.225	.000	11.89	13.18
		Other	12.050*	.196	.000	11.49	12.61
	Hispanic	Asian	2.872*	.408	.000	1.71	4.04
		Other	2.386*	.392	.000	1.26	3.51
	Asian	Other	-.486	.174	.058	-.98	.01
Total Strength Score	White	Black	.204*	.025	.000	.13	.27
		Aboriginal	.046	.029	.619	-.04	.13
		Hispanic	-.014	.070	1.000	-.21	.19
		Asian	-.012	.032	.999	-.10	.08
		Other	-.309*	.025	.000	-.38	-.24
	Black	Aboriginal	-.158*	.036	.000	-.26	-.05
		Hispanic	-.218*	.073	.034	-.43	-.01
		Asian	-.216*	.038	.000	-.32	-.11
		Other	-.513*	.033	.000	-.61	-.42
	Aboriginal	Hispanic	-.060	.075	.967	-.27	.15
		Asian	-.058	.042	.732	-.18	.06
		Other	-.355*	.036	.000	-.46	-.25
	Hispanic	Asian	.002	.076	1.000	-.21	.22
		Other	-.295*	.073	.001	-.50	-.09
	Asian	Other	-.297*	.038	.000	-.41	-.19
Specific Risk/Need Score	White	Black	.170*	.047	.004	.03	.30
		Aboriginal	-1.642*	.060	.000	-1.81	-1.47
		Hispanic	.384*	.104	.003	.09	.68

		Asian	1.042*	.042	.000	.92	1.16
		Other	1.121*	.029	.000	1.04	1.20
	Black	Aboriginal	-1.812*	.073	.000	-2.02	-1.60
		Hispanic	.215	.112	.389	-.10	.53
		Asian	.873*	.059	.000	.70	1.04
		Other	.951*	.051	.000	.81	1.10
	Aboriginal	Hispanic	2.027*	.118	.000	1.69	2.36
		Asian	2.684*	.070	.000	2.48	2.88
		Other	2.763*	.063	.000	2.58	2.94
	Hispanic	Asian	.658*	.110	.000	.34	.97
		Other	.736*	.105	.000	.44	1.04
	Asian	Other	.079	.046	.518	-.05	.21
A1: Criminal History	White	Black	.033	.048	.983	-.10	.17
		Aboriginal	-1.094*	.050	.000	-1.24	-.95
		Hispanic	.953*	.110	.000	.64	1.27
		Asian	1.485*	.046	.000	1.35	1.62
		Other	1.772*	.030	.000	1.69	1.86
	Black	Aboriginal	-1.127*	.065	.000	-1.31	-.94
		Hispanic	.920*	.118	.000	.58	1.26
		Asian	1.452*	.063	.000	1.27	1.63
		Other	1.739*	.052	.000	1.59	1.89
	Aboriginal	Hispanic	2.047*	.118	.000	1.71	2.39
		Asian	2.579*	.064	.000	2.40	2.76
		Other	2.866*	.053	.000	2.71	3.02
	Hispanic	Asian	.532*	.117	.000	.20	.87
		Other	.819*	.112	.000	.50	1.14
	Asian	Other	.287*	.050	.000	.14	.43
A2: Education/ Employment	White	Black	-.320*	.053	.000	-.47	-.17
		Aboriginal	-1.881*	.054	.000	-2.04	-1.73
		Hispanic	.323	.131	.138	-.05	.70
		Asian	1.110*	.053	.000	.96	1.26
		Other	.843*	.037	.000	.74	.95
	Black	Aboriginal	-1.561*	.072	.000	-1.77	-1.36
		Hispanic	.643*	.140	.000	.24	1.04
		Asian	1.430*	.071	.000	1.23	1.63
		Other	1.163*	.060	.000	.99	1.33
	Aboriginal	Hispanic	2.204*	.140	.000	1.80	2.60
		Asian	2.991*	.072	.000	2.79	3.20
		Other	2.725*	.061	.000	2.55	2.90

	Hispanic	Asian	.787*	.139	.000	.39	1.19
		Other	.521*	.134	.002	.14	.90
	Asian	Other	-.266*	.059	.000	-.44	-.10
A3: Family/ Marital	White	Black	.164*	.020	.000	.11	.22
		Aboriginal	-.531*	.023	.000	-.60	-.47
		Hispanic	.303*	.050	.000	.16	.45
		Asian	.558*	.021	.000	.50	.62
		Other	.373*	.015	.000	.33	.42
	Black	Aboriginal	-.694*	.029	.000	-.78	-.61
		Hispanic	.139	.053	.089	-.01	.29
		Asian	.394*	.027	.000	.32	.47
		Other	.210*	.023	.000	.14	.28
	Aboriginal	Hispanic	.834*	.054	.000	.68	.99
		Asian	1.089*	.029	.000	1.01	1.17
		Other	.904*	.026	.000	.83	.98
	Hispanic	Asian	.255*	.053	.000	.10	.41
		Other	.070	.051	.739	-.08	.22
	Asian	Other	-.185*	.023	.000	-.25	-.12
A4: Leisure/ Recreation	White	Black	-.053*	.014	.003	-.09	-.01
		Aboriginal	-.168*	.014	.000	-.21	-.13
		Hispanic	.027	.036	.977	-.08	.13
		Asian	.161*	.016	.000	.12	.21
		Other	.216*	.011	.000	.19	.25
	Black	Aboriginal	-.115*	.019	.000	-.17	-.06
		Hispanic	.080	.038	.301	-.03	.19
		Asian	.215*	.021	.000	.16	.27
		Other	.269*	.017	.000	.22	.32
	Aboriginal	Hispanic	.195*	.038	.000	.09	.30
		Asian	.330*	.021	.000	.27	.39
		Other	.384*	.017	.000	.34	.43
	Hispanic	Asian	.135*	.039	.008	.02	.25
		Other	.189*	.037	.000	.08	.30
	Asian	Other	.054*	.018	.034	.00	.11
A5: Companions	White	Black	-.084*	.020	.000	-.14	-.03
		Aboriginal	-.617*	.020	.000	-.68	-.56
		Hispanic	.249*	.051	.000	.10	.40
		Asian	.435*	.021	.000	.38	.50
		Other	.401*	.014	.000	.36	.44
	Black	Aboriginal	-.534*	.027	.000	-.61	-.46

		Hispanic	.333*	.054	.000	.18	.49
		Asian	.519*	.027	.000	.44	.60
		Other	.485*	.023	.000	.42	.55
	Aboriginal	Hispanic	.867*	.054	.000	.71	1.02
		Asian	1.053*	.028	.000	.97	1.13
		Other	1.019*	.023	.000	.95	1.08
	Hispanic	Asian	.186*	.054	.009	.03	.34
		Other	.152*	.052	.042	.00	.30
	Asian	Other	-.034	.024	.707	-.10	.03
A6: Procriminal Attitude/ Orientation	White	Black	-.211*	.024	.000	-.28	-.14
		Aboriginal	-.305*	.026	.000	-.38	-.23
		Hispanic	.168*	.053	.019	.02	.32
		Asian	.245*	.022	.000	.18	.31
		Other	.364*	.015	.000	.32	.41
	Black	Aboriginal	-.094	.033	.054	-.19	.00
		Hispanic	.379*	.057	.000	.22	.54
		Asian	.456*	.031	.000	.37	.54
		Other	.575*	.026	.000	.50	.65
	Aboriginal	Hispanic	.473*	.058	.000	.31	.64
		Asian	.550*	.033	.000	.46	.64
		Other	.669*	.028	.000	.59	.75
	Hispanic	Asian	.077	.056	.749	-.08	.24
		Other	.196*	.054	.004	.04	.35
	Asian	Other	.119*	.025	.000	.05	.19
A7: Substance Abuse	White	Black	1.365*	.041	.000	1.25	1.48
		Aboriginal	-1.435*	.046	.000	-1.57	-1.30
		Hispanic	.958*	.107	.000	.65	1.26
		Asian	1.736*	.042	.000	1.62	1.85
		Other	1.236*	.031	.000	1.15	1.33
	Black	Aboriginal	-2.800*	.058	.000	-2.97	-2.64
		Hispanic	-.407*	.112	.004	-.73	-.09
		Asian	.370*	.054	.000	.22	.53
		Other	-.129	.047	.066	-.26	.00
	Aboriginal	Hispanic	2.393*	.114	.000	2.07	2.72
		Asian	3.170*	.058	.000	3.00	3.34
		Other	2.671*	.051	.000	2.52	2.82
	Hispanic	Asian	.777*	.113	.000	.46	1.10
		Other	.278	.109	.113	-.03	.59
	Asian	Other	-.499*	.047	.000	-.63	-.36

A8: Antisocial Pattern	White	Black	-.074*	.018	.000	-.12	-.02
		Aboriginal	-.461*	.022	.000	-.52	-.40
		Hispanic	.191*	.040	.000	.08	.31
		Asian	.313*	.015	.000	.27	.36
		Other	.351*	.011	.000	.32	.38
	Black	Aboriginal	-.388*	.026	.000	-.46	-.31
		Hispanic	.264*	.043	.000	.14	.39
		Asian	.387*	.022	.000	.32	.45
		Other	.425*	.019	.000	.37	.48
	Aboriginal	Hispanic	.652*	.045	.000	.52	.78
		Asian	.774*	.025	.000	.70	.85
		Other	.812*	.023	.000	.75	.88
	Hispanic	Asian	.122*	.042	.044	.00	.24
		Other	.160*	.041	.001	.04	.28
	Asian	Other	.038	.017	.222	-.01	.09
B1: Criminogenic Potential	White	Black	.069	.031	.239	-.02	.16
		Aboriginal	-.872*	.039	.000	-.98	-.76
		Hispanic	.249*	.070	.006	.05	.45
		Asian	.592*	.030	.000	.51	.68
		Other	.608*	.021	.000	.55	.67
	Black	Aboriginal	-.941*	.048	.000	-1.08	-.80
		Hispanic	.180	.076	.167	-.04	.40
		Asian	.523*	.041	.000	.41	.64
		Other	.540*	.034	.000	.44	.64
	Aboriginal	Hispanic	1.121*	.079	.000	.89	1.35
		Asian	1.464*	.047	.000	1.33	1.60
		Other	1.481*	.042	.000	1.36	1.60
	Hispanic	Asian	.343*	.075	.000	.13	.56
		Other	.360*	.072	.000	.15	.57
	Asian	Other	.016	.033	.996	-.08	.11
B2: History of Perpetration	White	Black	.101*	.022	.000	.04	.16
		Aboriginal	-.770*	.029	.000	-.85	-.69
		Hispanic	.136	.049	.062	.00	.28
		Asian	.450*	.019	.000	.40	.50
		Other	.512*	.013	.000	.48	.55
	Black	Aboriginal	-.871*	.035	.000	-.97	-.77
		Hispanic	.035	.052	.985	-.11	.19
		Asian	.349*	.027	.000	.27	.43
		Other	.412*	.023	.000	.35	.48

	Aboriginal	Hispanic	.906*	.056	.000	.75	1.07
		Asian	1.220*	.033	.000	1.12	1.32
		Other	1.282*	.030	.000	1.20	1.37
	Hispanic	Asian	.314*	.051	.000	.17	.46
		Other	.377*	.049	.000	.24	.52
	Asian	Other	.062*	.020	.028	.00	.12
C1: Prison Experience Institutional Factors	White	Black	-.003	.016	1.000	-.05	.04
		Aboriginal	-.196*	.019	.000	-.25	-.14
		Hispanic	.142*	.036	.002	.04	.25
		Asian	.236*	.013	.000	.20	.27
		Other	.291*	.008	.000	.27	.31
	Black	Aboriginal	-.193*	.023	.000	-.26	-.13
		Hispanic	.145*	.039	.003	.03	.26
		Asian	.239*	.019	.000	.18	.29
		Other	.294*	.016	.000	.25	.34
	Aboriginal	Hispanic	.338*	.040	.000	.22	.45
		Asian	.432*	.021	.000	.37	.49
		Other	.487*	.019	.000	.43	.54
	Hispanic	Asian	.095	.038	.130	-.01	.20
		Other	.149*	.037	.001	.04	.25
	Asian	Other	.055*	.014	.001	.02	.09
F1: Social, Mental, and Mental Health	White	Black	.847*	.034	.000	.75	.94
		Aboriginal	-1.064*	.054	.000	-1.22	-.91
		Hispanic	.833*	.085	.000	.59	1.08
		Asian	1.254*	.031	.000	1.16	1.34
		Other	.782*	.028	.000	.70	.86
	Black	Aboriginal	-1.911*	.061	.000	-2.08	-1.74
		Hispanic	-.014	.089	1.000	-.27	.24
		Asian	.407*	.041	.000	.29	.52
		Other	-.066	.039	.529	-.18	.04
	Aboriginal	Hispanic	1.897*	.099	.000	1.61	2.18
		Asian	2.318*	.059	.000	2.15	2.49
		Other	1.845*	.058	.000	1.68	2.01
	Hispanic	Asian	.421*	.088	.000	.17	.67
		Other	-.052	.087	.991	-.30	.20
	Asian	Other	-.473*	.037	.000	-.58	-.37
F2: Barrier to Release	White	Black	-.018*	.006	.034	-.04	.00
		Aboriginal	-.153*	.008	.000	-.18	-.13
		Hispanic	.044*	.012	.002	.01	.08

		Asian	.053*	.005	.000	.04	.07
		Other	.060*	.003	.000	.05	.07
	Black	Aboriginal	-.135*	.010	.000	-.16	-.11
		Hispanic	.062*	.013	.000	.03	.10
		Asian	.071*	.007	.000	.05	.09
		Other	.078*	.006	.000	.06	.10
	Aboriginal	Hispanic	.197*	.014	.000	.16	.24
		Asian	.206*	.009	.000	.18	.23
		Other	.213*	.009	.000	.19	.24
	Hispanic	Asian	.008	.012	.982	-.03	.04
		Other	.016	.012	.742	-.02	.05
	Asian	Other	.008	.005	.695	-.01	.02
G1: Special Responsivity Considerations	White	Black	-.145*	.019	.000	-.20	-.09
		Aboriginal	-.610*	.024	.000	-.68	-.54
		Hispanic	-.117	.049	.175	-.26	.03
		Asian	-.088*	.022	.001	-.15	-.02
		Other	.184*	.013	.000	.15	.22
	Black	Aboriginal	-.465*	.029	.000	-.55	-.38
		Hispanic	.029	.052	.994	-.12	.18
		Asian	.057	.028	.309	-.02	.14
		Other	.330*	.021	.000	.27	.39
	Aboriginal	Hispanic	.494*	.054	.000	.34	.65
		Asian	.523*	.031	.000	.43	.61
		Other	.795*	.026	.000	.72	.87
	Hispanic	Asian	.029	.054	.995	-.12	.18
		Other	.301*	.050	.000	.16	.45
	Asian	Other	.272*	.024	.000	.20	.34

Note. N = 40,539.

Table D 3

Games-Howell post hoc ANOVA analyses for offenders by ethnicity on initial risk levels, final risk levels, and override change scores

DV	Index Offence	Index Offence	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower	Upper
Initial Risk Levels[a]	White	Black	.113*	.022	.000	.05	.18
		Aboriginal	-.725*	.021	.000	-.79	-.67
		Hispanic	.394*	.050	.000	.25	.54
		Asian	.763*	.022	.000	.70	.82
		Other	.687*	.015	.000	.64	.73
	Black	Aboriginal	-.839*	.029	.000	-.92	-.76
		Hispanic	.280*	.054	.000	.13	.43
		Asian	.650*	.029	.000	.57	.73
		Other	.573*	.024	.000	.50	.64
	Aboriginal	Hispanic	1.119*	.054	.000	.97	1.27
		Asian	1.489*	.028	.000	1.41	1.57
		Other	1.412*	.024	.000	1.34	1.48
	Hispanic	Asian	.370*	.054	.000	.22	.52
		Other	.293*	.051	.000	.15	.44
	Asian	Other	-.076*	.024	.019	-.15	-.01
Final Risk Levels[b]	White	Black	.078*	.021	.002	.02	.14
		Aboriginal	-.619*	.021	.000	-.68	-.56
		Hispanic	.280*	.049	.000	.14	.42
		Asian	.557*	.022	.000	.49	.62
		Other	.574*	.015	.000	.53	.62
	Black	Aboriginal	-.697*	.028	.000	-.78	-.62
		Hispanic	.202*	.053	.002	.05	.35
		Asian	.479*	.029	.000	.40	.56
		Other	.495*	.024	.000	.43	.56
	Aboriginal	Hispanic	.899*	.053	.000	.75	1.05
		Asian	1.176*	.028	.000	1.09	1.26
		Other	1.192*	.023	.000	1.13	1.26
	Hispanic	Asian	.277*	.053	.000	.13	.43
		Other	.293*	.051	.000	.15	.44
	Asian	Other	.016	.025	.987	-.05	.09
Override	White	Black	-.035*	.010	.006	-.06	-.01

Change Scores[b]		Aboriginal	.107*	.008	.000	.09	.13
		Hispanic	-.113*	.029	.002	-.20	-.03
		Asian	-.206*	.014	.000	-.25	-.16
		Other	-.113*	.009	.000	-.14	-.09
	Black	Aboriginal	.142*	.012	.000	.11	.17
		Hispanic	-.078	.030	.103	-.17	.01
		Asian	-.171*	.017	.000	-.22	-.12
		Other	-.078*	.012	.000	-.11	-.04
	Aboriginal	Hispanic	-.220*	.030	.000	-.31	-.14
		Asian	-.313*	.016	.000	-.36	-.27
		Other	-.220*	.011	.000	-.25	-.19
	Hispanic	Asian	-.092*	.032	.048	-.18	.00
		Other	.000	.030	1.000	-.09	.09
	Asian	Other	.093*	.016	.000	.05	.14

[a] N = 38,689. [b] N = 38,688.

APPENDIX E: Receiver Operator Characteristic (ROC) Curves

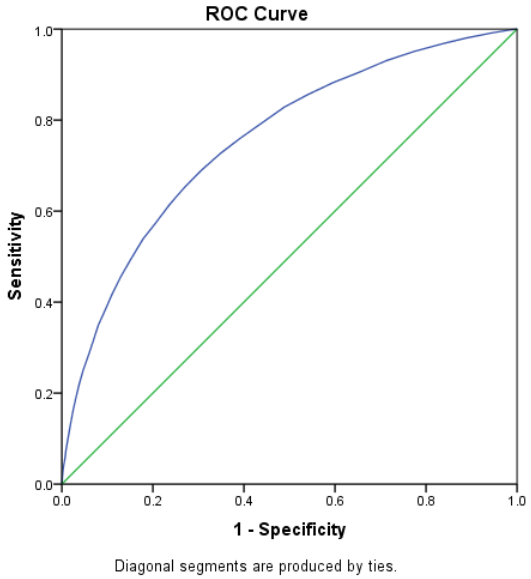

Figure E 1. Receiver operator characteristic curve for the General Risk/Need's prediction of general recidivism for all offenders (AUC = .756, $p < .001$, 95% CI [.751, .760]).

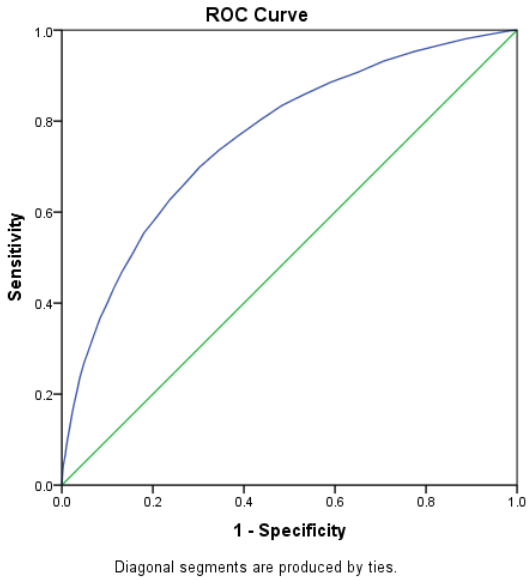

Figure E 2. Receiver operator characteristic curve for the General Risk/Need's prediction of general recidivism for violent offenders (AUC = .762, $p < .001$, 95% CI [.756, .769]).

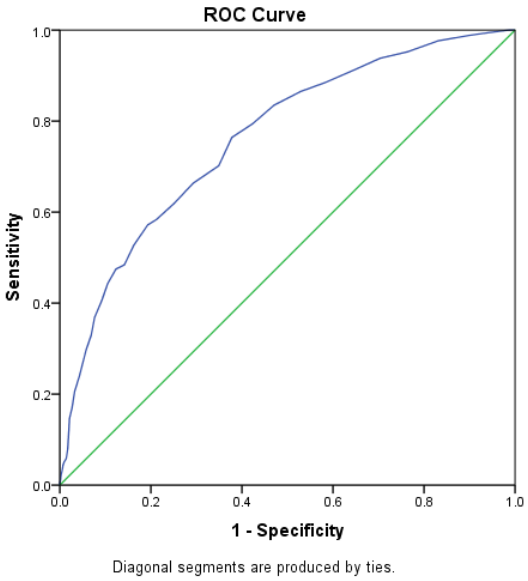

Figure E 3. Receiver operator characteristic curve for the General Risk/Need's prediction of general recidivism for sexual offenders (AUC = .762, $p < .001$, 95% CI [.733, .791]).

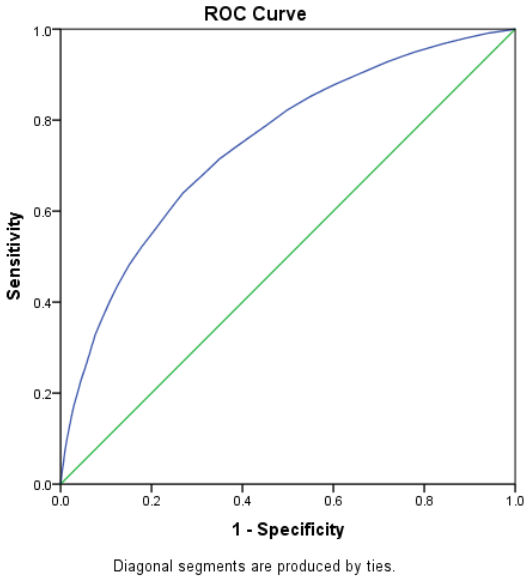

Figure E 4. Receiver operator characteristic curve for the General Risk/Need's prediction of general recidivism for non-violent offenders (AUC = .747, $p < .001$, 95% CI [.739, .754]).

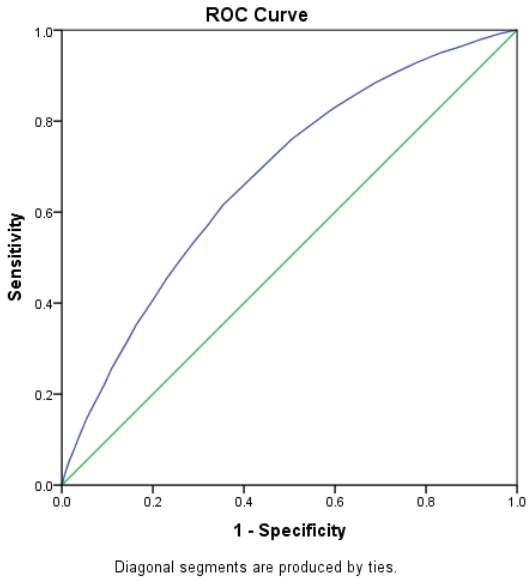

Figure E 5. Receiver operator characteristic curve for the General Risk/Need's prediction of violent recidivism for all offenders (AUC = .676, $p < .001$, 95% CI [.669, .683]).

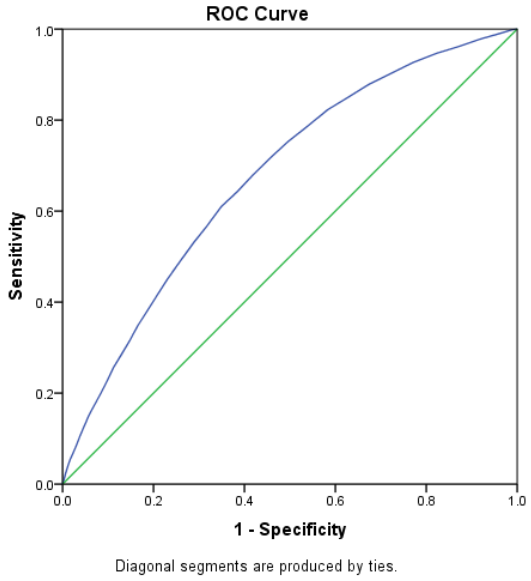

Figure E 6. Receiver operator characteristic curve for the General Risk/Need's prediction of violent recidivism for violent offenders (AUC = .676, $p < .001$, 95% CI [.667, .684]).

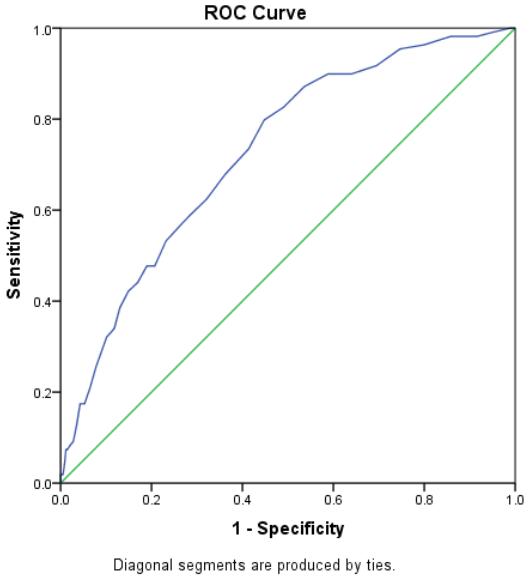

Figure E 7. Receiver operator characteristic curve for the General Risk/Need's prediction of violent recidivism for sexual offenders (AUC = .727, $p < .001$, 95% CI [.681, .774]).

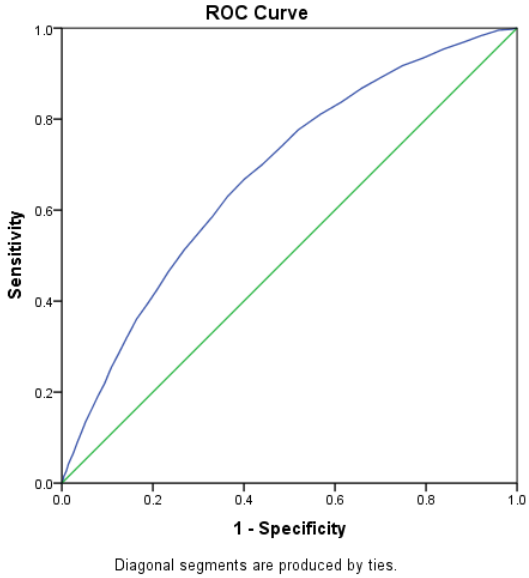

Figure E 8. Receiver operator characteristic curve for the General Risk/Need's prediction of violent recidivism for non-violent offenders (AUC = .678, $p < .001$, 95% CI [.666, .690]).

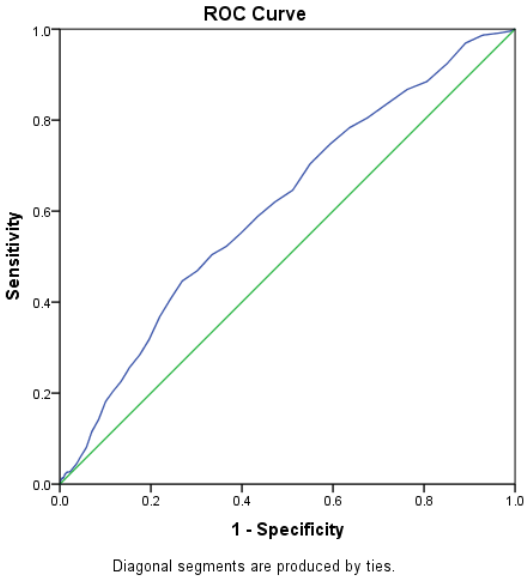

Figure E 9. Receiver operator characteristic curve for the General Risk/Need's prediction of sexual recidivism for all offenders (AUC = .611, $p < .001$, 95% CI [.575, .647]).

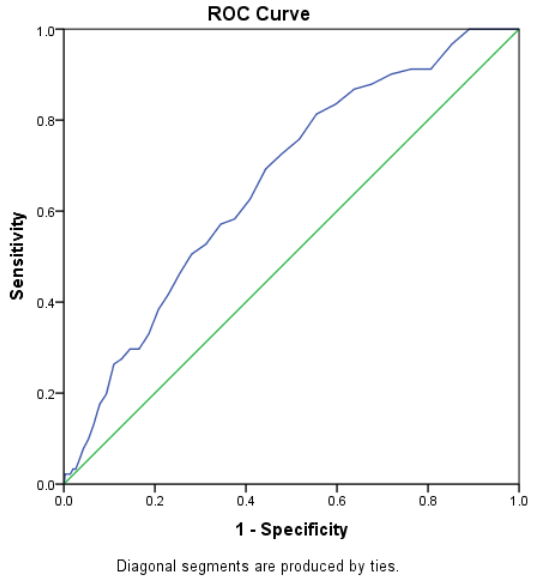

Figure E 10. Receiver operator characteristic curve for the General Risk/Need's prediction of sexual recidivism for violent offenders (AUC = .664, $p < .001$, 95% CI [.613, .715].

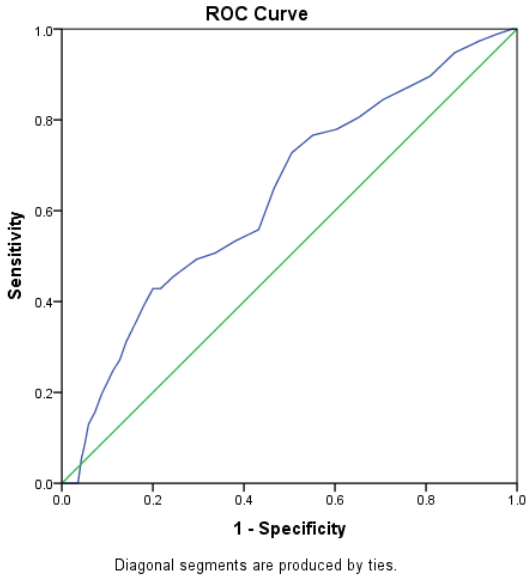

Figure E 11. Receiver operator characteristic curve for the General Risk/Need's prediction of sexual recidivism for sexual offenders (AUC = .635, $p < .001$, 95% CI [.572, .699]).

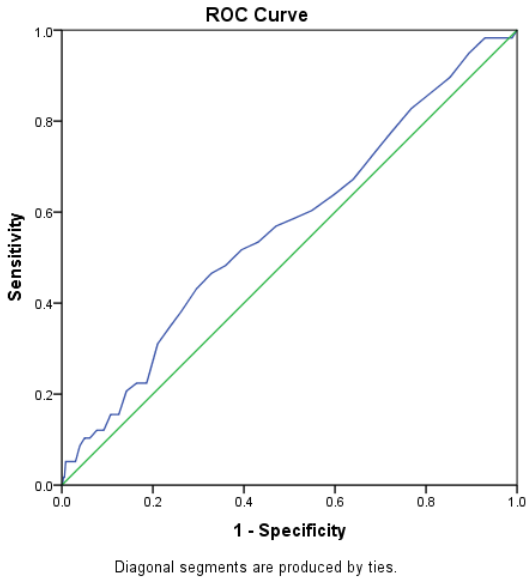

Figure E 12. Receiver operator characteristic curve for the General Risk/Need's prediction of sexual recidivism for non-violent offenders (AUC = .566, *n.s.*, 95% CI [.490, .642]).

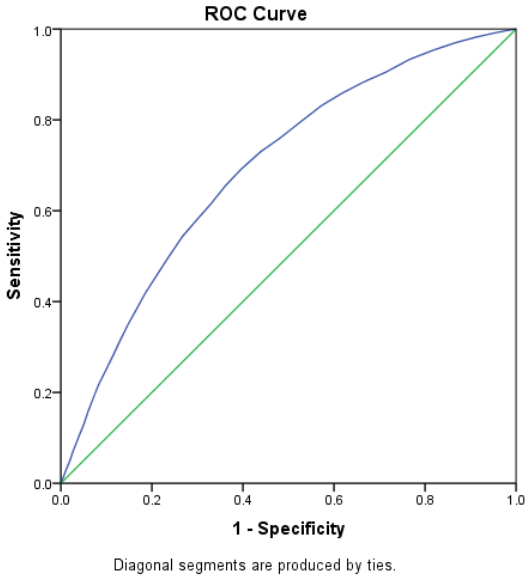

Figure E 13. Receiver operator characteristic curve for the General Risk/Need's prediction of non-violent recidivism for all offenders (AUC = .694, $p < .001$, 95% CI [.688, .700]).

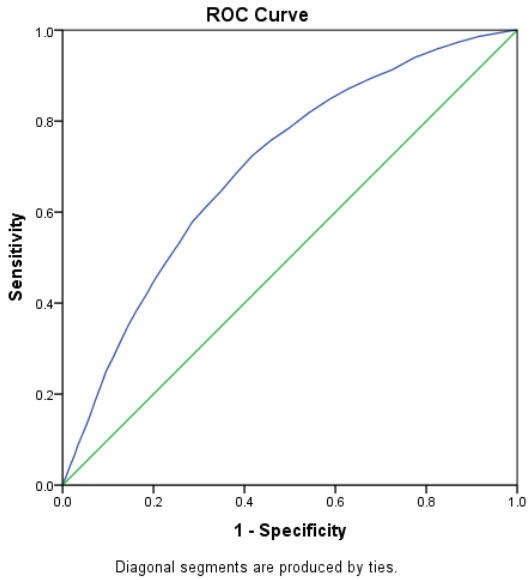

Figure E 14. Receiver operator characteristic curve for the General Risk/Need's prediction of non-violent recidivism for violent offenders (AUC = .699, $p < .001$, 95% CI [.691, .708]).

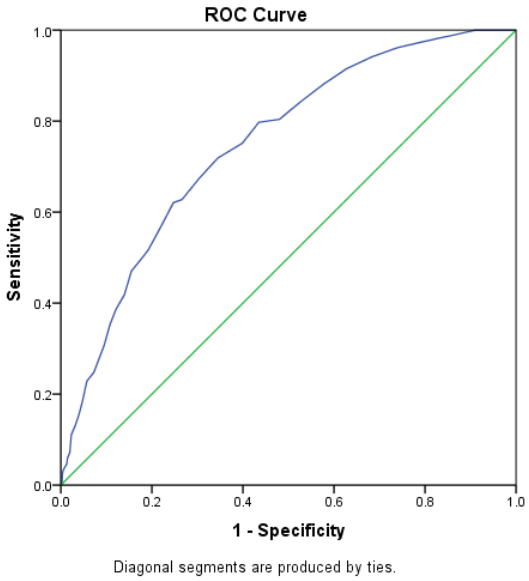

Figure E 15. Receiver operator characteristic curve for the General Risk/Need's prediction of non-violent recidivism for sexual offenders (AUC = .748, $p < .001$, 95% CI [.709, .786]).

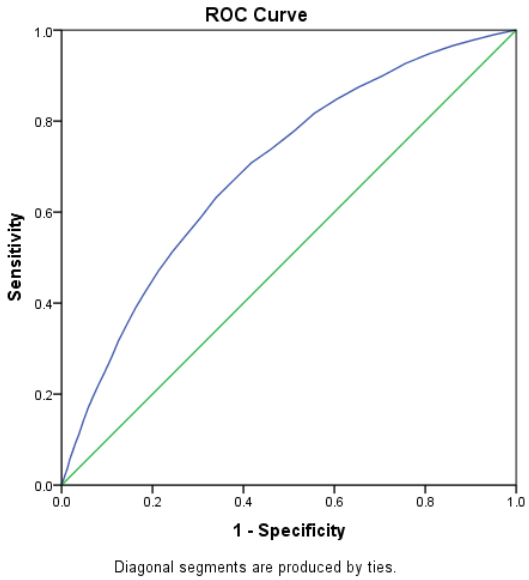

Figure E 16. Receiver operator characteristic curve for the General Risk/Need's prediction of non-violent recidivism for non-violent offenders (AUC = .695, $p < .001$, 95% CI [.686, .703]).

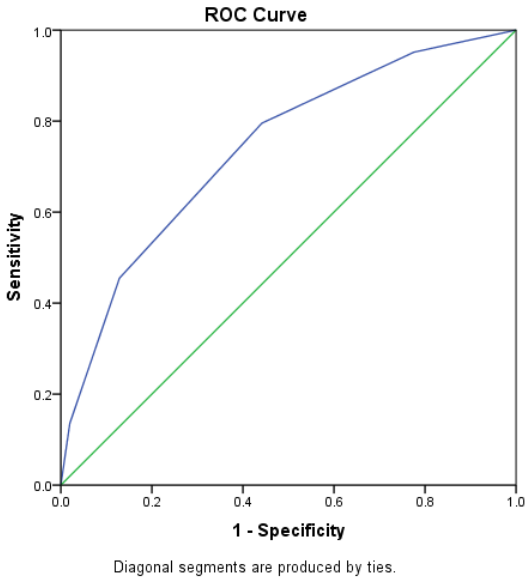

Figure E 17. Receiver operator characteristic curve for the initial risk levels' prediction of general recidivism for all offenders (AUC = .740, $p < .000$, 95% CI [.735, .745]).

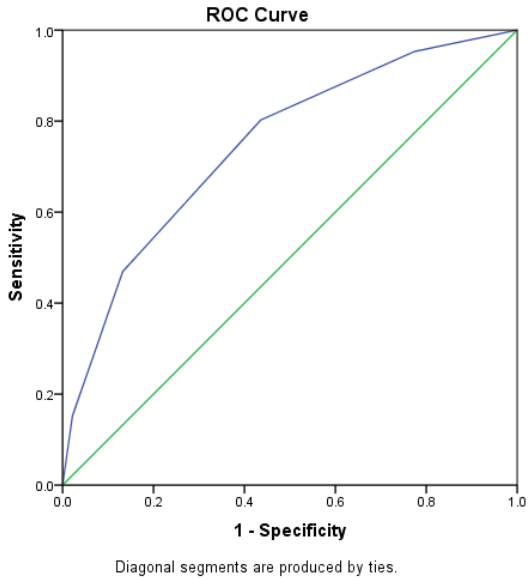

Figure E 18. Receiver operator characteristic curve for the initial risk levels' prediction of general recidivism for violent offenders (AUC = .746, $p < .001$, 95% CI [.740, .753]).

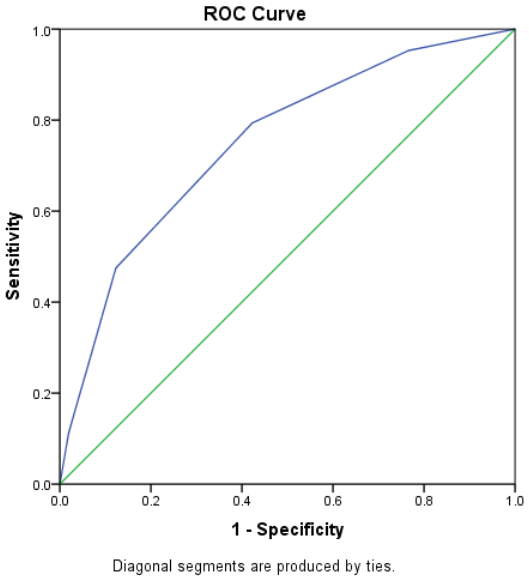

Figure E 19. Receiver operator characteristic curve for the initial risk levels' prediction of general recidivism for sexual offenders (AUC = .750, $p < .001$, 95% CI [.720, .780]).

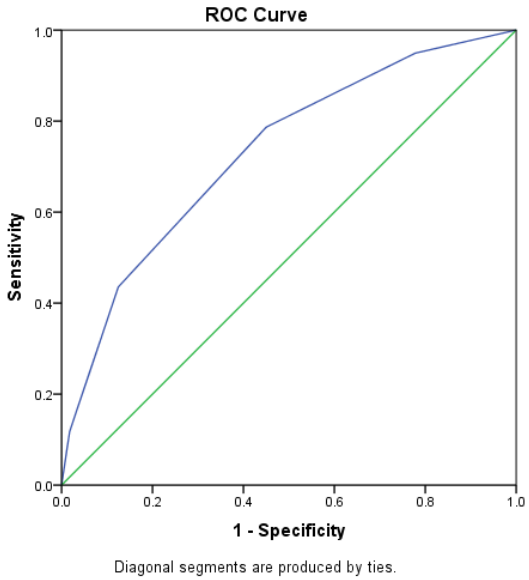

Figure E 20. Receiver operator characteristic curve for the initial risk levels' prediction of general recidivism for non-violent offenders (AUC = .730, $p < .001$, 95% CI [.723, .738]).

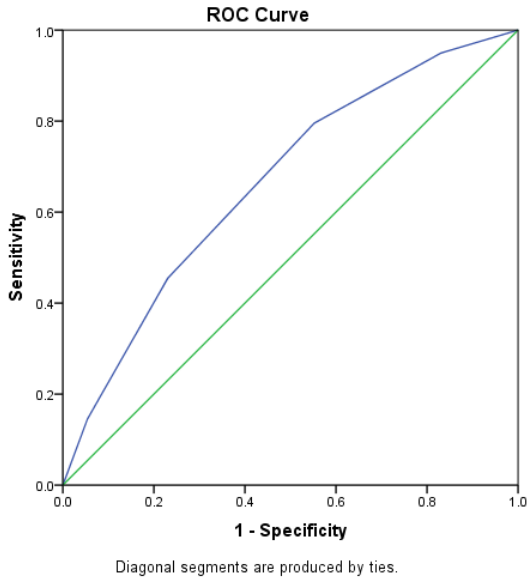

Figure E 21. Receiver operator characteristic curve for the initial risk levels' prediction of violent recidivism for all offenders (AUC = .666, $p < .001$, 95% CI [.659, .673]).

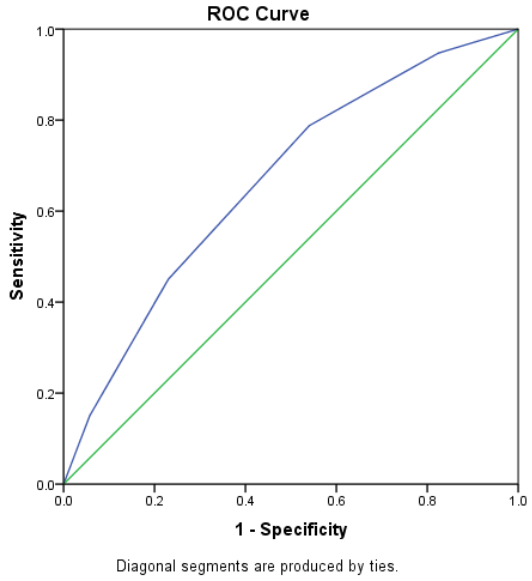

Figure E 22. Receiver operator characteristic curve for the initial risk levels' prediction of violent recidivism for violent offenders (AUC = .665, $p < .001$, 95% CI [.657, .674]).

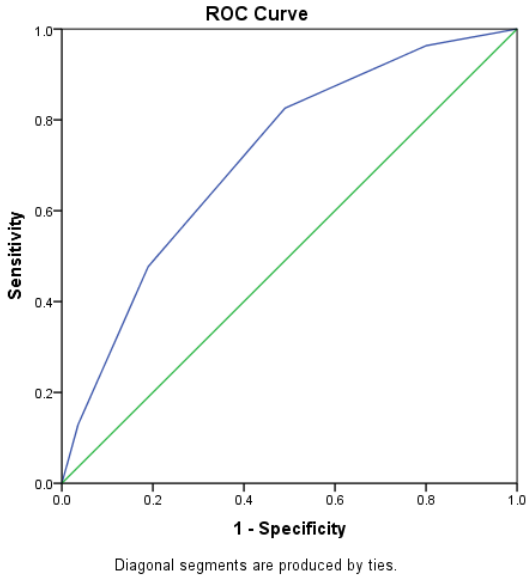

Figure E 23. Receiver operator characteristic curve for the initial risk levels' prediction of violent recidivism for sexual offenders (AUC = .718, $p < .001$, 95% CI [.671, .765]).

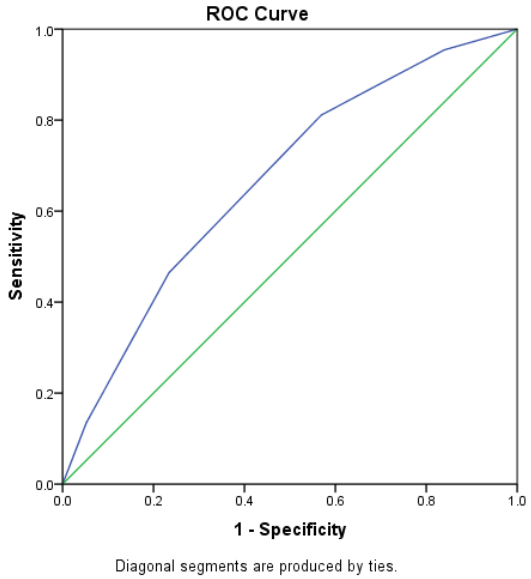

Figure E 24. Receiver operator characteristic curve for the initial risk levels' prediction of violent recidivism for non-violent offenders (AUC = .667, $p < .001$, 95% CI [.655, .679]).

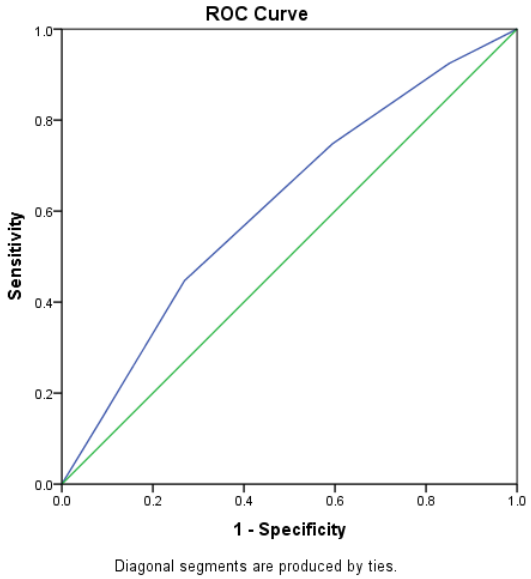

Figure E 25. Receiver operator characteristic curve for the initial risk levels' prediction of sexual recidivism for all offenders (AUC = .612, $p < .001$, 95% CI [.576, .648]).

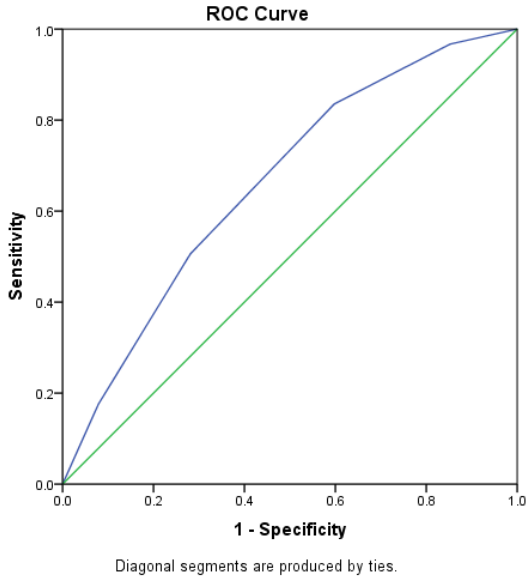

Figure E 26. Receiver operator characteristic curve for the initial risk levels' prediction of sexual recidivism for violent offenders (AUC = .663, $p < .001$, 95% CI [.611, .715]).

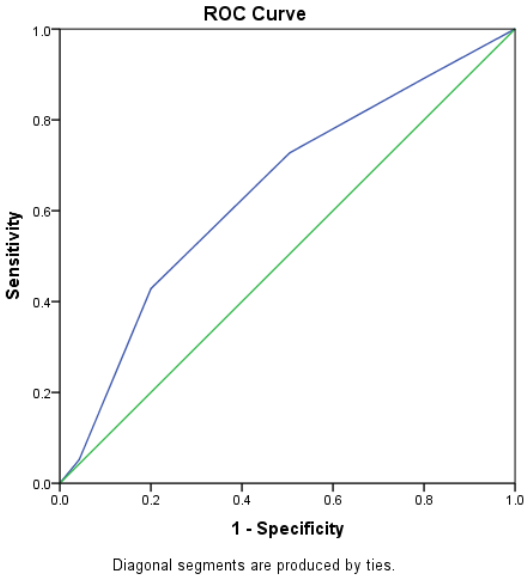

Figure E 27. Receiver operator characteristic curve for the initial risk levels' prediction of sexual recidivism for sexual offenders (AUC = .643, $p < .001$, 95% CI [.579, .707]).

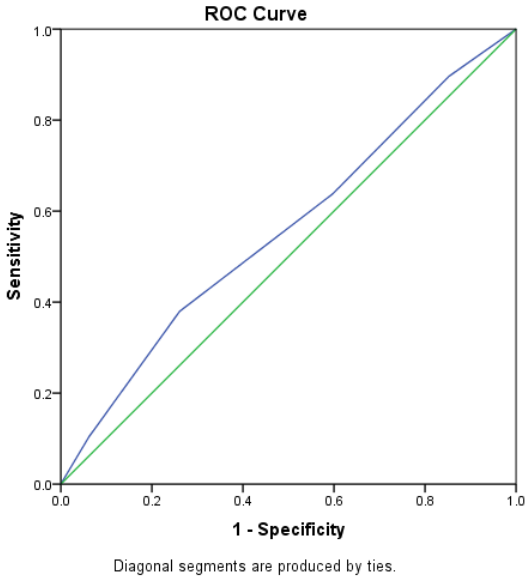

Figure E 28. Receiver operator characteristic curve for the initial risk levels' prediction of sexual recidivism for non-violent offenders (AUC = .558, *n.s.*, 95% CI [.481, .635]).

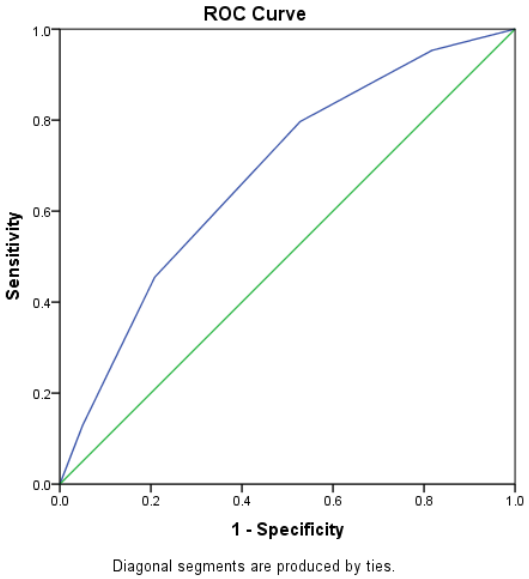

Figure E 29. Receiver operator characteristic curve for the initial risk levels' prediction of non-violent recidivism for all offenders (AUC = .681, $p < .001$, 95% CI [.675, .687]).

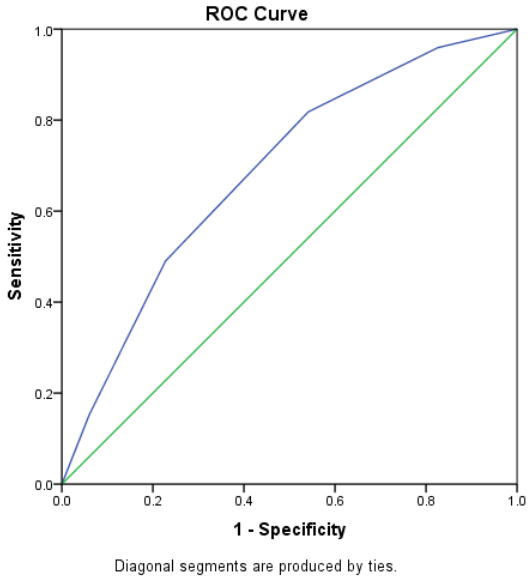

Figure E 30. Receiver operator characteristic curve for the initial risk levels' prediction of non-violent recidivism for violent offenders (AUC = .687, $p < .001$, 95% CI [.678, .696]).

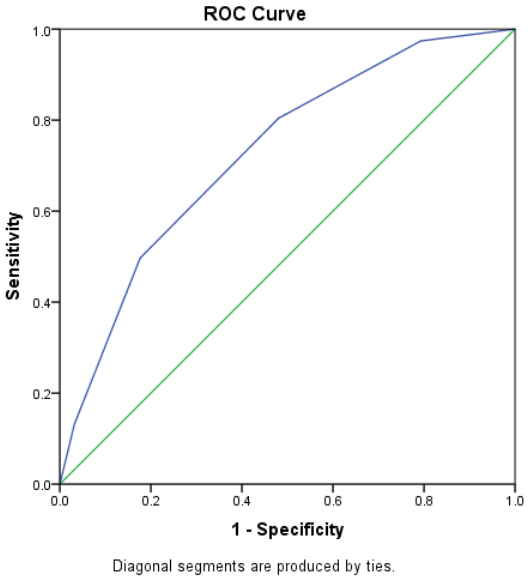

Figure E 31. Receiver operator characteristic curve for the initial risk levels' prediction of non-violent recidivism for sexual offenders (AUC = .727, $p < .001$, 95% CI [.687, .768]).

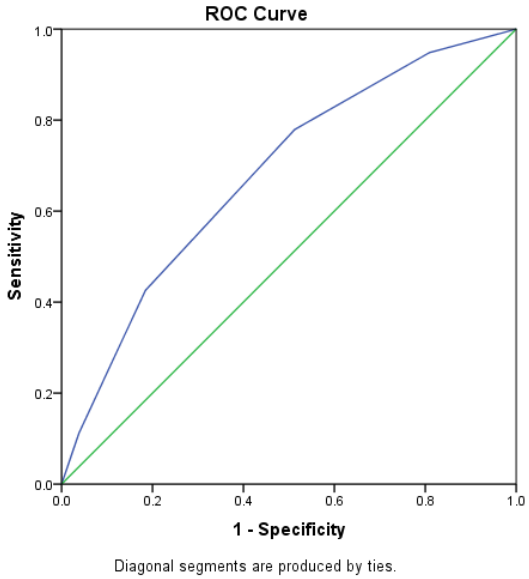

Figure E 32. Receiver operator characteristic curve for the initial risk levels' prediction of non-violent recidivism for non-violent offenders (AUC = .681, $p < .001$, 95% CI [.673, .690]).

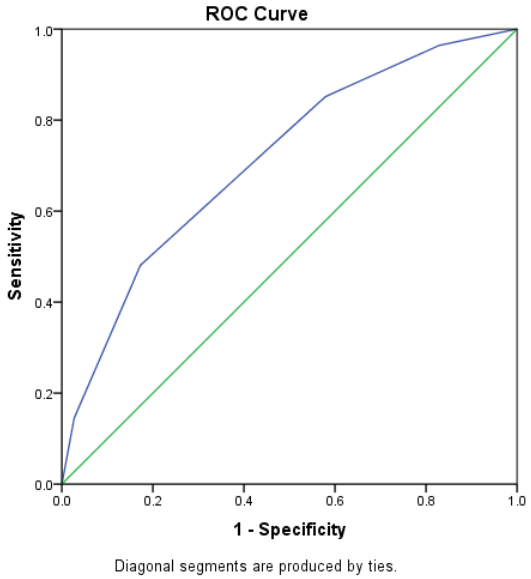

Figure E 33. Receiver operator characteristic curve for the final risk levels' prediction of general recidivism for all offenders (AUC = .713, $p < .001$, 95% CI [.708, .718]).

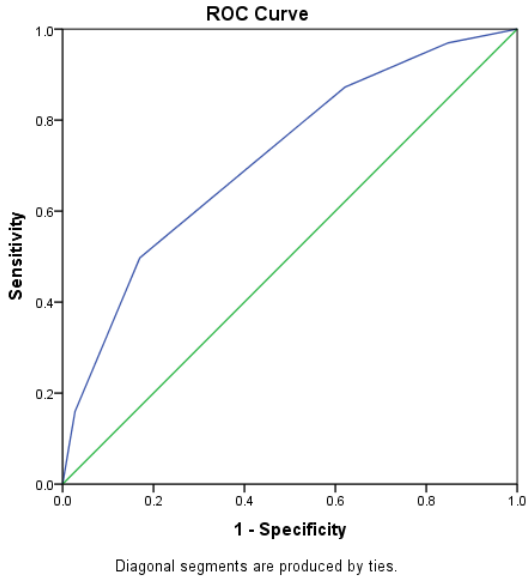

Figure E 34. Receiver operator characteristic curve for the final risk levels' prediction of general recidivism for violent offenders (AUC = .717, $p < .001$, 95% CI [.710, .724]).

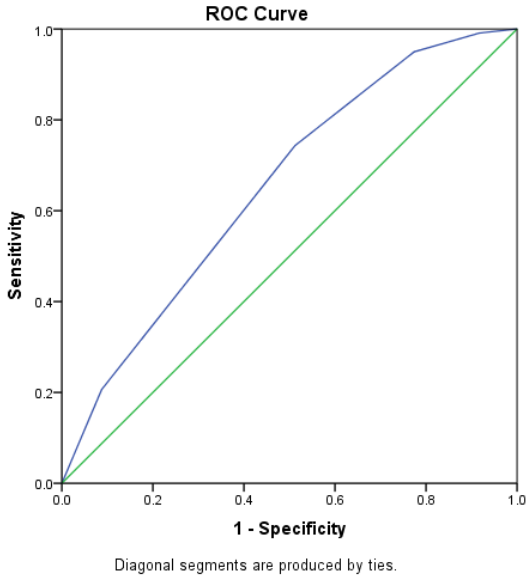

Figure E 35. Receiver operator characteristic curve for the final risk levels' prediction of general recidivism for sexual offenders (AUC = .654, $p < .001$, 95% CI [.622, .686]).

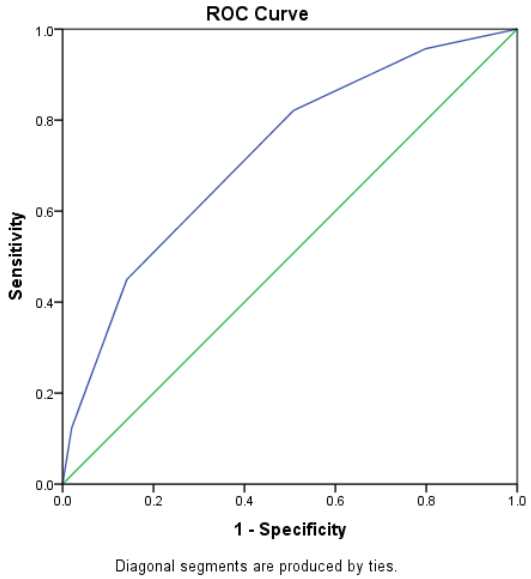

Figure E 36. Receiver operator characteristic curve for the final risk levels' prediction of general recidivism for non-violent offenders (AUC = .724, $p < .001$, 95% CI [.717, .732]).

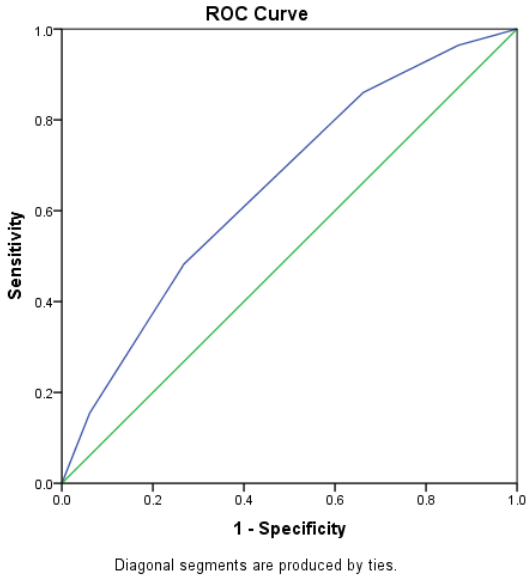

Figure E 37. Receiver operator characteristic curve for the final risk levels' prediction of violent recidivism for all offenders (AUC = .652, $p < .001$, 95% CI [.645, .659]).

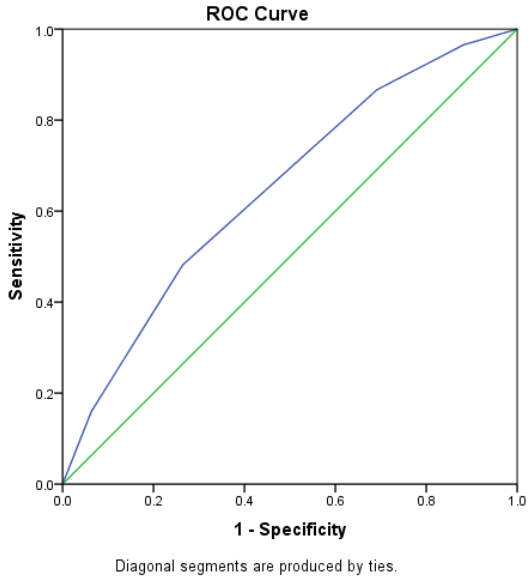

Figure E 38. Receiver operator characteristic curve for the final risk levels' prediction of violent recidivism for violent offenders (AUC = .648, $p < .001$, 95% CI [.639, .657]).

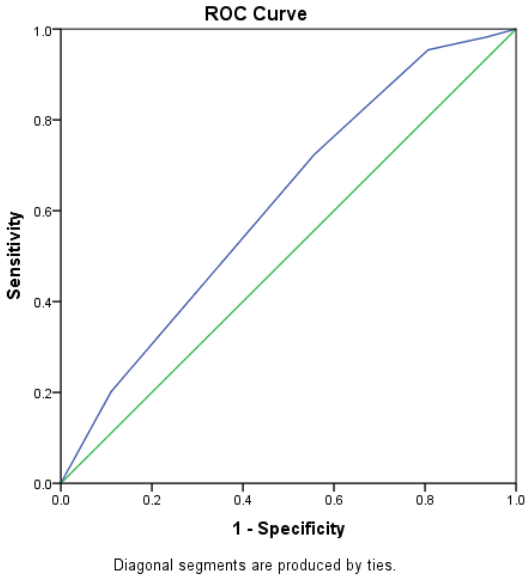

Figure E 39. Receiver operator characteristic curve for the final risk levels' prediction of violent recidivism for sexual offenders (AUC = .616, $p < .001$, 95% CI [.565, .667]).

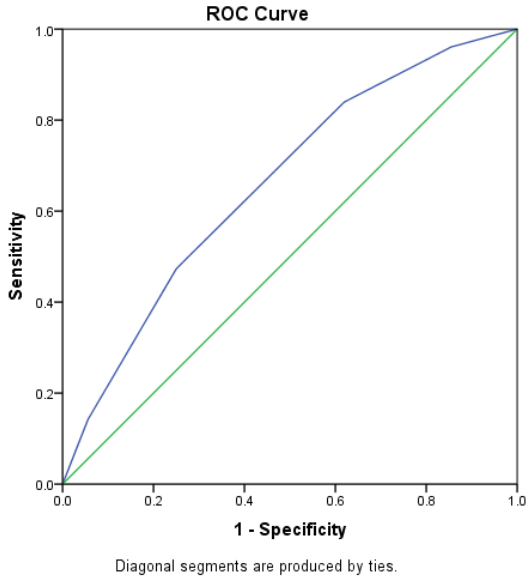

Figure E 40. Receiver operator characteristic curve for the final risk levels' prediction of violent recidivism for non-violent offenders (AUC = .660, $p < .001$, 95% CI [.648, .673]).

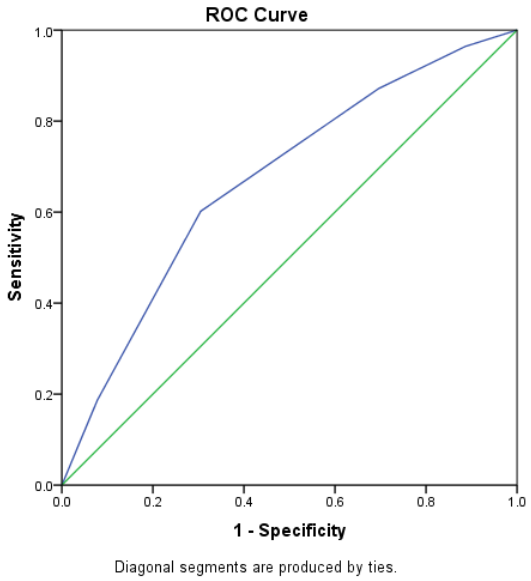

Figure E 41. Receiver operator characteristic curve for the final risk levels' prediction of sexual recidivism for all offenders (AUC = .671, $p < .001$, 95% CI [.636, .706]).

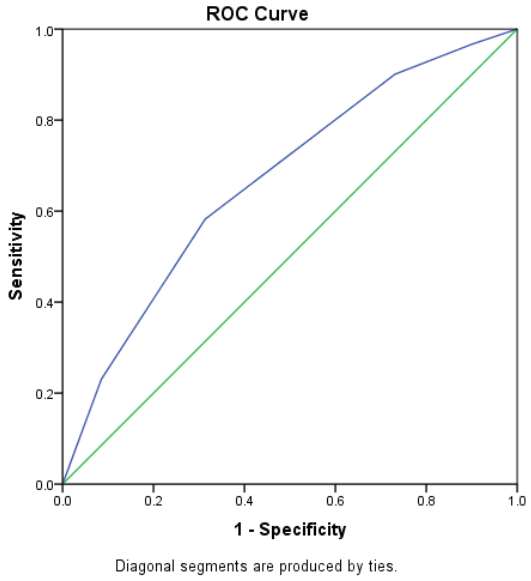

Figure E 42. Receiver operator characteristic curve for the final risk levels' prediction of sexual recidivism for violent offenders (AUC = .668, $p < .001$, 95% CI [.613, .723]).

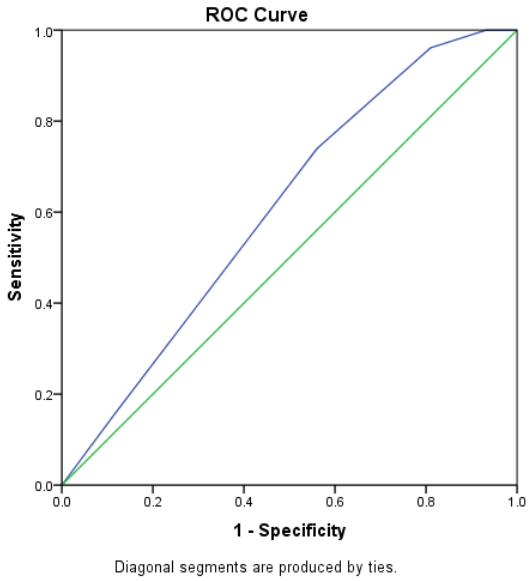

Figure E 43. Receiver operator characteristic curve for the final risk levels' prediction of sexual recidivism for sexual offenders (AUC = .608, $p < .001$, 95% CI [.551, .665]).

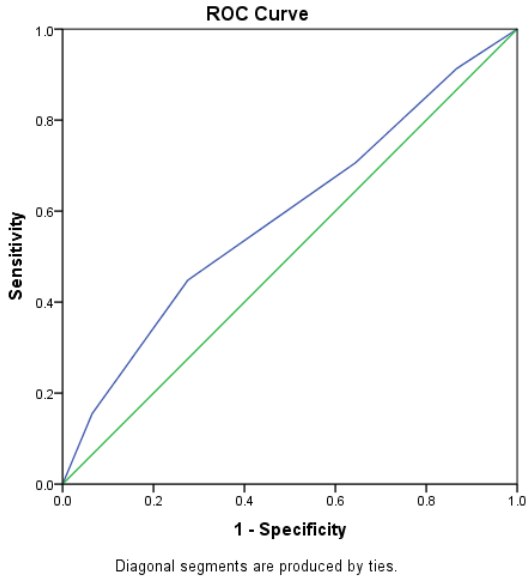

Figure E 44. Receiver operator characteristic curve for the final risk levels' prediction of sexual recidivism for non-violent offenders (AUC = .589, $p < .05$, 95% CI [.510, .668]).

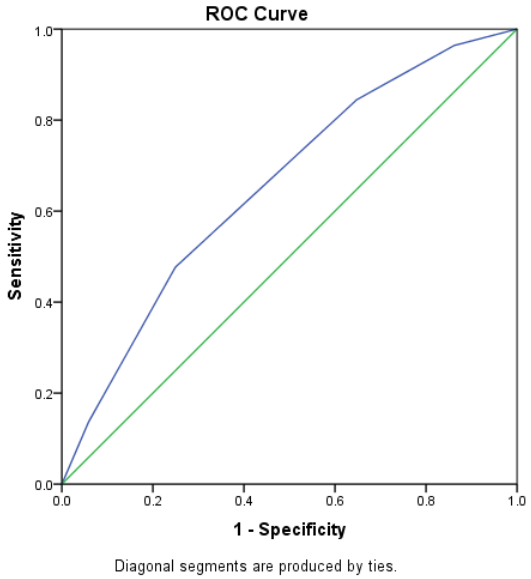

Figure E 45. Receiver operator characteristic curve for the final risk levels' prediction of non-violent recidivism for all offenders (AUC = .655, $p < .001$, 95% CI [.649, .661]).

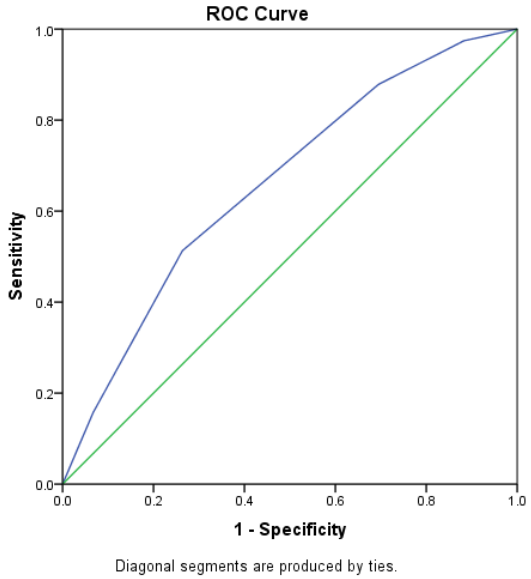

Figure E 46. Receiver operator characteristic curve for the final risk levels' prediction of non-violent recidivism for violent offenders (AUC = .661, $p < .001$, 95% CI [.652, .670]).

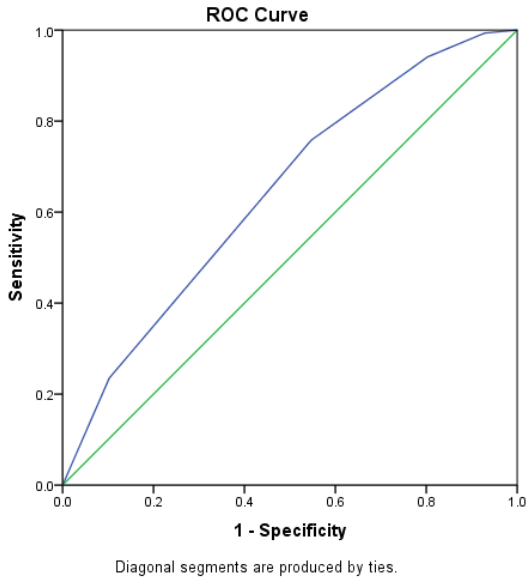

Figure E 47. Receiver operator characteristic curve for the final risk levels' prediction of non-violent recidivism for sexual offenders (AUC = .643, $p < .001$, 95% CI [.599, .687]).

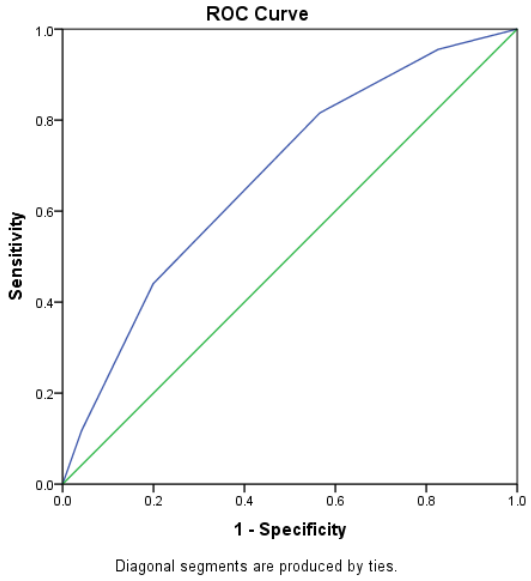

Figure E 48. Receiver operator characteristic curve for the final risk levels' prediction of non-violent recidivism for non-violent offenders (AUC = .677, $p < .001$, 95% CI [.669, .686]).

APPENDIX F: Survival Analyses with Pairwise Comparisons

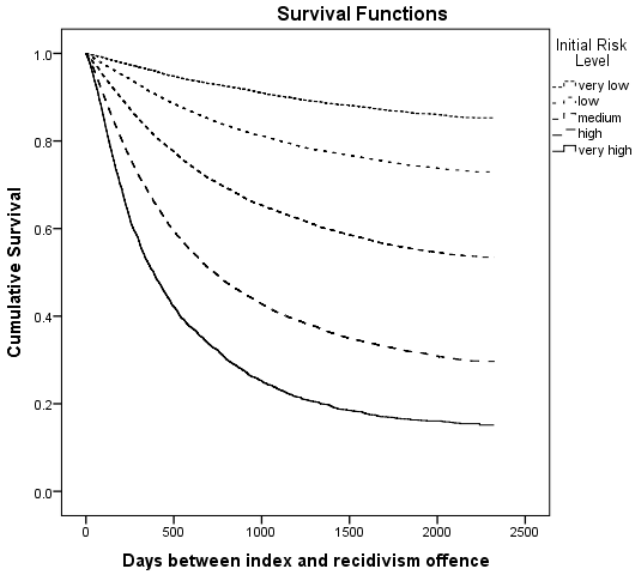

Figure F 1. Survival curve for all offenders' general recidivism across the initial risk levels. Log Rank χ^2 (4, N = 38689) = 9270.64, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	318.535	.000	1622.512	.000	4148.769	.000	5786.642	.000
	Low			900.785	.000	3754.160	.000	5132.518	.000
	Medium					1291.050	.000	2352.272	.000
	High							369.076	.000

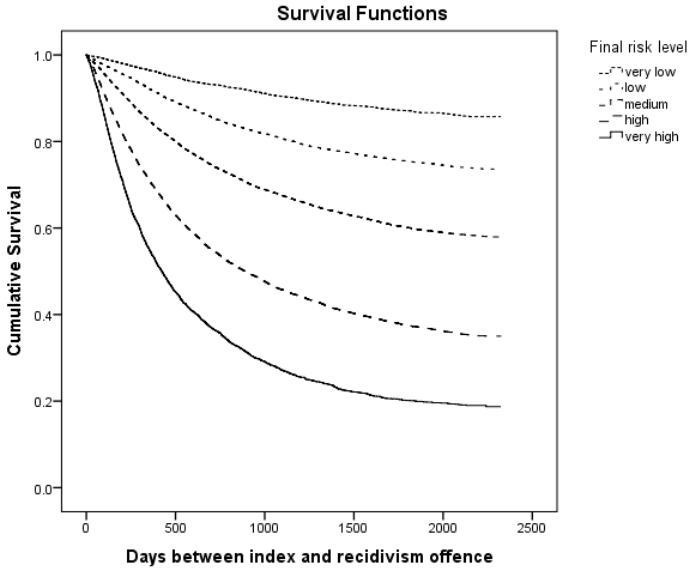

Figure F 2. Survival curve for all offenders' general recidivism across the final risk levels. Log Rank χ^2 (4, N = 38688) = 7320.90, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	232.529	.000	1033.102	.000	2758.989	.000	4263.665	.000
	Low			519.399	.000	2526.112	.000	4041.766	.000
	Medium					1376.412	.000	2671.901	.000
	High							434.357	.000

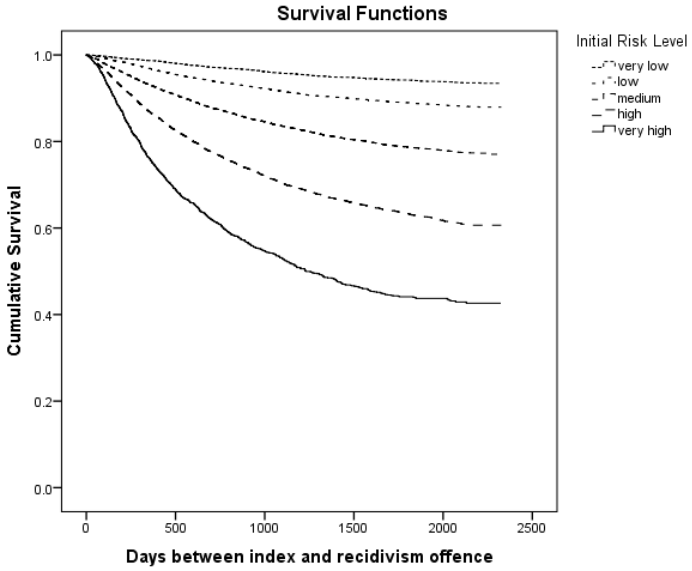

Figure F 3. Survival curve for all offenders' violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 38689) = 4126.95, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	116.539	.000	653.492	.000	1661.438	.000	2677.409	.000
	Low			384.207	.000	1521.537	.000	2518.645	.000
	Medium					495.606	.000	1201.152	.000
	High							244.245	.000

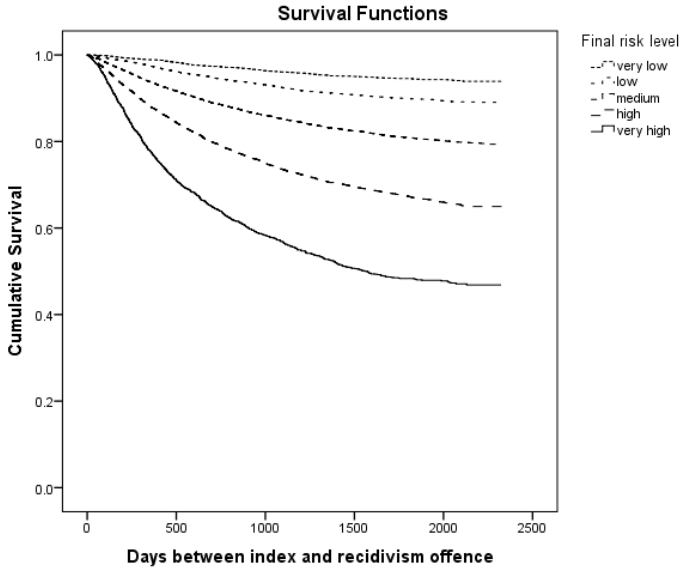

Figure F 4. Survival curve for all offenders' violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 38688) = 3377.83, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	73.816	.000	442.798	.000	1125.612	.000	1999.001	.000
	Low			279.883	.000	1102.879	.000	2085.399	.000
	Medium					504.708	.000	1322.169	.000
	High							280.846	.000

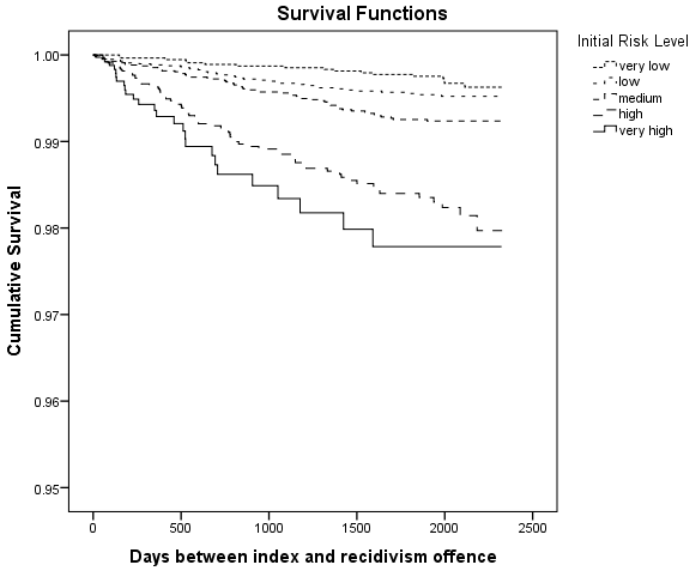

Figure F 5. Survival curve for all offenders' sexual recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 38689) = 114.71, $p < .001$.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	1.981	.159	11.305	.001	55.159	.000	57.646	.000
	Low			5.475	.019	53.077	.000	47.089	.000
	Medium					29.636	.000	29.393	.000
	High							1.959	.162

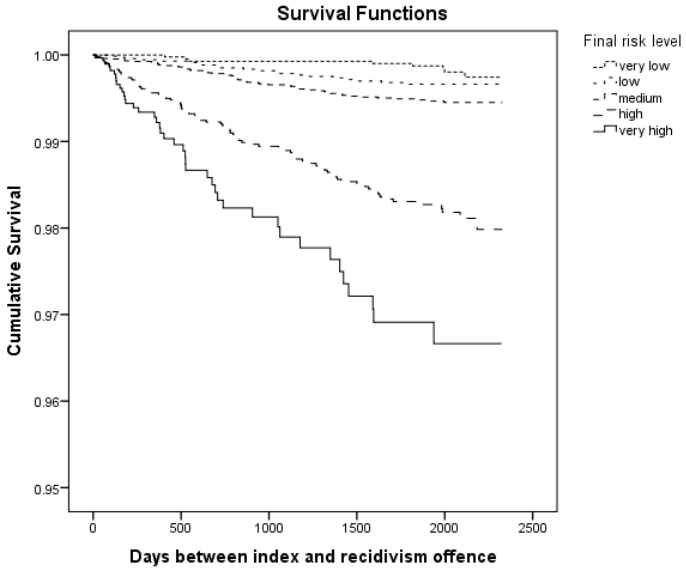

Figure F 6. Survival curve for all offenders' sexual recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 38688) = 213.85, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	1.704	.192	7.992	.005	55.937	.000	95.956	.000
	Low			3.765	.052	64.239	.000	107.503	.000
	Medium					64.063	.000	106.096	.000
	High							10.481	.001

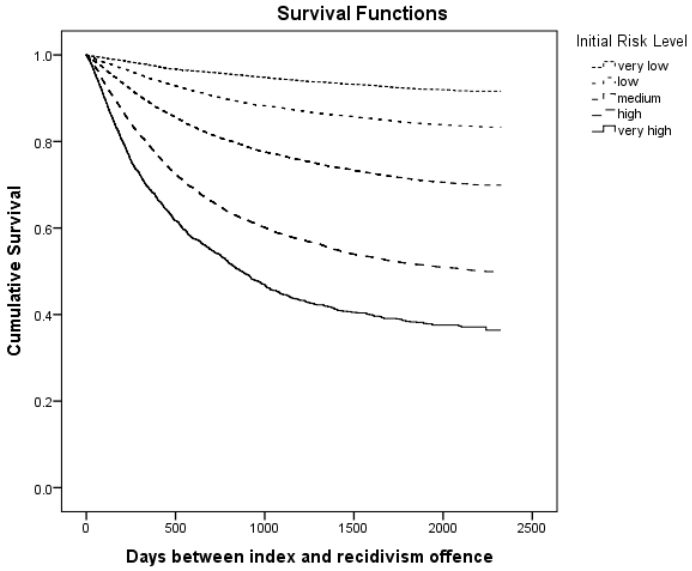

Figure F 7. Survival curve for all offenders' non-violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 38689) = 5084.06, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	202.504	.000	960.893	.000	2432.233	.000	3062.692	.000
	Low			512.407	.000	2177.506	.000	2599.266	.000
	Medium					766.688	.000	1144.801	.000
	High							142.696	.000

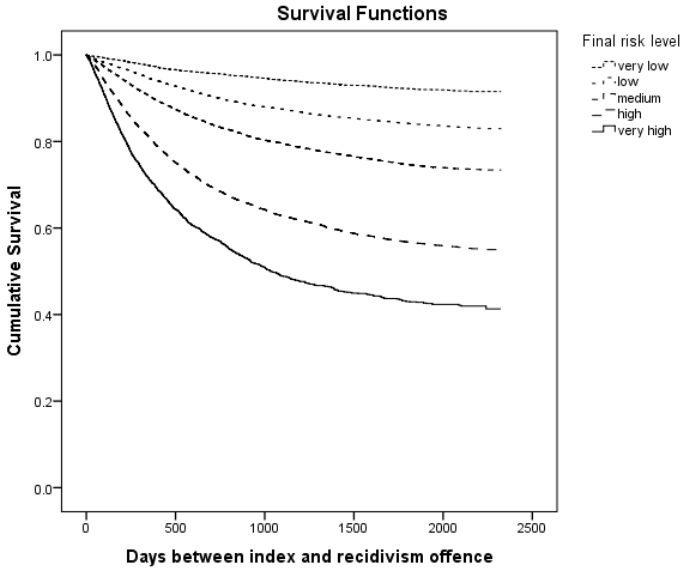

Figure F 8. Survival curve for all offenders' non-violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 38688) = 3818.62, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	158.372	.000	582.207	.000	1576.764	.000	2179.946	.000
	Low			243.549	.000	1366.937	.000	1908.364	.000
	Medium					822.814	.000	1287.423	.000
	High							164.716	.000

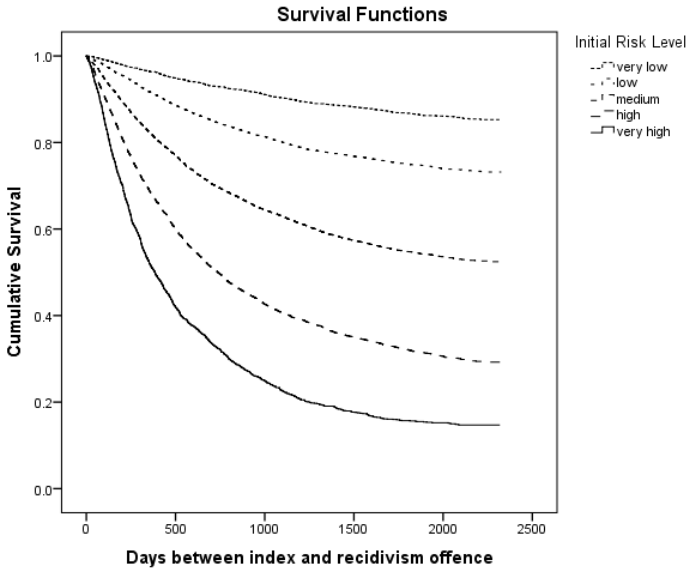

Figure F 9. Survival curve for violent offenders' general recidivism across the initial risk levels. Log Rank χ^2 (4, N = 20451) = 5146.05, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	162.293	.000	898.667	.000	2207.473	.000	3211.154	.000
	Low			532.300	.000	2027.428	.000	2974.505	.000
	Medium					629.780	.000	1318.008	.000
	High							229.418	.000

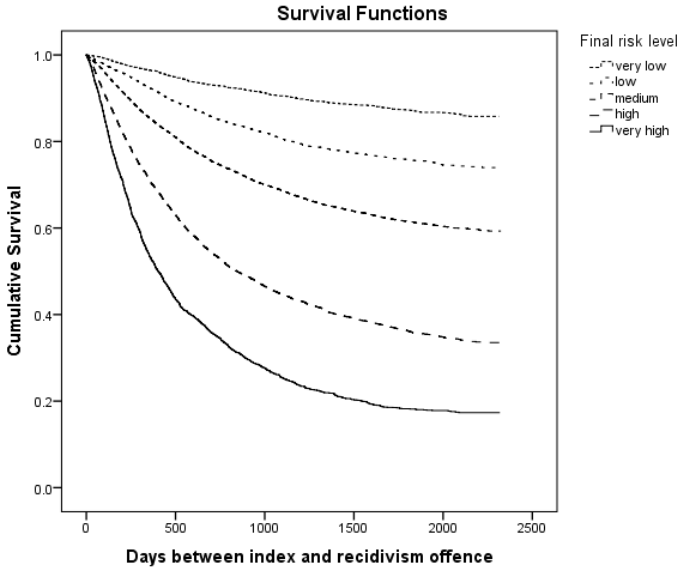

Figure F 10. Survival curve for violent offenders' general recidivism across the final risk levels. Log Rank χ^2 (4, N = 20450) = 4207.84, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	105.942	.000	451.745	.000	1367.371	.000	2190.192	.000
	Low			222.344	.000	1320.413	.000	2240.643	.000
	Medium					937.418	.000	1834.460	.000
	High							274.610	.000

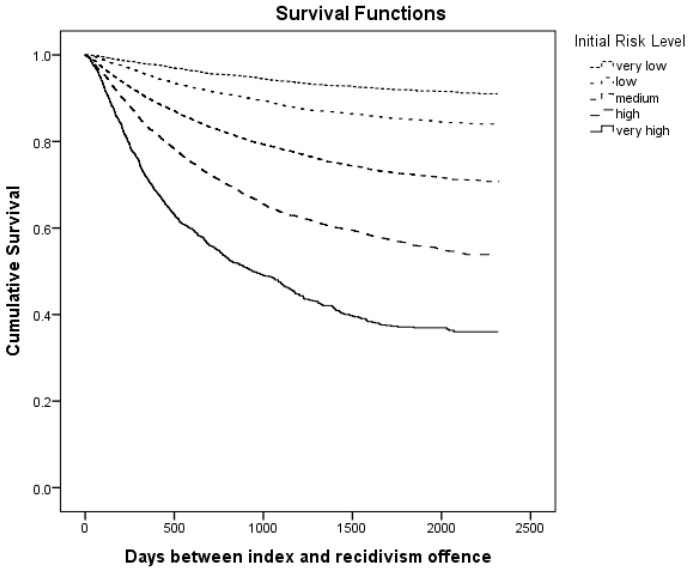

Figure F 11. Survival curve for violent offenders' violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 20451) = 2482.04, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	79.792	.000	443.693	.000	1031.167	.000	1625.969	.000
	Low			259.025	.000	909.405	.000	1505.524	.000
	Medium					256.819	.000	668.384	.000
	High							148.213	.000

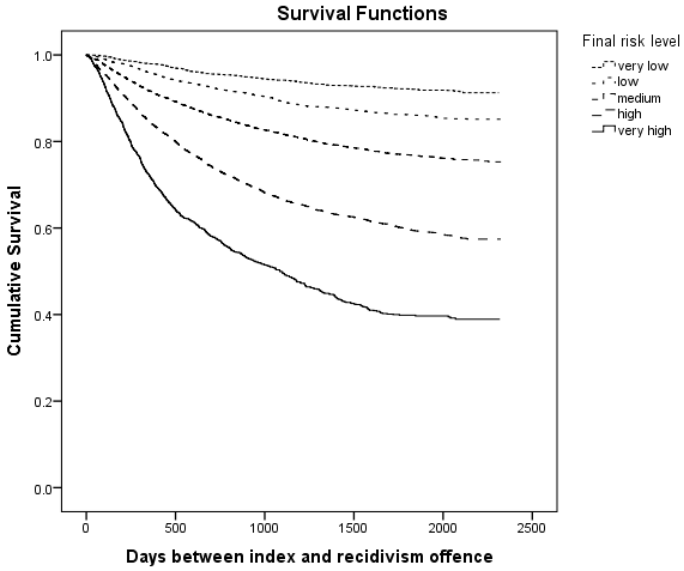

Figure F 12. Survival curve for violent offenders' violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 20450) = 2086.30, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	43.508	.000	222.046	.000	644.951	.000	1128.487	.000
	Low			123.453	.000	631.796	.000	1198.844	.000
	Medium					395.670	.000	939.400	.000
	High							176.504	.000

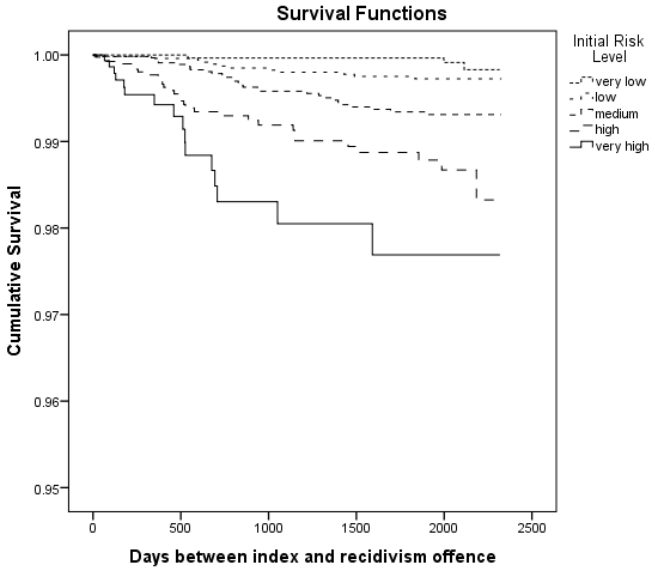

Figure F 13. Survival curve for violent offenders' sexual recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 20451) = 82.33, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	2.311	.128	12.516	.000	30.150	.000	49.758	.000
	Low			7.480	.006	27.749	.000	48.235	.000
	Medium					9.139	.003	25.682	.000
	High							4.598	.032

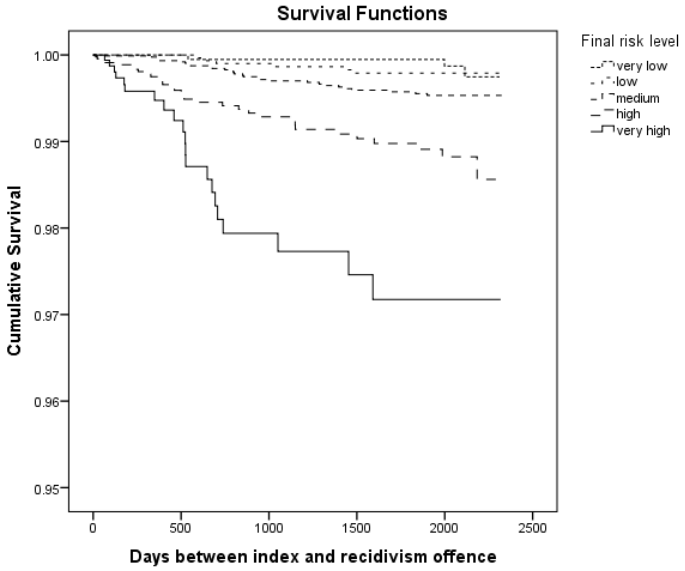

Figure F 14. Survival curve for violent offenders' sexual recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 20450) = 100.02, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	.151	.698	3.420	.064	16.133	.000	42.124	.000
	Low			3.479	.062	21.145	.000	57.415	.000
	Medium					17.012	.000	62.136	.000
	High							11.166	.001

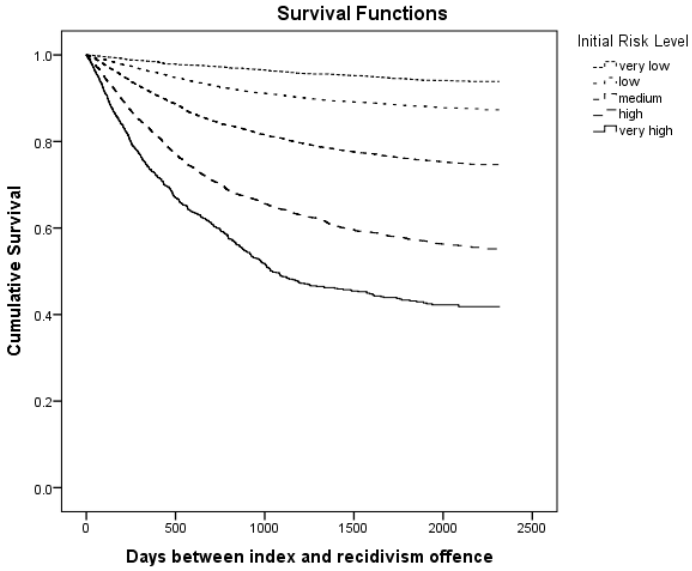

Figure F 15. Survival curve for violent offenders' non-violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 20451) = 2609.23, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	82.136	.000	446.313	.000	1152.354	.000	1541.923	.000
	Low			267.517	.000	1099.531	.000	1424.371	.000
	Medium					371.836	.000	626.425	.000
	High							81.286	.000

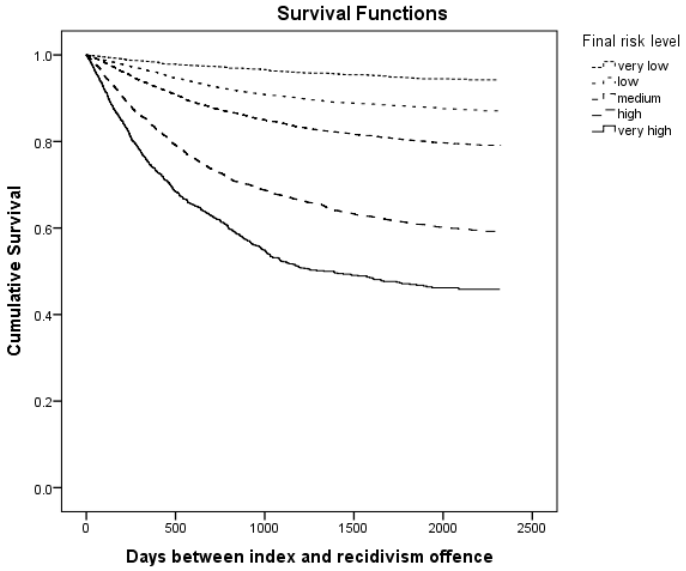

Figure F 16. Survival curve for violent offenders' non-violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 20450) = 2054.83, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	65.161	.000	227.413	.000	708.138	.000	1020.965	.000
	Low			95.477	.000	669.311	.000	991.479	.000
	Medium					536.278	.000	848.054	.000
	High							94.569	.000

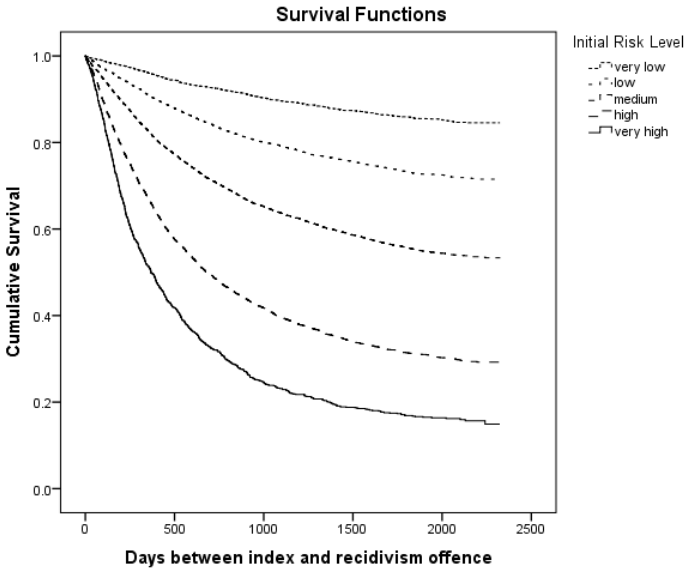

Figure F 17. Survival curve for non-violent offenders' general recidivism across the initial risk levels. Log Rank χ^2 (4, N = 16915) = 3807.26, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	146.837	.000	674.990	.000	1789.070	.000	2352.957	.000
	Low			344.172	.000	1589.324	.000	1974.799	.000
	Medium					614.667	.000	945.537	.000
	High							130.943	.000

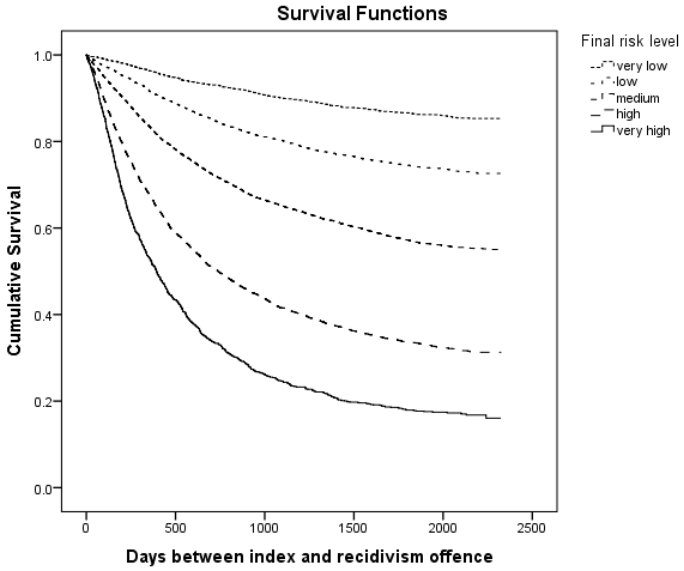

Figure F 18. Survival curve for non-violent offenders' general recidivism across the final risk levels. Log Rank χ^2 (4, N = 16915) = 3564.12, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	125.928	.000	598.034	.000	1570.184	.000	2179.469	.000
	Low			311.495	.000	1412.482	.000	1905.284	.000
	Medium					632.319	.000	1014.272	.000
	High							141.478	.000

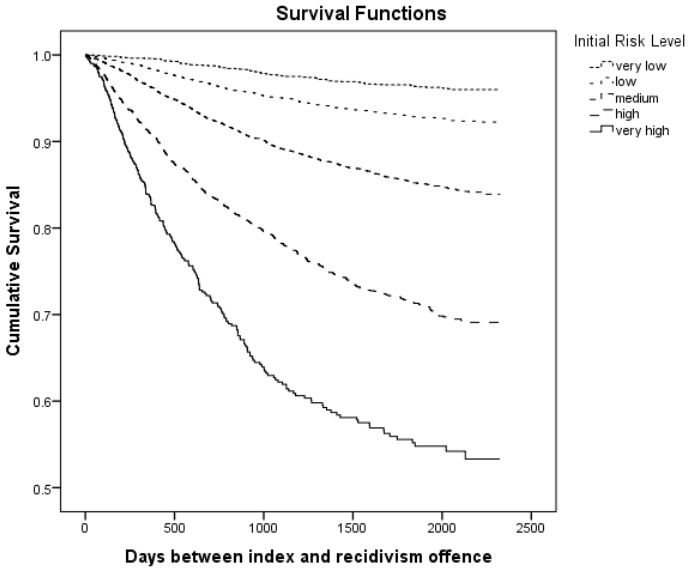

Figure F 19. Survival curve for non-violent offenders' violent recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.5. Log Rank χ^2 (4, N = 16915) = 1419.10, $p < .001$.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	33.631	.000	201.463	.000	571.535	.000	882.557	.000
	Low			125.181	.000	562.439	.000	840.945	.000
	Medium					214.814	.000	415.983	.000
	High							65.111	.000

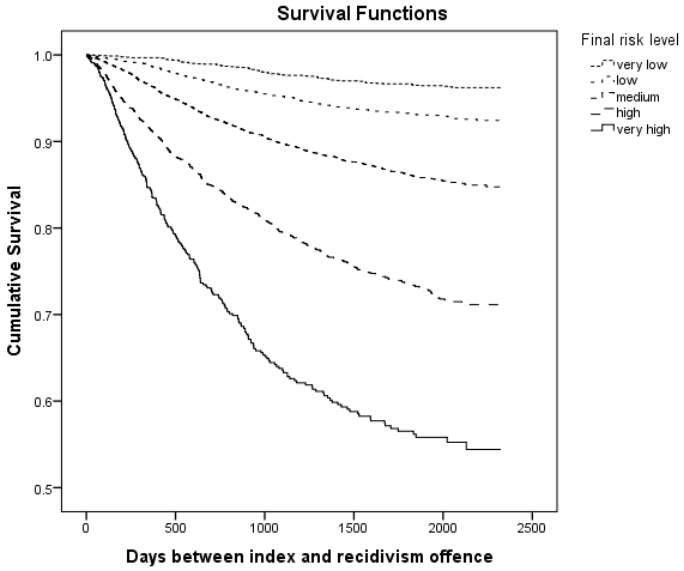

Figure F 20. Survival curve for non-violent offenders' violent recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.5. Log Rank χ^2 (4, N = 16915) = 1302.31, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	30.625	.000	176.321	.000	485.373	.000	813.847	.000
	Low			107.226	.000	470.450	.000	794.856	.000
	Medium					205.943	.000	445.059	.000
	High							75.808	.000

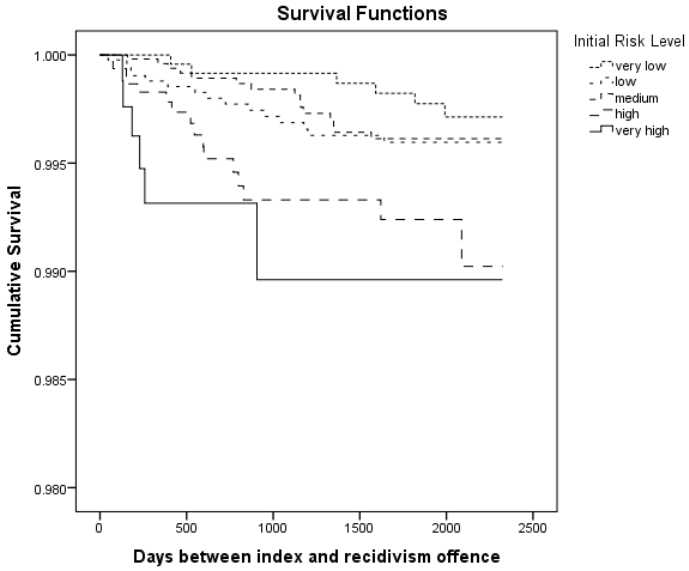

Figure F 21. Survival curve for non-violent offenders' sexual recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.98. Log Rank χ^2 (4, N = 16915) = 19.13, $p < .001$.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	.919	.338	.708	.400	8.005	.005	11.018	.001
	Low			.096	.756	4.380	.036	6.181	.013
	Medium					7.030	.008	10.581	.001
	High							.982	.322

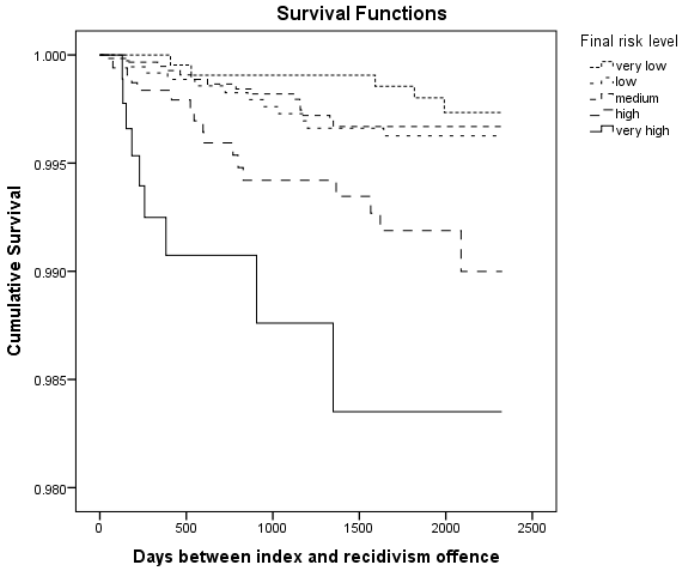

Figure F 22. Survival curve for non-violent offenders' sexual recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.98. Log Rank χ^2 (4, N = 16915) = 34.74, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	.743	.389	.452	.502	8.222	.004	19.063	.000
	Low			.114	.736	5.490	.019	16.132	.000
	Medium					8.610	.003	23.199	.000
	High							4.264	.039

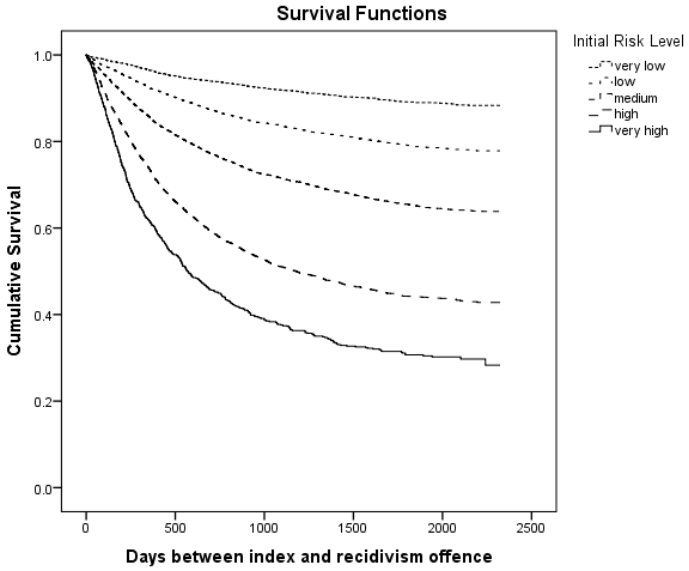

Figure F 23. Survival curve for non-violent offenders' non-violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 16915) = 2437.41, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	112.490	.000	475.564	.000	1213.659	.000	1488.716	.000
	Low			226.856	.000	1038.947	.000	1192.810	.000
	Medium					397.282	.000	552.073	.000
	High							70.780	.000

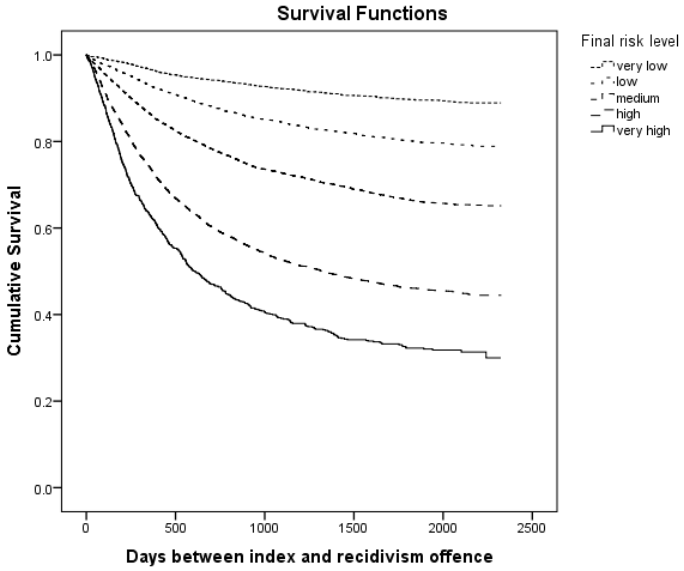

Figure F 24. Survival curve for non-violent offenders' non-violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 16915) = 2292.16, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	94.724	.000	423.598	.000	1078.749	.000	1370.097	.000
	Low			209.924	.000	944.871	.000	1145.257	.000
	Medium					420.717	.000	585.685	.000
	High							71.449	.000

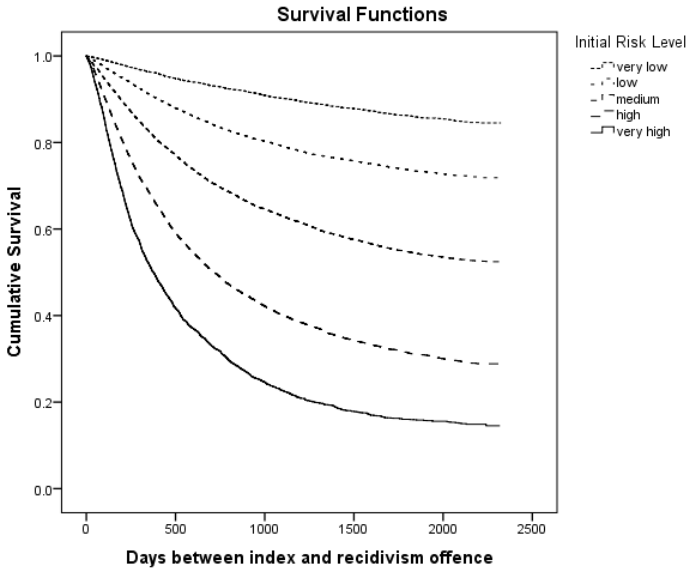

Figure F 25. Survival curve for male offenders' general recidivism across the initial risk levels. Log Rank χ^2 (4, N = 32485) = 7714.16, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	265.992	.000	1318.591	.000	3362.032	.000	4739.715	.000
	Low			737.280	.000	3095.927	.000	4291.594	.000
	Medium					1093.075	.000	2036.780	.000
	High							330.010	.000

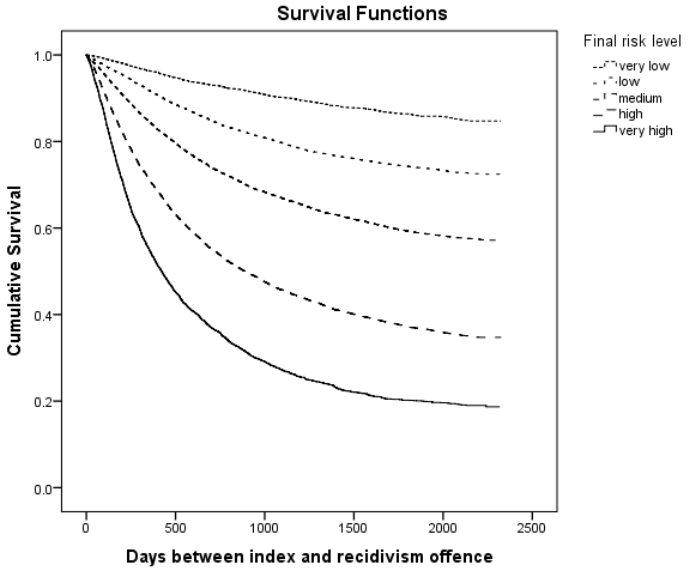

Figure F 26. Survival curve for male offenders' general recidivism across the final risk levels. Log Rank χ^2 (4, N = 32485) = 5836.35, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	182.713	.000	782.132	.000	2087.844	.000	3276.047	.000
	Low			391.869	.000	1951.832	.000	3202.245	.000
	Medium					1135.178	.000	2260.433	.000
	High							384.084	.000

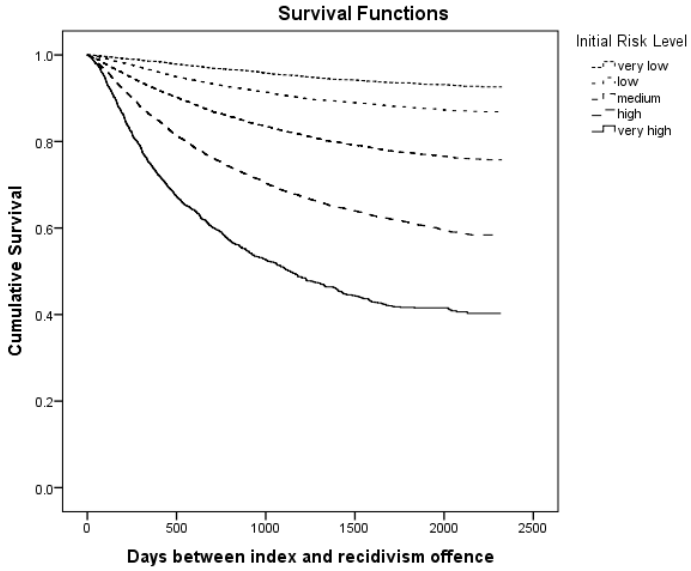

Figure F 27. Survival curve for male offenders' violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 32485) = 3588.11, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	96.938	.000	534.887	.000	1400.228	.000	2263.655	.000
	Low			317.198	.000	1319.374	.000	2188.403	.000
	Medium					456.400	.000	1094.527	.000
	High							221.178	.000

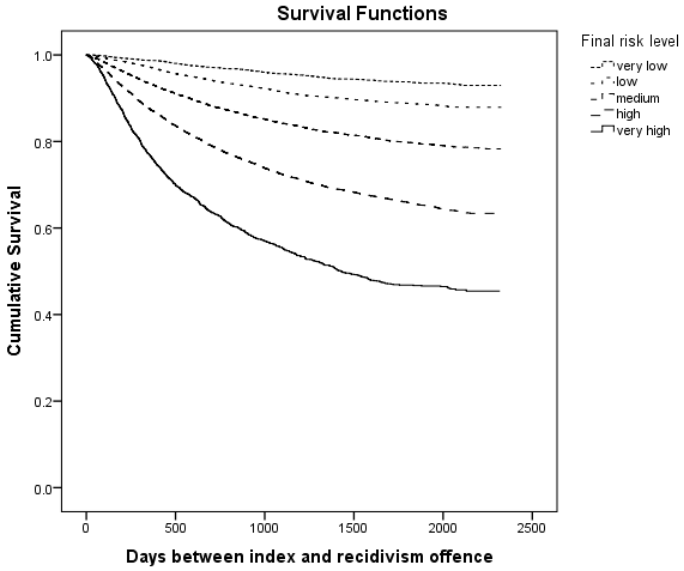

Figure F 28. Survival curve for male offenders' violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 32485) = 2794.36, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	58.669	.000	337.185	.000	880.910	.000	1578.569	.000
	Low			211.779	.000	885.548	.000	1699.307	.000
	Medium					446.773	.000	1166.735	.000
	High							250.905	.000

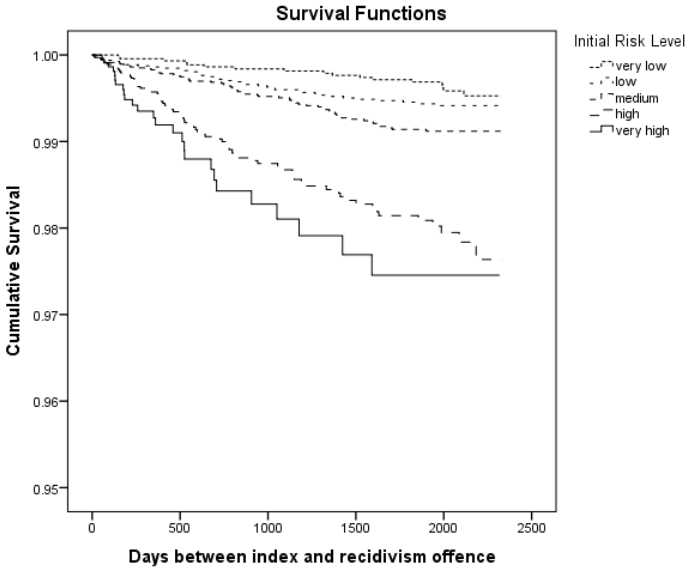

Figure F 29. Survival curve for male offenders' sexual recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 32485) = 105.27, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	1.686	.194	8.918	.003	48.944	.000	50.912	.000
	Low			4.057	.044	48.298	.000	42.549	.000
	Medium					29.612	.000	28.734	.000
	High							1.834	.176

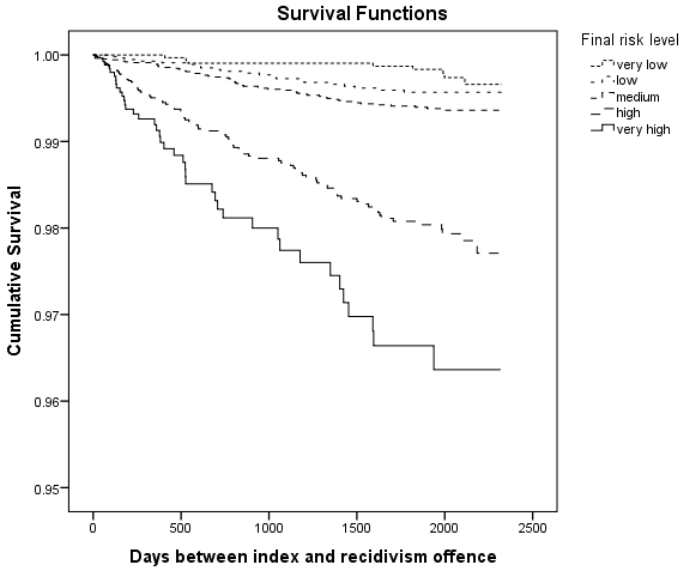

Figure F 30. Survival curve for male offenders' sexual recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.95. Log Rank χ^2 (4, N = 32485) = 185.11, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	1.494	.222	6.017	.014	46.479	.000	77.762	.000
	Low			2.457	.117	54.307	.000	88.346	.000
	Medium					60.634	.000	94.935	.000
	High							8.995	.003

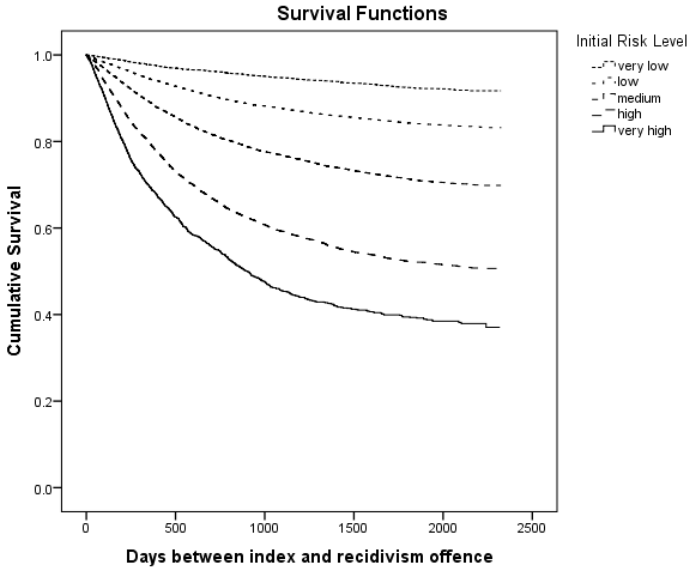

Figure F 31. Survival curve for male offenders' non-violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 32485) = 4068.71, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	170.893	.000	779.304	.000	1913.332	.000	2432.653	.000
	Low			417.576	.000	1726.327	.000	2087.461	.000
	Medium					608.101	.000	937.340	.000
	High							123.318	.000

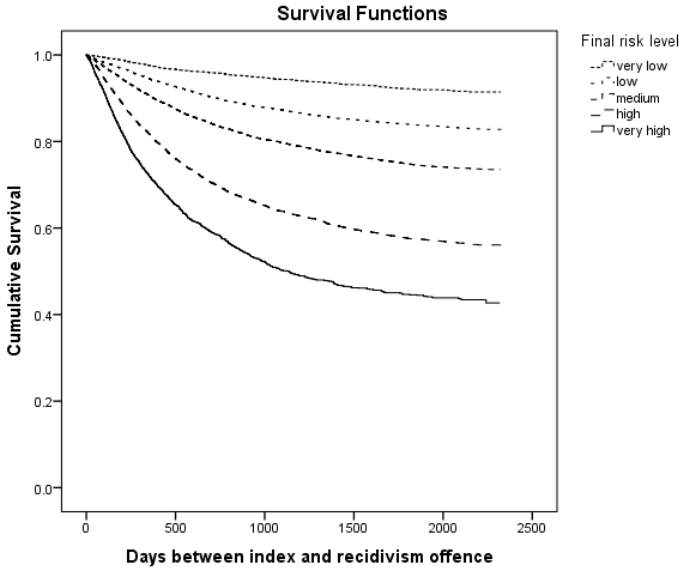

Figure F 32. Survival curve for male offenders' non-violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 32485) = 2926.25, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	124.427	.000	438.919	.000	1159.486	.000	1625.356	.000
	Low			182.212	.000	1017.010	.000	1455.991	.000
	Medium					641.565	.000	1037.429	.000
	High							141.318	.000

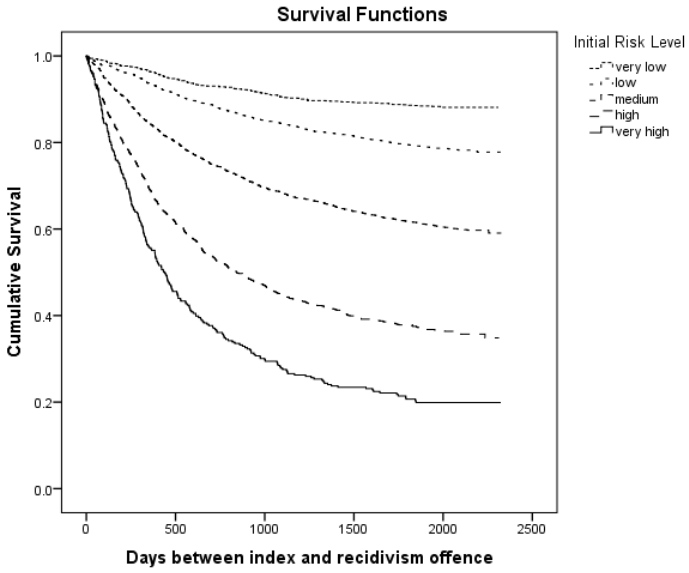

Figure F 33. Survival curve for female offenders' general recidivism across the initial risk levels. Log Rank χ^2 (4, N = 6204) = 1417.59, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	46.379	.000	273.702	.000	716.517	.000	925.752	.000
	Low			148.913	.000	606.929	.000	754.675	.000
	Medium					186.130	.000	291.973	.000
	High							37.672	.000

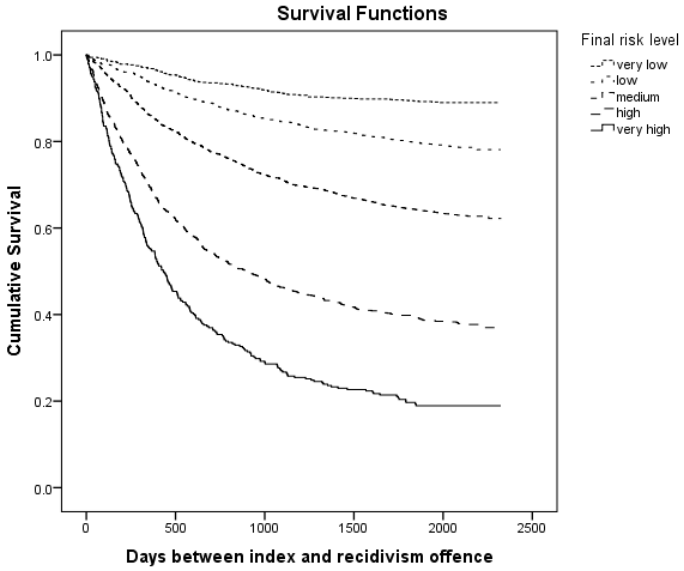

Figure F 34. Survival curve for female offenders' general recidivism across the final risk levels. Log Rank χ^2 (4, N = 6203) = 1362.65, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	44.972	.000	221.576	.000	621.302	.000	904.588	.000
	Low			108.031	.000	523.814	.000	754.356	.000
	Medium					231.072	.000	392.441	.000
	High							49.879	.000

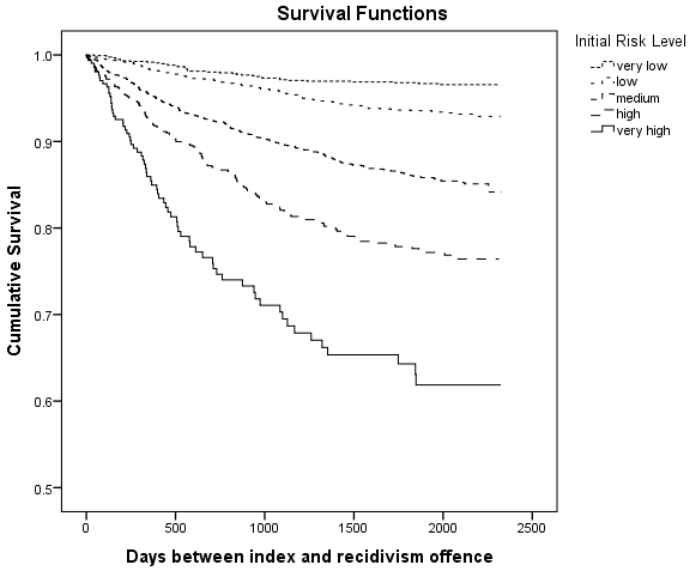

Figure F 35. Survival curve for female offenders' violent recidivism across the initial risk levels. The cumulative survival scale has been truncated to start at 0.5. Log Rank χ^2 (4, N = 6204) = 375.78, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	14.521	.000	93.282	.000	175.968	.000	275.643	.000
	Low			54.572	.000	137.196	.000	226.069	.000
	Medium					25.815	.000	76.762	.000
	High							19.254	.000

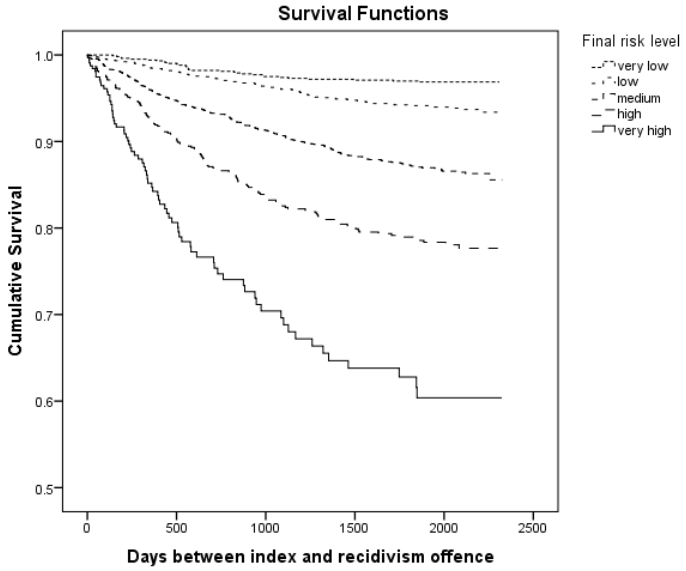

Figure F 36. Survival curve for female offenders' violent recidivism across the final risk levels. The cumulative survival scale has been truncated to start at 0.5. Log Rank χ^2 (4, N = 6203) = 376.90, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	11.697	.001	77.186	.000	153.614	.000	279.741	.000
	Low			46.910	.000	126.129	.000	246.633	.000
	Medium					32.569	.000	108.780	.000
	High							26.074	.000

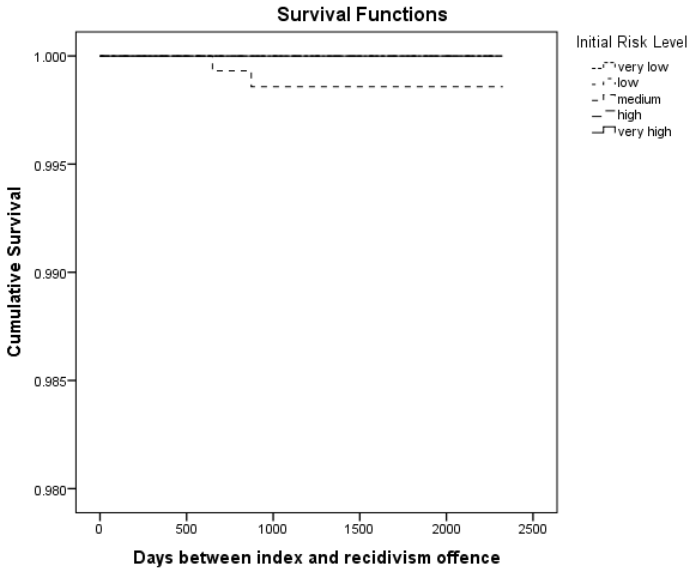

Figure F 37. Survival curve for female offenders' sexual recidivism across the initial risk levels. The cumulative survival scale was truncated to start at 0.98. There were only $n = 2$ females who recidivated sexually and they were both in the medium risk level. Log Rank χ^2 (4, $N = 6204$) = 4.71, *n.s.*

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	--	--	1.584	.208	--	--	--	--
	Low			2.205	.138	--	--	--	--
	Medium					.755	.385	.162	.688
	High							--	--

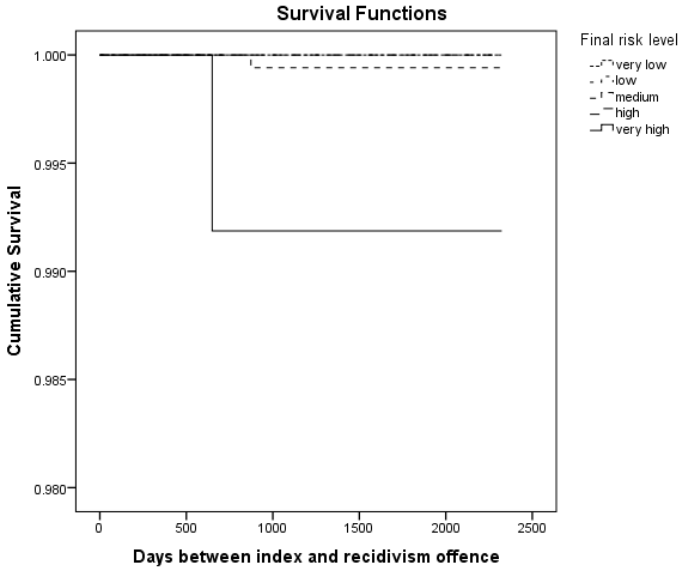

Figure F 38. Survival curve for female offenders' sexual recidivism across the final risk levels. The cumulative survival scale was truncated to start at 0.98. There were only $n = 2$ females who recidivated sexually, one in the medium risk level and one in the very high risk level. Log Rank χ^2 (4, $N = 6203$) = 20.11, $p < .001$.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	--	--	.574	.449	--	--	7.919	.005
	Low			.791	.374	--	--	11.163	.001
	Medium					.316	.574	6.627	.010
	High							4.780	.029

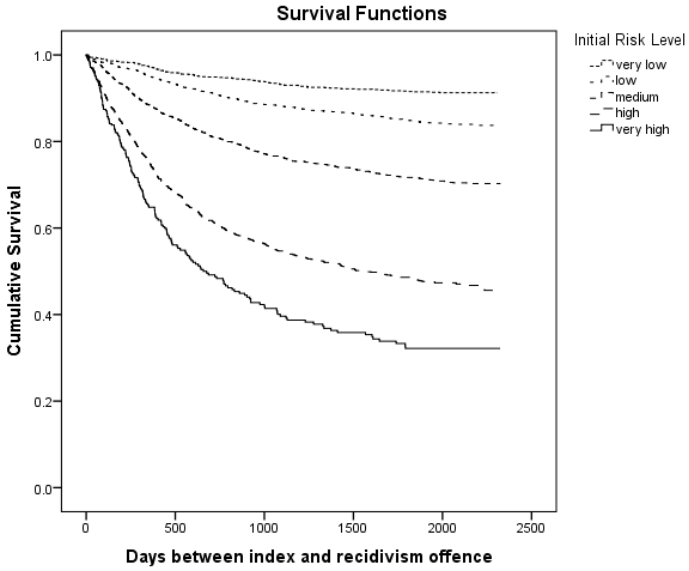

Figure F 39. Survival curve for female offenders' non-violent recidivism across the initial risk levels. Log Rank χ^2 (4, N = 6204) = 1052.24, p < .001.

	Initial Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	31.909	.000	179.509	.000	540.468	.000	650.764	.000
	Low			93.841	.000	470.383	.000	529.267	.000
	Medium					167.567	.000	216.505	.000
	High							20.698	.000

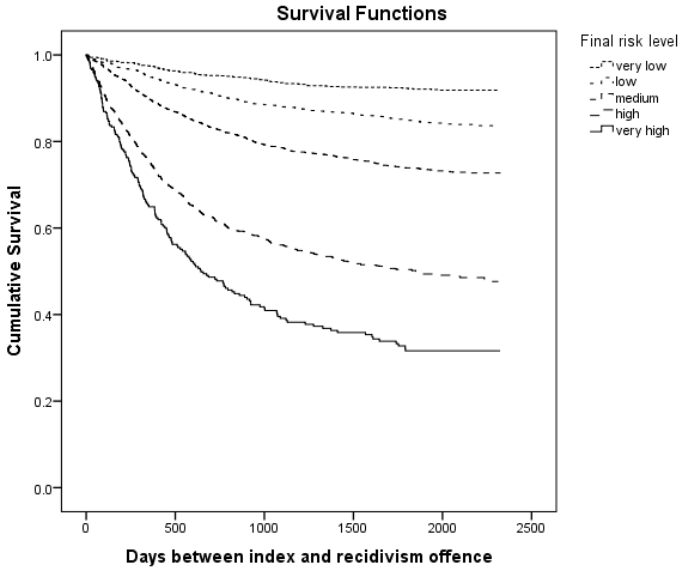

Figure F 40. Survival curve for female offenders' non-violent recidivism across the final risk levels. Log Rank χ^2 (4, N = 6203) = 993.49, p < .001.

	Final Risk Level	Low		Medium		High		Very high	
		Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.	Chi-Square	Sig.
Log Rank (Mantel-Cox)	Very low	33.277	.000	144.303	.000	467.606	.000	620.101	.000
	Low			62.655	.000	397.670	.000	505.168	.000
	Medium					206.566	.000	280.353	.000
	High							26.212	.000

APPENDIX G: Logistic Regression Analyses

Table G 1

Hierarchical logistic regression analysis for variables related to violent recidivism for all offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.066 (.001)	2019.602***	1.068 (1.065 to 1.071)
Constant	-2.580 (.029)	7899.064***	.076
Block 2			
General Risk/Need	.062 (.001)	1765.606***	1.064 (1.061 to 1.067)
Gender[b]	-.705 (.046)	235.058***	.494 (.451 to .541)
Age	-.027 (.001)	410.927***	.974 (.971 to .976)
Ethnicity[c]	.056 (.029)	3.655*n.s.*	1.058 (.999 to 1.121)
Constant	-.900 (074)	148.738***	.407
Block 3			
General Risk/Need	.044 (.002)	365.241***	1.045 (1.040 to 1.049)
Gender[b]	-.632 (.048)	174.171***	.531 (.484 to .584)
Age	-.031 (.001)	487.733***	.970 (.967 to .972)
Ethnicity[c]	.073 (.030)	5.844*	1.075 (1.014 to 1.140)
B1 Total	.095 (.012)	68.010***	1.100 (1.075 to 1.125)
B2 Total	.167 (.014)	150.238***	1.182 (1.151 to 1.214)
C1 Total	-.066 (.019)	11.642***	.936 (.902 to .972)
F1 Total	.004 (.007)	.308*n.s.*	1.004 (.990 to 1.018)
F2 Total	-.128 (.048)	7.082**	.880 (.801 to .967)
G1 Total	-.018 (.017)	1.177*n.s.*	.982 (.950 to 1.015)
Constant	-.908 (.007)	138.699***	.403

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 2

Hierarchical logistic regression analysis for variables related to violent recidivism for violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.064 (.002)	1267.514***	1.067 (1.063 to 1.070)
Constant	-2.209 (.035)	3903.043***	.110
Block 2			
General Risk/Need	.061 (.002)	1124.933***	1.063 (1.059 to 1.067)
Gender[b]	-.395 (.059)	44.325***	.674 (.600 to .757)
Age	-.023 (.002)	195.008***	.977 (.974 to .980)
Ethnicity[c]	.029 (.036)	.639*n.s.*	1.029 (.959 to 1.105)
Constant	-.999 (.095)	111.297***	.368
Block 3			
General Risk/Need	.053 (.003)	344.276***	1.055 (1.049 to 1.061)
Gender[b]	-.395 (.061)	41.556***	.674 (.598 to .760)
Age	-.025 (.002)	209.147***	.975 (.972 to .979)
Ethnicity[c]	.027 (.037)	.547*n.s.*	1.028 (.956 to 1.105)
B1 Total	.055 (.014)	14.327***	1.056 (1.027 to 1.087)
B2 Total	.073 (.017)	18.144***	1.075 (1.040 to 1.112)
C1 Total	-.022 (.024)	.815*n.s.*	.979 (.933 to 1.026)
F1 Total	.009 (.009)	1.094*n.s.*	1.009 (.992 to 1.027)
F2 Total	-.118 (.061)	3.728*n.s.*	.889 (.778 to 1.002)
G1 Total	-.036 (.021)	3.018*n.s.*	.964 (.929 to 1.005)
Constant	-.983 (.098)	99.913***	.374

Note. n = 20,450.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 3

Hierarchical logistic regression analysis for variables related to violent recidivism for sexual offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.087 (.011)	62.373***	1.091 (1.067 to 1.114)
Constant	-3.738 (.224)	279.387***	.024
Block 2			
General Risk/Need	.078 (.011)	49.082***	1.081 (1.058 to 1.105)
Gender[b]	-18.902 (10209.8)	.999	.000
Age	-.038 (.009)	17.314***	.962 (.945 to .980)
Ethnicity[c]	-.066 (.220)	.090*n.s.*	.936 (.609 to 1.440)
Constant	16.778 (10209.8)	.999	19348034.288
Block 3			
General Risk/Need	.093 (.019)	25.091***	1.098 (1.058 to 1.138)
Gender[b]	-18.852 (10189.47)	.999	.000
Age	-.040 (.010)	17.009***	.960 (.942 to .979)
Ethnicity[c]	-.053 (.231)	.053*n.s.*	.948 (.602 to 1.491)
B1 Total	-.016 (.077)	.040*n.s.*	.985 (.846 to 1.146)
B2 Total	.303 (.096)	10.066**	1.355 (1.123 to 1.634)
C1 Total	-.113 (.109)	1.075*n.s.*	.893 (.722 to 1.106)
F1 Total	-.072 (.054)	1.798*n.s.*	.931 (.838 to 1.034)
F2 Total	-.756 (.316)	5.746*	.469 (.253 to .871)
G1 Total	-.122 (.117)	1.092*n.s.*	.885 (.704 to 1.113)
Constant	16.76 (10189.47)	.999	19013463.889

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 4

Hierarchical logistic regression analysis for variables related to violent recidivism for non-violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.067 (.003)	641.616***	1.069 (1.064 to 1.075)
Constant	-3.100 (.054)	3349.178***	.045
Block 2			
General Risk/Need	.063 (.003)	554.834***	1.065 (1.060 to 1.071)
Gender[b]	-.881 (.077)	131.297***	.414 (.356 to .482)
Age	-.030 (.002)	153.841***	.971 (.966 to .975)
Ethnicity[c]	.155 (.054)	8.313**	1.168 (1.051 to 1.297)
Constant	-1.169 (.127)	85.083***	.311
Block 3			
General Risk/Need	.037 (.004)	77.681***	1.038 (1.029 to 1.047)
Gender[b]	-.770 (.081)	91.091***	.463 (.395 to .542)
Age	-.035 (.003)	187.448***	.966 (.961 to .970)
Ethnicity[c]	.183 (.055)	11.176***	1.201 (1.079 to 1.337)
B1 Total	.082 (.022)	14.402***	1.086 (1.041 to 1.133)
B2 Total	.203 (.025)	67.240***	1.225 (1.167 to 1.286)
C1 Total	-.041 (.035)	1.336*n.s.*	.960 (.897 to 1.029)
F1 Total	.000 (.013)	.000	1.000 (.974 to 1.026)
F2 Total	.008 (.084)	.010*n.s.*	1.008 (.855 to 1.189)
G1 Total	.034 (.031)	1.179*n.s.*	1.034 (.973 to 1.099)
Constant	-1.089 (.133)	67.034***	.337

Note. n = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table G 5

Hierarchical logistic regression analysis for variables related to sexual recidivism for all offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.039 (.007)	32.426***	1.040 (1.026 to 1.054)
Constant	-5.755 (.138)	1742.935***	.003
Block 2			
General Risk/Need	.038 (.007)	29.032***	1.038 (1.024 to 1.053)
Gender[b]	-2.992 (.711)	17.732***	.050 (.012 to .202)
Age	.014 (.006)	6.397*	1.014 (1.003 to 1.026)
Ethnicity[c]	.047 (.144)	.107*n.s.*	1.048 (.790 to 1.390)
Constant	-3.106 (.766)	16.422***	.045
Block 3			
General Risk/Need	-.024 (.011)	4.687*	.976 (.955 to .998)
Gender[b]	-2.968 (.714)	17.303***	.051 (.013 to .208)
Age	.011 (.006)	3.273*n.s.*	1.011 (.999 to 1.022)
Ethnicity[c]	.108 (.147)	.536*n.s.*	1.114 (.835 to 1.486)
B1 Total	.324 (.050)	41.756***	1.383 (1.253 to 1.526)
B2 Total	-.002 (.062)	.001*n.s.*	.998 (.884 to 1.128)
C1 Total	.038 (.081)	.220*n.s.*	1.039 (.887 to 1.217)
F1 Total	.068 (.032)	4.651*	1.071 (1.006 to 1.139)
F2 Total	-.394 (.221)	3.172*n.s.*	.674 (.437 to 1.040)
G1 Total	.185 (.074)	6.279*	1.203 (1.041 to 1.390)
Constant	-3.211 (.774)	17.203***	.040

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ *** $p < .001$.

Table G 6

Hierarchical logistic regression analysis for variables related to sexual recidivism for violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.055 (.010)	27.802***	1.056 (1.035 to 1.078)
Constant	-6.343 (.230)	759.059***	.002
Block 2			
General Risk/Need	.054 (.011)	25.995***	1.056 (1.034 to 1.078)
Gender[b]	-2.376 (1.006)	5.574*	.093 (.013 to .668)
Age	.007 (.009)	.607*n.s.*	1.007 (.989 to 1.026)
Ethnicity[c]	.009 (.224)	.001*n.s.*	1.009 (.650 to 1.564)
Constant	-4.098 (1.112)	13.570***	.017
Block 3			
General Risk/Need	.016 (.017)	.840*n.s.*	1.016 (.982 to 1.051)
Gender[b]	-2.280 (1.011)	5.088*	.102 (.014 to .742)
Age	.003 (.010)	.088*n.s.*	1.003 (.983 to 1.023)
Ethnicity[c]	.084 (.229)	.134*n.s.*	1.087 (.694 to 1.703)
B1 Total	.255 (.081)	10.027**	1.291 (1.102 to 1.512)
B2 Total	.099 (.094)	1.111*n.s.*	1.104 (.918 to 1.328)
C1 Total	-.045 (.126)	.128*n.s.*	.956 (.747 to 1.224)
F1 Total	-.014 (.051)	.080*n.s.*	.986 (.892 to 1.090)
F2 Total	-.274 (.334)	.671*n.s.*	.761 (.395 to 1.464)
G1 Total	.082 (.118)	.482*n.s.*	1.085 (.861 to 1.368)
Constant	-4.294 (1.129)	14.468***	.014

Note. n = 20,450.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 7

Hierarchical logistic regression analysis for variables related to sexual recidivism for sexual offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.049 (.013)	15.376***	1.050 (1.025 to 1.077)
Constant	-3.483 (.233)	223.703***	.031
Block 2			
General Risk/Need	.043 (.013)	11.435***	1.044 (1.018 to 1.071)
Gender[b]	-18.467 (10588.128)	.999	.000
Age	-.018 (.010)	3.409*n.s.*	.983 (.964 to 1.001)
Ethnicity[c]	.258 (.262)	.968*n.s.*	1.294 (.775 to 2.161)
Constant	15.579 (10588.128)	.999	5835211.107
Block 3			
General Risk/Need	.040 (.021)	3.686*n.s.*	1.040 (.999 to 1.084)
Gender[b]	-18.383 (10561.125)	.999	.000
Age	-.014 (.010)	2.132*n.s.*	.986 (.967 to 1.005)
Ethnicity[c]	.254 (.272)	.870*n.s.*	1.289 (.756 to 2.197)
B1 Total	.147 (.086)	2.964*n.s.*	1.158 (.979 to 1.370)
B2 Total	-.163 (.123)	1.775*n.s.*	.849 (.668 to 1.080)
C1 Total	-.095 (.131)	.523*n.s.*	.910 (.703 to 1.176)
F1 Total	.031 (.058)	.282*n.s.*	1.031 (.921 to 1.156)
F2 Total	-.756 (.359)	4.433*	.470 (.232 to .949)
G1 Total	.208 (.125)	2.781*n.s.*	1.231 (.964 to 1.572)
Constant	15.030 (10561.125)	.999	3367167.274

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ *** $p < .001$.

Table G 8

Hierarchical logistic regression analysis for variables related to sexual recidivism for non-violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.027 (.014)	3.755*n.s.*	1.028 (1.000 to 1.056)
Constant	-6.086 (.265)	528.945***	.002
Block 2			
General Risk/Need	.025 (.015)	2.978*n.s.*	1.026 (.997 to 1.055)
Gender[b]	-2.761 (1.009)	7.483**	.063 (.009 to .457)
Age	.020 (.011)	3.394*n.s.*	1.020 (.999 to 1.042)
Ethnicity[c]	-.112 (.281)	.160*n.s.*	.894 (.516 to 1.549)
Constant	-3.688 (1.145)	10.373***	.025
Block 3			
General Risk/Need	-.037 (.024)	2.443*n.s.*	.964 (.920 to 1.009)
Gender[b]	-2.978 (1.019)	8.537**	.051 (.007 to .375)
Age	.018 (.011)	2.498*n.s.*	1.018 (.996 to 1.041)
Ethnicity[c]	-.141 (.286)	.244*n.s.*	.868 (.496 to 1.520)
B1 Total	.315 (.106)	8.844**	1.371 (1.114 to 1.688)
B2 Total	.096 (.127)	.580*n.s.*	1.101 (.859 to 1.411)
C1 Total	-.155 (.189)	.673*n.s.*	.856 (.591 to 1.240)
F1 Total	.143 (.063)	5.117*	1.153 (1.019 to 1.305)
F2 Total	-.737 (.509)	2.097*n.s.*	.478 (.176 to 1.298)
G1 Total	.140 (.155)	.813*n.s.*	1.150 (.849 to 1.558)
Constant	-3.451 (1.160)	8.859**	.032

Note. n = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 9

Hierarchical logistic regression analysis for variables related to non-violent recidivism for all offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.073 (.001)	2958.096***	1.076 (1.073 to 1.079)
Constant	-2.228 (.026)	7561.154***	.108
Block 2			
General Risk/Need	.072 (.001)	2781.905***	1.074 (1.071 to 1.077)
Gender[b]	.149 (.034)	19.820***	1.161 (1.087 to 1.240)
Age	-.015 (.001)	170.731***	.986 (.983 to .988)
Ethnicity[c]	.123 (.026)	22.225***	1.131 (1.075 to 1.191)
Constant	-1.976 (.062)	1011.923***	.139
Block 3			
General Risk/Need	.085 (.002)	1679.632***	1.089 (1.085 to 1.093)
Gender[b]	.176 (.035)	24.652***	1.192 (1.112 to 1.278)
Age	-.012 (.001)	110.889***	.988 (.986 to .990)
Ethnicity[c]	.108 (.027)	16.653***	1.115 (1.058 to 1.174)
B1 Total	-.015 (.011)	2.069*n.s.*	.985 (.965 to 1.006)
B2 Total	-.067 (.013)	28.312***	.935 (.912 to .958)
C1 Total	.069 (.018)	15.091***	1.071 (1.035 to 1.109)
F1 Total	-.043 (.007)	42.489***	.958 (.946 to .971)
F2 Total	-.123 (.044)	7.782**	.884 (.811 to .964)
G1 Total	-.042 (.015)	7.831**	.958 (.930 to .987)
Constant	-2.067 (.065)	1019.045***	.127

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table G 10

Hierarchical logistic regression analysis for variables related to non-violent recidivism for violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.073 (.002)	1449.130***	1.075 (1.071 to 1.079)
Constant	-2.529 (.038)	4336.618***	.080
Block 2			
General Risk/Need	.070 (.002)	1322.067***	1.072 (1.068 to 1.076)
Gender[b]	-.104 (.059)	3.083*n.s.*	.901 (.803 to 1.012)
Age	-.019 (.002)	120.597***	.981 (.978 to .985)
Ethnicity[c]	.134 (.038)	12.083***	1.143 (1.060 to 1.233)
Constant	-1.843 (.099)	347.483***	.158
Block 3			
General Risk/Need	.079 (.003)	680.519***	1.082 (1.076 to 1.089)
Gender[b]	-.041 (.061)	.451*n.s.*	.960 (.852 to 1.082)
Age	-.018 (.002)	96.484***	.982 (.979 to 986)
Ethnicity[c]	.124 (.039)	10.099***	1.132 (1.049 to 1.223)
B1 Total	-.016 (.015)	1.113*n.s.*	.984 (.955 to 1.014)
B2 Total	-.010 (.018)	.326*n.s.*	.990 (.956 to 1.025)
C1 Total	.055 (.025)	5.107*	1.057 (1.007 to 1.109)
F1 Total	-.044 (.009)	21.610***	.957 (.940 to .975)
F2 Total	-.111 (.063)	3.152*n.s.*	.895 (.792 to 1.012)
G1 Total	-.022 (.022)	1.035*n.s.*	.978 (.937 to 1.021)
Constant	-1.938 (.103)	355.128***	.144

Note. n = 20,450.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ *** $p < .001$.

Table G 11

Hierarchical logistic regression analysis for variables related to non-violent recidivism for sexual offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.096 (.010)	94.882***	1.101 (1.080 to 1.123)
Constant	-3.504 (.198)	313.690***	.030
Block 2			
General Risk/Need	.090 (.010)	81.430***	1.095 (1.073 to 1.116)
Gender[b]	.287 (.824)	.121*n.s.*	1.333 (.265 to 6.704)
Age	-.023 (.008)	9.544**	.977 (.963 to .991)
Ethnicity[c]	-.050 (.193)	.068*n.s.*	.951 (.652 to 1.387)
Constant	-2.779 (.933)	8.875**	.062
Block 3			
General Risk/Need	.092 (.016)	34.072***	1.096 (1.063 to 1.130)
Gender[b]	.355 (.837)	.180*n.s.*	1.426 (.277 to 7.353)
Age	-.024 (.008)	9.336**	.976 (.962 to .991)
Ethnicity[c]	-.004 (.199)	.000	.996 (.674 to 1.472)
B1 Total	.002 (.065)	.001*n.s.*	1.002 (.881 to 1.139)
B2 Total	.068 (.084)	.647*n.s.*	1.070 (.907 to 1.262)
C1 Total	-.101 (.095)	1.132*n.s.*	.904 (.751 to 1.088)
F1 Total	-.018 (.045)	.155*n.s.*	.983 (.901 to 1.072)
F2 Total	-.105 (.249)	.178*n.s.*	.900 (.553 to 1.466)
G1 Total	.056 (.097)	.337*n.s.*	1.058 (.874 to 1.280)
Constant	-2.897 (.954)	9.216**	.055

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table G 12

Hierarchical logistic regression analysis for variables related to non-violent recidivism for non-violent offenders

	β (*SE*)	Wald[a]	Exp(β) and 95% CI
Block 1			
General Risk/Need	.078 (.002)	1500.251***	1.081 (1.077 to 1.085)
Constant	-1.931 (.036)	2859.485***	.145
Block 2			
General Risk/Need	.077 (.002)	1418.639***	1.080 (1.076 to 1.084)
Gender[b]	.053 (.042)	1.591*n.s.*	1.055 (.971 to 1.146)
Age	-.012 (.002)	55.583***	.989 (.986 to .992)
Ethnicity[c]	.105 (.037)	7.940**	1.111 (1.033 to 1.195)
Constant	-1.665 (.083)	400.823***	.189
Block 3			
General Risk/Need	.074 (.003)	580.715***	1.077 (1.070 to 1.083)
Gender[b]	.096 (.045)	4.490*	1.101 (1.007 to 1.204)
Age	-.010 (.002)	35.293***	.990 (.987 to .994)
Ethnicity[c]	.102 (.038)	7.287**	1.107 (1.028 to 1.193)
B1 Total	.111 (.016)	46.631***	1.117 (1.082 to 1.153)
B2 Total	-.040 (.019)	4.289*	.961 (.925 to .998)
C1 Total	.057 (.028)	4.085*	1.058 (1.002 to 1.118)
F1 Total	-.035 (.010)	13.521***	.965 (.947 to .984)
F2 Total	-.191 (.067)	8.132**	.826 (.724 to .942)
G1 Total	-.048 (.022)	4.722*	.953 (.912 to .995)
Constant	-1.766 (.087)	413.242***	.171

Note. n = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 13

Hierarchical logistic regression analysis for variables related to general recidivism for all offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.215 (.006)	1313.100***	1.240 (1.225 to 1.254)
A2 Total	.098 (.005)	354.954***	1.103 (1.092 to 1.114)
A3 Total	.005 (.011)	.164*n.s.*	1.005 (.983 to 1.027)
A4 Total	.106 (.018)	35.000***	1.112 (1.073 to 1.151)
A5 Total	.188 (.013)	201.615***	1.207 (1.176 to 1.239)
A6 Total	-.010 (.014)	.528*n.s.*	.990 (.963 to 1.017)
A7 Total	.086 (.006)	240.730***	1.089 (1.078 to 1.101)
A8 Total	.099 (.021)	21.438***	1.104 (1.059 to 1.151)
Constant	-1.863 (.027)	4759.657***	.155
Block 2			
A1 Total	.247 (.006)	1519.512***	1.280 (1.264 to 1.296)
A2 Total	.078 (.005)	210.524***	1.081 (1.070 to 1.092)
A3 Total	.078 (.012)	43.730***	1.081 (1.056 to 1.106)
A4 Total	.105 (.018)	33.457***	1.110 (1.072 to 1.151)
A5 Total	.090 (.014)	42.988***	1.094 (1.065 to 1.124)
A6 Total	.066 (.014)	21.098***	1.068 (1.038 to 1.098)
A7 Total	.101 (.006)	319.329***	1.107 (1.094 to 1.119)
A8 Total	-.018 (.022)	.693*n.s.*	.982 (.940 to 1.025)
Gender[b]	-.166 (.034)	24.556***	.847 (.793 to .904)
Age	-.034 (.001)	853.953***	.966 (.964 to .969)
Ethnicity[c]	.045 (.025)	3.207*n.s.*	1.046 (.996 to 1.098)
Constant	-.607 (.059)	104.116***	.545
Block 3			
A1 Total	.238 (.007)	1146.118***	1.269 (1.252 to 1.287)
A2 Total	.074 (.005)	185.887***	1.077 (1.066 to 1.089)
A3 Total	.064 (.012)	26.592***	1.066 (1.040 to 1.092)
A4 Total	.090 (.018)	24.119***	1.094 (1.055 to 1.134)
A5 Total	.093 (.014)	45.220***	1.097 (1.068 to 1.127)
A6 Total	.038 (.016)	5.973*	1.039 (1.008 to 1.071)
A7 Total	.098 (.006)	288.707***	1.103 (1.091 to 1.116)
A8 Total	-.038 (.022)	2.853*n.s.*	.963 (.922 to 1.006)
Gender[b]	-.132 (.035)	14.611***	.876 (.819 to .938)
Age	-.034 (.001)	793.223***	.967 (.965 to .969)
Ethnicity[c]	.050 (.025)	3.856*	1.051 (1.000 to 1.104)
B1 Total	.098 (.010)	89.271***	1.103 (1.081 to 1.126)
B2 Total	-.010 (.013)	.623*n.s.*	.990 (.964 to 1.016)
C1 Total	.011 (.019)	.327*n.s.*	1.011 (.973 to 1.051)
F1 Total	-.013 (.007)	3.540*n.s.*	.987 (.974 to 1.001)
F2 Total	-.104 (.048)	4.721*	.901 (.821 to .990)
G1 Total	.016 (.016)	.967*n.s.*	1.016 (.985 to 1.048)
Constant	-.705 (.062)	130.579***	.494

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ *** $p < .001$.

Table G 14

Hierarchical logistic regression analysis for variables related to general recidivism for violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.209 (.008)	645.489***	1.232 (1.212 to 1.252)
A2 Total	.109 (.007)	229.033***	1.115 (1.099 to 1.131)
A3 Total	.007 (.016)	.217*n.s.*	1.007 (.977 to 1.039)
A4 Total	.133 (.025)	29.018***	1.143 (1.088 to 1.199)
A5 Total	.190 (.018)	105.359***	1.209 (1.166 to 1.253)
A6 Total	-.037 (.019)	3.663*n.s.*	.964 (.929 to 1.001)
A7 Total	.090 (.008)	138.736***	1.094 (1.078 to 1.110)
A8 Total	.088 (.029)	9.140**	1.092 (1.031 to 1.156)
Constant	-1.855 (.038)	2435.487***	.157
Block 2			
A1 Total	.234 (.009)	726.447***	1.264 (1.243 to 1.286)
A2 Total	.088 (.007)	142.278***	1.092 (1.077 to 1.108)
A3 Total	.092 (.016)	31.326***	1.096 (1.061 to 1.132)
A4 Total	.131 (.025)	27.434***	1.140 (1.086 to 1.198)
A5 Total	.083 (.019)	18.483***	1.086 (1.046 to 1.128)
A6 Total	.043 (.020)	4.681*	1.044 (1.004 to 1.085)
A7 Total	.109 (.008)	195.720***	1.116 (1.099 to 1.133)
A8 Total	-.031 (.030)	1.036*n.s.*	.970 (.914 to 1.029)
Gender[b]	-.288 (.053)	29.767***	.750 (.676 to .832)
Age	-.036 (.002)	469.931***	.964 (.961 to .968)
Ethnicity[c]	.017 (.034)	.233*n.s.*	1.017 (.950 to 1.088)
Constant	-.414 (.087)	22.549***	.661
Block 3			
A1 Total	.228 (.010)	542.481***	1.256 (1.232 to 1.280)
A2 Total	.086 (.008)	128.634***	1.089 (1.073 to 1.106)
A3 Total	.084 (.017)	24.454***	1.088 (1.052 to 1.125)
A4 Total	.116 (.025)	21.190***	1.123 (1.069 to 1.180)
A5 Total	.083 (.019)	18.559***	1.087 (1.046 to 1.128)
A6 Total	.017 (.021)	.594*n.s.*	1.017 (.975 to 1.060)
A7 Total	.107 (.008)	178.867***	1.112 (1.095 to 1.130)
A8 Total	-.048 (.031)	2.502*n.s.*	.953 (.897 to 1.012)
Gender[b]	-.263 (.054)	23.867***	.769 (.692 to .854)
Age	-.036 (.002)	445.146***	.965 (.961 to .968)
Ethnicity[c]	.025 (.035)	.525*n.s.*	1.026 (.958 to 1.098)
B1 Total	.072 (.014)	25.309***	1.074 (1.045 to 1.105)
B2 Total	-.020 (.018)	1.222*n.s.*	.980 (.946 to 1.016)
C1 Total	.044 (.027)	2.640*n.s.*	1.045 (.991 to 1.101)
F1 Total	-.011 (.009)	1.471*n.s.*	.989 (.971 to 1.007)
F2 Total	-.055 (.067)	.682*n.s.*	.946 (.830 to 1.079)
G1 Total	.025 (.022)	1.341*n.s.*	1.025 (.983 to 1.070)
Constant	-.492 (.090)	29.754***	.612

Note. n = 20,450.

[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 15

Hierarchical logistic regression analysis for variables related to general recidivism for sexual offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.269 (.041)	43.300***	1.309 (1.208 to 1.419)
A2 Total	.116 (.032)	12.800***	1.123 (1.054 to 1.196)
A3 Total	-.074 (.069)	1.155*n.s.*	.929 (.812 to 1.063)
A4 Total	-.040 (.111)	.131*n.s.*	.961 (.773 to 1.194)
A5 Total	.192 (.087)	4.873*	1.212 (1.022 to 1.438)
A6 Total	-.014 (.075)	.033*n.s.*	.987 (.852 to 1.142)
A7 Total	.067 (.034)	3.889*	1.070 (1.000 to 1.144)
A8 Total	.168 (.113)	2.200*n.s.*	1.183 (.947 to 1.477)
Constant	-2.460 (.167)	216.553***	.085
Block 2			
A1 Total	.289 (.042)	46.505***	1.335 (1.228 to 1.450)
A2 Total	.085 (.033)	6.458*	1.088 (1.020 to 1.162)
A3 Total	.033 (.072)	.218*n.s.*	1.034 (.899 to 1.190)
A4 Total	-.083 (.114)	.532*n.s.*	.920 (.737 to 1.150)
A5 Total	.120 (.089)	1.822*n.s.*	1.128 (.947 to 1.344)
A6 Total	.039 (.076)	.257*n.s.*	1.039 (.895 to 1.207)
A7 Total	.060 (.035)	2.962*n.s.*	1.062 (.992 to 1.137)
A8 Total	.091 (.117)	.614*n.s.*	1.096 (.872 to 1.377)
Gender[b]	-.580 (.862)	.453*n.s.*	.560 (.103 to 3.034)
Age	-.036 (.006)	33.404***	.964 (.952 to .976)
Ethnicity[c]	-.026 (.154)	.029*n.s.*	.974 (.720 to 1.318)
Constant	-.445 (.925)	.231*n.s.*	.641
Block 3			
A1 Total	.297 (.047)	39.278***	1.346 (1.227 to 1.478)
A2 Total	.097 (.035)	7.916**	1.102 (1.030 to 1.180)
A3 Total	.030 (.076)	.154*n.s.*	1.030 (.888 to 1.195)
A4 Total	-.055 (.117)	.224*n.s.*	.946 (.753 to 1.190)
A5 Total	.154 (.090)	2.899*n.s.*	1.166 (.977 to 1.393)
A6 Total	.011 (.083)	.018*n.s.*	1.011 (.859 to 1.190)
A7 Total	.058 (.036)	2.646*n.s*	1.060 (.988 to 1.137)
A8 Total	.136 (.121)	1.262*n.s.*	1.146 (.904 to 1.453)
Gender[b]	-.583 (.884)	.435*n.s.*	.558 (.099 to 3.157)
Age	-.034 (.006)	28.287***	.966 (.954 to .978)
Ethnicity[c]	.004 (.160)	.001*n.s.*	1.004 (.733 to 1.375)
B1 Total	.062 (.055)	1.293*n.s.*	1.064 (.956 to 1.184)
B2 Total	.040 (.076)	.267*n.s.*	1.040 (.896 to 1.208)
C1 Total	-.207 (.082)	6.390*	.813 (.692 to .955)
F1 Total	-.016 (.039)	.163*n.s.*	.984 (.912 to 1.062)
F2 Total	-.558 (.217)	6.629**	.572 (.374 to .875)
G1 Total	.093 (.083)	1.246*n.s.*	1.097 (.932 to 1.292)
Constant	-.684 (.954)	.514*n.s.*	.505

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 16

Hierarchical logistic regression analysis for variables related to general recidivism for non-violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.216 (.009)	596.075***	1.241 (1.220 to 1.263)
A2 Total	.084 (.008)	115.598***	1.087 (1.071 to 1.104)
A3 Total	.014 (.017)	.657*n.s.*	1.014 (.981 to 1.048)
A4 Total	.094 (.027)	12.362***	1.098 (1.042 to 1.157)
A5 Total	.166 (.020)	69.291***	1.180-1.135 to 1.227
A6 Total	.037 (.021)	2.971*n.s.*	1.037 (.995 to 1.081)
A7 Total	.076 (.008)	83.629***	1.079 (1.062 to 1.097)
A8 Total	.121 (.033)	13.349***	1.128 (1.057 to 1.203)
Constant	-1.819 (.040)	2020.825***	.162
Block 2			
A1 Total	.250 (.010)	680.552***	1.284 (1.260 to 1.308)
A2 Total	.066 (.008)	68.479***	1.069 (1.052 to 1.086)
A3 Total	.079 (.018)	19.308***	1.082 (1.045 to 1.120)
A4 Total	.093 (.027)	11.935***	1.098 (1.041 to 1.158)
A5 Total	.078 (.021)	14.528***	1.082 (1.039 to 1.126)
A6 Total	.107 (.022)	23.837***	1.113 (1.066 to 1.162)
A7 Total	.089 (.009)	107.459***	1.093 (1.075 to 1.112)
A8 Total	.004 (.034)	.017*n.s.*	1.004 (.940 to 1.074)
Gender[b]	-.129 (.045)	8.235**	.879 (.804 to .960)
Age	-.031 (.002)	320.039***	.970 (.966 to .973)
Ethnicity[c]	.094 (.038)	6.257*	1.099 (1.021 to 1.183)
Constant	-.726 (.086)	71.598***	.484
Block 3			
A1 Total	.217 (.011)	397.099***	1.242 (1.216 to 1.269)
A2 Total	.060 (.008)	53.414***	1.062 (1.045 to 1.079)
A3 Total	.055 (.019)	8.666**	1.057 (1.019 to 1.096)
A4 Total	.069 (.027)	6.291*	1.071 (1.015 to 1.131)
A5 Total	.070 (.021)	11.484***	1.073 (1.030 to 1.117)
A6 Total	.065 (.024)	7.494**	1.067 (1.019 to 1.118)
A7 Total	.080 (.009)	82.169***	1.083 (1.064 to 1.102)
A8 Total	-.035 (.035)	1.034*n.s.*	.965 (.902 to 1.033)
Gender[b]	-.106 (.047)	5.119*	.899 (.820 to .986)
Age	-.030 (.002)	283.934***	.971 (.967 to .974)
Ethnicity[c]	.100 (.038)	6.875**	1.105 (1.026 to 1.191)
B1 Total	.186 (.017)	117.793***	1.204 (1.165 to 1.246)
B2 Total	.022 (.022)	1.019*n.s.*	1.022 (.979 to 1.067)
C1 Total	.033 (.032)	1.048*n.s.*	1.033 (.971 to 1.100)
F1 Total	-.012 (.010)	1.363*n.s.*	.988 (.968 to 1.008)
F2 Total	-.103 (.075)	1.864*n.s.*	.902 (.779 to 1.046)
G1 Total	.006 (.024)	.070*n.s.*	1.006 (.959 to 1.056)
Constant	-.786 (.089)	78.657***	.456

Note. n = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 17

Hierarchical logistic regression analysis for variables related to violent recidivism for all offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.134 (.007)	339.735***	1.143 (1.127 to 1.160)
A2 Total	.062 (.006)	97.586***	1.064 (1.051 to 1.077)
A3 Total	.041 (.013)	9.663**	1.042 (1.015 to 1.070)
A4 Total	.058 (.022)	6.658**	1.059 (1.014 to 1.107)
A5 Total	.053 (.016)	10.904***	1.055 (1.022 to 1.088)
A6 Total	-.052 (.015)	11.599***	.949 (.921 to .978)
A7 Total	.060 (.007)	81.805***	1.061 (1.048 to 1.075)
A8 Total	.070 (.023)	9.552**	1.073 (1.026 to 1.122)
Constant	-2.586 (.034)	5722.755***	.075
Block 2			
A1 Total	.144 (.008)	362.970***	1.155 (1.138 to 1.172)
A2 Total	.048 (.006)	53.681***	1.049 (1.035 to 1.062)
A3 Total	.128 (.014)	86.139***	1.137 (1.106 to 1.168)
A4 Total	.052 (.023)	5.246*	1.053 (1.007 to 1.101)
A5 Total	-.019 (.017)	1.308*n.s.*	.981 (.950 to 1.014)
A6 Total	.004 (.016)	.054*n.s.*	1.004 (.973 to 1.035)
A7 Total	.075 (.007)	124.799***	1.078 (1.064 to 1.092)
A8 Total	-.044 (.024)	3.418*n.s.*	.957 (.914 to 1.003)
Gender[b]	-.668 (.047)	199.693***	.513 (.467 to .562)
Age	-.032 (.001)	469.927***	.969 (.966 to .971)
Ethnicity[c]	.010 (.030)	.120*n.s.*	1.010 (.953 to 1.071)
Constant	-.826 (.077)	114.491***	.438
Block 3			
A1 Total	.112 (.008)	180.498***	1.118 (1.100 to 1.137)
A2 Total	.043 (.007)	42.550***	1.044 (1.031 to 1.058)
A3 Total	.092 (.015)	40.237***	1.097 (1.066 to 1.128)
A4 Total	.042 (.023)	3.410*n.s.*	1.043 (.997 to 1.091)
A5 Total	-.014 (.017)	.714*n.s.*	.986 (.954 to 1.019)
A6 Total	-.039 (.017)	5.307*	.961 (.930 to .994)
A7 Total	.062 (.007)	80.225***	1.064 (1.049 to 1.078)
A8 Total	-.077 (.024)	10.128***	.926 (.884 to .971)
Gender[b]	-.611 (.049)	158.510***	.543 (.494 to .597)
Age	-.034 (.002)	501.654***	.966 (.964 to .969)
Ethnicity[c]	.046 (.030)	2.266*n.s.*	1.047 (.986 to 1.111)
B1 Total	.104 (.012)	79.570***	1.110 (1.085 to 1.135)
B2 Total	.137 (.014)	92.406***	1.146 (1.115 to 1.179)
C1 Total	-.071 (.019)	13.486***	.931 (.896 to .967)
F1 Total	-.001 (.008)	.034*n.s.*	.999 (.984 to 1.014)
F2 Total	-.106 (.048)	4.879*	.899 (.819 to .988)
G1 Total	.038 (.018)	4.473*	1.039 (1.003 to 1.076)
Constant	-.917 (.080)	130.576***	.400

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 18

Hierarchical logistic regression analysis for variables related to violent recidivism for violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.129 (.009)	202.418***	1.138 (1.118 to 1.158)
A2 Total	.071 (.008)	81.080***	1.073 (1.057 to 1.090)
A3 Total	.018 (.017)	1.095*n.s.*	1.018 (.985 to 1.052)
A4 Total	.098 (.028)	12.311***	1.103 (1.044 to 1.165)
A5 Total	.062 (.020)	9.570**	1.064 (1.023 to 1.107)
A6 Total	-.057 (.019)	8.753**	.945 (.910 to .981)
A7 Total	.057 (.008)	47.966***	1.059 (1.042 to 1.076)
A8 Total	.040 (.029)	1.913*n.s.*	1.040 (.984 to 1.100)
Constant	-2.222 (.042)	2767.552***	.108
Block 2			
A1 Total	.140 (.009)	223.798***	1.150 (1.129 to 1.172)
A2 Total	.055 (.008)	46.974***	1.057 (1.040 to 1.074)
A3 Total	.080 (.017)	21.144***	1.083 (1.047 to 1.120)
A4 Total	.094 (.028)	11.328***	1.099 (1.040 to 1.161)
A5 Total	-.006 (.021)	.073*n.s.*	.994 (.955 to 1.036)
A6 Total	-.006 (.020)	.084*n.s.*	.994 (.957 to 1.033)
A7 Total	.071 (.008)	73.073***	1.074 (1.056 to 1.092)
A8 Total	-.047 (.029)	2.513*n.s.*	.954 (.901 to 1.011)
Gender[b]	-.344 (.061)	31.860***	.709 (.629 to .799)
Age	-.026 (.002)	203.361***	.974 (.971 to .978)
Ethnicity[c]	-.011 (.037)	.094*n.s.*	.989 (.920 to 1.063)
Constant	-1.006 (.099)	103.758***	.366
Block 3			
A1 Total	.131 (.010)	160.079***	1.139 (1.117 to 1.163)
A2 Total	.051 (.008)	39.149***	1.053 (1.036 to 1.070)
A3 Total	.058 (.018)	10.159***	1.060 (1.023 to 1.098)
A4 Total	.086 (.028)	9.332**	1.090 (1.031 to 1.152)
A5 Total	-.004 (.021)	.031*n.s.*	.996 (.956 to 1.038)
A6 Total	-.023 (.021)	1.118*n.s.*	.978 (.938 to 1.019)
A7 Total	.064 (.009)	56.556***	1.066 (1.049 to 1.084)
A8 Total	-.068 (.030)	5.095*	.935 (.881 to .991)
Gender[b]	-.350 (.062)	31.832***	.704 (.624 to .796)
Age	-.027 (.002)	208.100***	.973 (.970 to .977)
Ethnicity[c]	-.001 (.037)	.001*n.s.*	.999 (.928 to 1.075)
B1 Total	.064 (.015)	18.954***	1.006 (1.036 to 1.097)
B2 Total	.039 (.018)	4.805*	1.040 (1.004 to 1.077)
C1 Total	-.035 (.024)	2.043*n.s.*	.966 (.921 to 1.013)
F1 Total	.012 (.009)	1.596*n.s.*	1.012 (.994 to 1.031)
F2 Total	-.106 (.061)	3.022*n.s.*	.899 (.798 to 1.014)
G1 Total	.015 (.022)	.449*n.s.*	1.015 (.972 to 1.060)
Constant	-1.037 (.102)	102.663***	.354

Note. n = 20,450.

[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 19

Hierarchical logistic regression analysis for variables related to violent recidivism for sexual offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.226 (.061)	13.697***	1.254 (1.112 to 1.413)
A2 Total	.133 (.048)	7.583**	1.142 (1.039 to 1.256)
A3 Total	-.063 (.102)	.387*n.s.*	.939 (.769 to 1.146)
A4 Total	-.007 (.169)	.002*n.s.*	.993 (.713 to 1.384)
A5 Total	.049 (.130)	.143*n.s.*	1.050 (.815 to 1.354)
A6 Total	.008 (.106)	.006*n.s.*	1.008 (.819 to 1.242)
A7 Total	.114 (.049)	5.437*	1.120 (1.018 to 1.232)
A8 Total	-.148 (.162)	.835*n.s.*	.862 (.627 to 1.185)
Constant	-3.655 (.268)	185.582***	.026
Block 2			
A1 Total	.234 (.062)	14.408***	1.264 (1.120 to 1.427)
A2 Total	.096 (.049)	3.824*n.s.*	1.101 (1.000 to 1.212)
A3 Total	.063 (.106)	.357*n.s.*	1.065 (.865 to 1.312)
A4 Total	-.044 (.172)	.065*n.s.*	.957 (.684 to 1.340)
A5 Total	-.020 (.133)	.023*n.s.*	.980 (.755 to 1.272)
A6 Total	.067 (.108)	.383*n.s.*	1.069 (.866 to 1.320)
A7 Total	.109 (.049)	4.990*	1.115 (1.013 to 1.228)
A8 Total	-.249 (.166)	2.244*n.s.*	.779 (.563 to 1.080)
Gender[b]	-18.606 (10360.428)	.999	.000
Age	-.041 (.010)	16.461***	.960 (.941 to .979)
Ethnicity[c]	-.044 (.223)	.039*n.s.*	.957 (.619 to 1.480)
Constant	16.560 (10360.428)	.999	15549195.508
Block 3			
A1 Total	.176 (.069)	6.499*	1.193 (1.042 to 1.366)
A2 Total	.132 (.051)	6.714**	1.141 (1.033 to 1.262)
A3 Total	.082 (.113)	.531*n.s.*	1.085 (.871 to 1.353)
A4 Total	.067 (.178)	.142*n.s.*	1.069 (.755 to 1.515)
A5 Total	-.001 (.133)	.000	.999 (.769 to 1.297)
A6 Total	.096 (.121)	.633*n.s.*	1.101 (.868 to 1.397)
A7 Total	.112 (.051)	4.885*	1.119 (1.013 to 1.236)
A8 Total	-.189 (.172)	1.209*n.s.*	.828 (.591 to 1.159)
Gender[b]	-18.659 (10287.291)	.999	.000
Age	-.041 (.011)	15.124***	.960 (.940 to .980)
Ethnicity[c]	-.034 (.235)	.020*n.s.*	.967 (.610 to 1.533)
B1 Total	.003 (.078)	.002*n.s.*	1.003 (.861 to 1.169)
B2 Total	.277 (.104)	7.094**	1.320 (1.076 to 1.619)
C1 Total	-.126 (.110)	1.325*n.s.*	.881 (.711 to 1.093)
F1 Total	-.064 (.057)	1.292*n.s.*	.938 (.839 to 1.048)
F2 Total	-.689 (.320)	4.635*	.502 (.268 to .940)
G1 Total	-.094 (.124)	.572*n.s.*	.910 (.714 to 1.161)
Constant	16.469 (10287.291)	.999	14198331.227

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 20

Hierarchical logistic regression analysis for variables related to violent recidivism for non-violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.159 (.013)	146.681***	1.172 (1.142 to 1.203)
A2 Total	.039 (.011)	12.094***	1.040 (1.017 to 1.063)
A3 Total	-.006 (.024)	.068*n.s.*	.994 (.948 to 1.041)
A4 Total	.027 (.040)	.466*n.s.*	1.028 (.950 to 1.112)
A5 Total	.110 (.029)	14.598***	1.116 (1.055 to 1.181)
A6 Total	-.071 (.027)	6.767**	.931 (.883 to .983)
A7 Total	.049 (.012)	17.301***	1.051 (1.026 to 1.075)
A8 Total	.137 (.041)	11.366***	1.146 (1.059 to 1.241)
Constant	-3.092 (.063)	2409.825***	.045
Block 2			
A1 Total	.168 (.014)	149.672***	1.183 (1.152 to 1.216)
A2 Total	.027 (.012)	5.338*	1.027 (1.004 to 1.051)
A3 Total	.101 (.025)	16.421***	1.107 (1.054 to 1.162)
A4 Total	.021 (.041)	.269*n.s.*	1.021 (.943 to 1.106)
A5 Total	.039 (.030)	1.693*n.s.*	1.040 (.981 to 1.102)
A6 Total	-.011 (.028)	.164*n.s.*	.989 (.936 to 1.044)
A7 Total	.065 (.012)	28.350***	1.067 (1.042 to 1.093)
A8 Total	-.003 (.042)	.005*n.s.*	.997 (.918 to 1.083)
Gender[b]	-.791 (.080)	98.124***	.453 (.388 to .530)
Age	-.035 (.003)	173.105***	.965 (.960 to .971)
Ethnicity[c]	.098 (.055)	3.196*n.s.*	1.103 (.991 to 1.227)
Constant	-1.122 (.135)	69.398***	.325
Block 3			
A1 Total	.123 (.015)	64.834***	1.131 (1.097 to 1.165)
A2 Total	.023 (.012)	3.623*n.s.*	1.023 (.999 to 1.047)
A3 Total	.073 (.026)	7.691**	1.076 (1.022 to 1.132)
A4 Total	.003 (.041)	.007*n.s.*	1.003 (.926 to 1.088)
A5 Total	.035 (.030)	1.341*n.s.*	1.035 (.976 to 1.098)
A6 Total	-.077 (.031)	6.323*	.929 (.872 to .983)
A7 Total	.049 (.012)	15.571***	1.051 (1.02 to 1.077)
A8 Total	-.043 (.043)	.986*n.s.*	.958 (.881 to 1.042)
Gender[b]	-.726 (.082)	78.103***	.484 (.412 to .568)
Age	-.038 (.003)	186.170***	.963 (.957 to .968)
Ethnicity[c]	.142 (.055)	6.577**	1.153 (1.034 to 1.285)
B1 Total	.087 (.022)	15.986***	1.091 (1.046 to 1.139)
B2 Total	.164 (.026)	41.007***	1.178 (1.121 to 1.239)
C1 Total	-.060 (.035)	2.906*n.s.*	.941 (.878 to 1.009)
F1 Total	-.005 (.014)	.143*n.s.*	.995 (.968 to 1.022)
F2 Total	.036 (.084)	.189*n.s.*	1.037 (.880 to 1.222)
G1 Total	.099 (.033)	9.108**	1.104 (1.035 to 1.177)
Constant	-1.127 (.140)	65.224***	.324

Note. n = 16,914.

[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 21

Hierarchical logistic regression analysis for variables related to sexual recidivism for all offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.066 (.036)	3.319*n.s.*	1.068 (.995 to 1.146)
A2 Total	.018 (.031)	.326*n.s.*	1.018 (.958 to 1.081)
A3 Total	.090 (.065)	1.933*n.s.*	1.094 (.964 to 1.242)
A4 Total	.212 (.113)	3.510*n.s.*	1.236 (.990 to 1.543)
A5 Total	-.190 (.079)	5.761*	.827 (.708 to .966)
A6 Total	.122 (.070)	3.030*n.s.*	1.129 (.985 to 1.295)
A7 Total	-.082 (.032)	6.402*	.921 (.865 to .982)
A8 Total	.277 (.107)	6.718**	1.319 (1.070 to 1.626)
Constant	-5.770 (.165)	1224.343***	.003
Block 2			
A1 Total	.017 (.037)	.200*n.s.*	1.017 (.946 to 1.093)
A2 Total	.050 (.032)	2.452*n.s.*	1.051 (.988 to 1.119)
A3 Total	.112 (.067)	2.807*n.s.*	1.118 (.981 to 1.275)
A4 Total	.193 (.113)	2.938*n.s.*	1.213 (.973 to 1.514)
A5 Total	-.131 (.081)	2.615*n.s.*	.877 (.749 to 1.028)
A6 Total	.068 (.071)	.920*n.s.*	1.071 (.931 to 1.231)
A7 Total	-.095 (.033)	8.357**	.909 (.853 to .970)
A8 Total	.316 (.108)	8.574**	1.372 (1.110 to 1.696)
Gender[b]	-3.016 (.712)	17.928***	.049 (.012 to .198)
Age	.015 (.006)	6.179*	1.015 (1.003 to 1.027)
Ethnicity[c]	.122 (.146)	.695*n.s.*	1.129 (.848 to 1.504)
Constant	-3.160 (.774)	16.678***	.042
Block 3			
A1 Total	-.019 (.041)	.226*n.s.*	.981 (.906 to 1.062)
A2 Total	.016 (.033)	.252*n.s.*	1.017 (.954 to 1.084)
A3 Total	-.019 (.071)	.071*n.s.*	.981 (.854 to 1.128)
A4 Total	.131 (.113)	1.342*n.s.*	1.140 (.913 to 1.422)
A5 Total	-.119 (.081)	2.140*n.s.*	.888 (.757 to 1.041)
A6 Total	-.043 (.077)	.315*n.s.*	.958 (.824 to 1.113)
A7 Total	-.124 (.033)	13.823***	.883 (.828 to .943)
A8 Total	.144 (.109)	1.742*n.s.*	1.155 (.932 to 1.432)
Gender[b]	-2.974 (.714)	17.348***	.051 (.013 to .207)
Age	.013 (.006)	4.348*	1.013 (1.001 to 1.025)
Ethnicity[c]	.140 (.149)	.880*n.s.*	1.150 (.859 to 1.539)
B1 Total	.300 (.051)	35.167***	1.349 (1.222 to 1.490)
B2 Total	.025 (.065)	.147*n.s.*	1.025 (.902 to 1.165)
C1 Total	.024 (.081)	.088*n.s.*	1.024 (.873 to 1.202)
F1 Total	.068 (.033)	4.108*	1.070 (1.002 to 1.142)
F2 Total	-.383 (.219)	3.050*n.s.*	.682 (.444 to 1.048)
G1 Total	.147 (.078)	3.529*n.s.*	1.158 (.994 to 1.349)
Constant	-3.328 (.781)	18.161***	.036

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 22

Hierarchical logistic regression analysis for variables related to sexual recidivism for violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.148 (.058)	6.506*	1.160 (1.035 to 1.300)
A2 Total	-.026 (.049)	.284*n.s.*	.974 (.884 to 1.073)
A3 Total	.158 (.103)	2.363*n.s.*	1.171 (.957 to 1.433)
A4 Total	.385 (.188)	4.200*	1.470 (1.017 to 2.125)
A5 Total	-.204 (.126)	2.622*n.s.*	.816 (.637 to 1.044)
A6 Total	.132 (.106)	1.548*n.s.*	1.141 (.927 to 1.405)
A7 Total	-.058 (.050)	1.328*n.s.*	.944 (.856 to 1.041)
A8 Total	.199 (.161)	1.525*n.s.*	1.221 (.890 to 1.675)
Constant	-6.567 (.294)	500.233***	.001
Block 2			
A1 Total	.119 (.059)	4.091*	1.127 (1.004 to 1.265)
A2 Total	-.013 (.050)	.067*n.s.*	.987 (.894 to 1.090)
A3 Total	.187 (.106)	3.122*n.s.*	1.205 (.980 to 1.482)
A4 Total	.377 (.188)	4.024*	1.458 (1.009 to 2.107)
A5 Total	-.190 (.128)	2.183*n.s.*	.827 (.643 to 1.064)
A6 Total	.113 (.108)	1.089*n.s.*	1.120 (.906 to 1.384)
A7 Total	-.059 (.051)	1.371*n.s.*	.942 (.853 to 1.041)
A8 Total	.210 (.165)	1.620*n.s.*	1.233 (.893 to 1.703)
Gender[b]	-2.297 (1.010)	5.176*	.101 (.014 to .728)
Age	.003 (.010)	.078*n.s.*	1.003 (.983 to 1.024)
Ethnicity[c]	.007 (.227)	.001*n.s.*	1.007 (.646 to 1.571)
Constant	-4.252 (1.133)	14.076***	.014
Block 3			
A1 Total	.086 (.064)	1.796*n.s.*	1.090 (.961 to 1.237)
A2 Total	-.023 (.052)	.190*n.s.*	.978 (.884 to 1.082)
A3 Total	.136 (.111)	1.491*n.s.*	1.145 (.921 to 1.424)
A4 Total	.344 (.188)	3.347*n.s.*	1.411 (.976 to 2.041)
A5 Total	-.187 (.129)	2.097*n.s.*	.830 (.644 to 1.068)
A6 Total	.050 (.117)	.183*n.s.*	1.051 (.836 to 1.321)
A7 Total	-.077 (.052)	2.247*n.s.*	.925 (.836 to 1.024)
A8 Total	.130 (.167)	.606*n.s.*	1.139 (.820 to 1.582)
Gender[b]	-2.246 (1.012)	4.925*	.106 (.015 to .769)
Age	.000 (.011)	.002*n.s.*	1.000 (.979 to 1.022)
Ethnicity[c]	.053 (.232)	.052*n.s.*	1.054 (.669 to 1.660)
B1 Total	.228 (.081)	7.895**	1.257 (1.072 to 1.473)
B2 Total	.087 (.098)	.774*n.s.*	1.090 (.899 to 1.322)
C1 Total	-.059 (.127)	.218*n.s.*	.942 (.735 to 1.209)
F1 Total	-.009 (.053)	.026*n.s.*	.991 (.893 to 1.101)
F2 Total	-.237 (.328)	.524*n.s.*	.789 (.415 to 1.500)
G1 Total	.025 (.127)	.040*n.s.*	1.026 (.800 to 1.315)
Constant	-4.441 (1.148)	14.970***	.012

Note. n = 20,450.

[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 23

Hierarchical logistic regression analysis for variables related to sexual recidivism for sexual offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.093 (.071)	1.730*n.s.*	1.098 (.955 to 1.262)
A2 Total	.043 (.056)	.603*n.s.*	1.044 (.936 to 1.165)
A3 Total	-.140 (.117)	1.422*n.s.*	.870 (.691 to 1.094)
A4 Total	.088 (.194)	.205*n.s.*	1.092 (.746 to 1.597)
A5 Total	.223 (.147)	2.290*n.s.*	1.250 (.936 to 1.669)
A6 Total	.072 (.123)	.347*n.s.*	1.075 (.845 to 1.367)
A7 Total	-.085 (.060)	1.980*n.s.*	.918 (.816 to 1.034)
A8 Total	.188 (.182)	1.072*n.s.*	1.207 (.845 to 1.723)
Constant	-3.394 (.277)	150.285***	.034
Block 2			
A1 Total	.086 (.072)	1.448*n.s.*	1.090 (.947 to 1.254)
A2 Total	.032 (.057)	.324*n.s.*	1.033 (.924 to 1.155)
A3 Total	-.095 (.121)	.617*n.s.*	.909 (.717 to 1.153)
A4 Total	.049 (.195)	.063*n.s.*	1.050 (.716 to 1.539)
A5 Total	.209 (.149)	1.967*n.s.*	1.232 (.920 to 1.650)
A6 Total	.087 (.124)	.496*n.s.*	1.091 (.856 to 1.391)
A7 Total	-.084 (.060)	1.946*n.s.*	.919 (.817 to 1.035)
A8 Total	.158 (.184)	.742*n.s.*	1.172 (.817 to 1.680)
Gender[b]	-18.285 (10484.458)	.999	.000
Age	-.014 (.010)	1.965*n.s.*	.986 (.967 to 1.006)
Ethnicity[c]	.239 (.264)	.818*n.s.*	1.270 (.757 to 2.130)
Constant	15.340 (10484.458)	.999	4593553.461
Block 3			
A1 Total	.127 (.078)	2.642*n.s.*	1.136 (.974 to 1.324)
A2 Total	.011 (.058)	.037*n.s.*	1.011 (.902 to 1.134)
A3 Total	-.128 (.129)	.991*n.s.*	.880 (.683 to 1.132)
A4 Total	.012 (.199)	.004*n.s.*	1.012 (.685 to 1.496)
A5 Total	.233 (.147)	2.509*n.s.*	1.263 (.946 to 1.685)
A6 Total	.073 (.135)	.293*n.s.*	1.076 (.826 to 1.400)
A7 Total	-.066 (.061)	1.178*n.s.*	.936 (.831 to 1.055)
A8 Total	.112 (.188)	.355*n.s.*	1.118 (.774 to 1.615)
Gender[b]	-18.290 (10385.989)	.999	.000
Age	-.010 (.010)	.936*n.s.*	.990 (.970 to 1.010)
Ethnicity[c]	.197 (.276)	.507*n.s.*	1.217 (.709 to 2.091)
B1 Total	.138 (.088)	2.496*n.s.*	1.148 (.967 to 1.363)
B2 Total	-.199 (.131)	2.291*n.s.*	.820 (.634 to 1.060)
C1 Total	-.122 (.133)	.846*n.s.*	.885 (.682 to 1.148)
F1 Total	.058 (.062)	.864*n.s.*	1.059 (.938 to 1.196)
F2 Total	-.776 (.365)	4.528*	.460 (.225 to .941)
G1 Total	.178 (.134)	1.761*n.s.*	1.195 (.919 to 1.553)
Constant	14.952 (10385.989)	.999	3116775.989

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ *** $p < .001$.

Table G 24

Hierarchical logistic regression analysis for variables related to sexual recidivism for non-violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.058 (.070)	.688*n.s.*	1.060 (.924 to 1.215)
A2 Total	.068 (.060)	1.291*n.s.*	1.071 (.952 to 1.205)
A3 Total	-.006 (.130)	.002*n.s.*	.994 (.770 to 1.282)
A4 Total	-.071 (.211)	.113*n.s.*	.932 (.617 to 1.408)
A5 Total	-.102 (.156)	.432*n.s.*	.903 (.665 to 1.225)
A6 Total	-.242 (.162)	2.251*n.s.*	.785 (.572 to 1.077)
A7 Total	.011 (.064)	.030*n.s.*	1.011 (.892 to 1.147)
A8 Total	.328 (.221)	2.192*n.s.*	1.388 (.899 to 2.142)
Constant	-5.945 (.304)	382.615***	.003
Block 2			
A1 Total	-.024 (.073)	.109*n.s.*	.976 (.846 to 1.126)
A2 Total	.118 (.062)	3.656*n.s.*	1.126 (.997 to 1.271)
A3 Total	.052 (.135)	.147*n.s.*	1.053 (.808 to 1.373)
A4 Total	-.102 (.209)	.238*n.s.*	.903 (.599 to 1.361)
A5 Total	-.026 (.159)	.027*n.s.*	.974 (.713 to 1.331)
A6 Total	-.331 (.166)	3.995*	.718 (.519 to .994)
A7 Total	-.012 (.065)	.033*n.s.*	.988 (.870 to 1.123)
A8 Total	.418 (.225)	3.435*n.s.*	1.518 (.976 to 2.361)
Gender[b]	-2.909 (1.015)	8.208**	.055 (.007 to .399)
Age	.028 (.011)	6.000*	1.029 (1.006 to 1.052)
Ethnicity[c]	-.082 (.285)	.082*n.s.*	.922 (.527 to 1.611)
Constant	-3.699 (1.163)	10.125***	.025
Block 3			
A1 Total	-.100 (.083)	1.466*n.s.*	.904 (.769 to 1.064)
A2 Total	.086 (.063)	1.905*n.s.*	1.090 (.964 to 1.232)
A3 Total	-.098 (.144)	.463*n.s.*	.907 (.684 to 1.202)
A4 Total	-.138 (.209)	.439*n.s.*	.871 (.579 to 1.311)
A5 Total	-.052 (.160)	.106*n.s.*	.949 (.694 to 1.298)
A6 Total	-.461 (.175)	6.899**	.631 (.447 to .890)
A7 Total	-.059 (.066)	.796*n.s.*	.943 (.828 to 1.073)
A8 Total	.240 (.230)	1.096*n.s.*	1.272 (.811 to 1.995)
Gender[b]	-3.038 (1.022)	8.844**	.048 (.006 to .355)
Age	.028 (.012)	5.316*	1.028 (1.004 to 1.052)
Ethnicity[c]	-.064 (.289)	.049*n.s.*	.938 (.533 to 1.653)
B1 Total	.339 (.108)	9.927**	1.404 (1.137 to 1.734)
B2 Total	.144 (.135)	1.133*n.s.*	1.155 (.886 to 1.505)
C1 Total	-.149 (.193)	.591*n.s.*	.862 (.590 to 1.259)
F1 Total	.108 (.068)	2.505*n.s.*	1.114 (.975 to 1.272)
F2 Total	-.620 (.519)	1.425*n.s.*	.538 (.194 to 1.488)
G1 Total	.249 (.157)	2.536*n.s.*	1.283 (.944 to 1.744)
Constant	-3.681 (1.176)	9.800**	.025

Note. n = 16,914.

[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 25

Hierarchical logistic regression analysis for variables related to non-violent recidivism for all offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.163 (.006)	632.036***	1.176 (1.162 to 1.191)
A2 Total	.065 (.006)	134.237***	1.067 (1.055 to 1.079)
A3 Total	-.031 (.012)	6.668**	.970 (.947 to .993)
A4 Total	.106 (.020)	28.555***	1.122 (1.069 to 1.156)
A5 Total	.184 (.014)	165.109***	1.202 (1.169 to 1.236)
A6 Total	.036 (.014)	6.723**	1.036 (1.009 to 1.065)
A7 Total	.051 (.006)	74.878***	1.052 (1.040 to 1.065)
A8 Total	-.083 (.021)	15.974***	.920 (.883 to .958)
Constant	-2.284 (.030)	5673.549***	.102
Block 2			
A1 Total	.186 (.007)	759.086***	1.204 (1.188 to 1.220)
A2 Total	.049 (.006)	74.353***	1.051 (1.039 to 1.063)
A3 Total	-.018 (.012)	2.044*n.s.*	.983 (.959 to 1.007)
A4 Total	.111 (.020)	30.962***	1.117 (1.074 to 1.162)
A5 Total	.139 (.015)	89.711***	1.149 (1.117 to 1.183)
A6 Total	.077 (.014)	30.126***	1.080 (1.051 to 1.111)
A7 Total	.058 (.006)	93.976***	1.060 (1.047 to 1.072)
A8 Total	-.139 (.021)	41.890***	.871 (.835 to .908)
Gender[b]	.293 (.035)	69.816***	1.340 (1.251 to 1.435)
Age	-.017 (.001)	179.710***	.983 (.981 to .986)
Ethnicity[c]	.083 (.027)	9.786**	1.087 (1.032 to 1.145)
Constant	-2.135 (.066)	1062.626***	.118
Block 3			
A1 Total	.213 (.007)	835.786***	1.238 (1.220 to 1.256)
A2 Total	.053 (.006)	81.530***	1.054 (1.042 to 1.066)
A3 Total	.006 (.013)	.246*n.s.*	1.006 (.981 to 1.032)
A4 Total	.111 (.020)	30.473***	1.117 (1.074 to 1.162)
A5 Total	.140 (.015)	89.654***	1.150 (1.117 to 1.183)
A6 Total	.095 (.015)	38.238***	1.099 (1.067 to 1.133)
A7 Total	.070 (.006)	129.809***	1.072 (1.059 to 1.085)
A8 Total	-.117 (.022)	28.966***	.889 (.852 to .928)
Gender[b]	.273 (.036)	56.725***	1.314 (1.224 to 1.411)
Age	-.014 (.001)	128.877***	.986 (.983 to .988)
Ethnicity[c]	.059 (.027)	4.719*	1.060 (1.006 to 1.118)
B1 Total	-.003 (.011)	.081*n.s.*	.997 (.976 to 1.018)
B2 Total	-.123 (.013)	87.968***	.884 (.862 to .907)
C1 Total	.022 (.018)	1.511*n.s.*	1.022 (.987 to 1.059)
F1 Total	-.018 (.007)	6.815**	.982 (.969 to .996)
F2 Total	-.130 (.044)	8.769**	.878 (.805 to .957)
G1 Total	-.014 (.016)	.779*n.s.*	.986 (.955 to 1.018)
Constant	-2.177 (.068)	1024.795***	.113

Note. N = 38,687.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 26

Hierarchical logistic regression analysis for variables related to non-violent recidivism for violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.157 (.010)	267.793***	1.170 (1.148 to 1.192)
A2 Total	.069 (.008)	69.622***	1.072 (1.054 to 1.089)
A3 Total	-.012 (.018)	.426*n.s.*	.989 (.955 to 1.023)
A4 Total	.103 (.030)	12.157***	1.109 (1.046 to 1.175)
A5 Total	.189 (.021)	79.547***	1.208 (1.159 to 1.259)
A6 Total	.020 (.020)	1.039*n.s.*	1.020 (.982 to 1.061)
A7 Total	.053 (.009)	37.383***	1.054 (1.037 to 1.072)
A8 Total	-.093 (.030)	9.788**	.911 (.860 to .966)
Constant	-2.586 (.046)	3131.080***	.075
Block 2			
A1 Total	.170 (.010)	296.328***	1.185 (1.163 to 1.209)
A2 Total	.055 (.008)	42.835***	1.057 (1.040 to 1.075)
A3 Total	.026 (.018)	2.019*n.s.*	1.026 (.990 to 1.063)
A4 Total	.102 (.030)	11.817***	1.108 (1.045 to 1.174)
A5 Total	.138 (.022)	40.442***	1.148 (1.100 to 1.199)
A6 Total	.065 (.020)	10.177***	1.067 (1.025 to 1.110)
A7 Total	.062 (.009)	50.700***	1.064 (1.046 to 1.083)
A8 Total	-.161 (.031)	27.759***	.851 (.802 to .904)
Gender[b]	.004 (.061)	.005*n.s.*	1.004 (.891 to 1.132)
Age	-.021 (.002)	118.048***	.979 (.976 to .983)
Ethnicity[c]	.094 (.039)	5.837*	1.099 (1.018 to 1.186)
Constant	-1.982 (.104)	365.326***	.138
Block 3			
A1 Total	.182 (.011)	283.269***	1.200 (1.175 to 1.225)
A2 Total	.059 (.009)	47.340***	1.061 (1.043 to 1.079)
A3 Total	.046 (.019)	5.853*	1.047 (1.009 to 1.087)
A4 Total	.102 (.030)	11.609***	1.107 (1.044 to 1.174)
A5 Total	.142 (.022)	42.298***	1.153 (1.104 to 1.203)
A6 Total	.064 (.022)	8.402**	1.066 (1.021 to 1.113)
A7 Total	.071 (.009)	62.341***	1.073 (1.055 to 1.092)
A8 Total	-.143 (.031)	21.064***	.867 (.816 to .921)
Gender[b]	.033 (.062)	.277*n.s.*	1.033 (.915 to 1.167)
Age	-.019 (.002)	96.184***	.981 (.977 to .985)
Ethnicity[c]	.085 (.040)	4.548*	1.089 (1.007 to 1.177)
B1 Total	-.003 (.015)	.045*n.s.*	.997 (.967 to 1.027)
B2 Total	-.055 (.019)	8.841**	.946 (.913 to .981)
C1 Total	.027 (.025)	1.204*n.s.*	1.028 (.979 to 1.079)
F1 Total	-.027 (.010)	7.711**	.973 (.955 to .992)
F2 Total	-.113 (.062)	3.293*n.s.*	.893 (.791 to 1.009)
G1 Total	.016 (.023)	.460*n.s.*	1.016 (.971 to 1.063)
Constant	-2.064 (.108)	368.085***	.127

Note. n = 20,450.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table G 27

Hierarchical logistic regression analysis for variables related to non-violent recidivism for sexual offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.248 (.053)	21.809***	1.282 (1.155 to 1.422)
A2 Total	.063 (.042)	2.245*n.s.*	1.065 (.981 to 1.157)
A3 Total	.016 (.088)	.032*n.s.*	1.016 (.854 to 1.208)
A4 Total	-.039 (.148)	.069*n.s.*	.962 (.719 to 1.2860
A5 Total	.124 (.112)	1.214*n.s.*	1.132 (.908 to 1.410)
A6 Total	-.048 (.093)	.263*n.s.*	.954 (.795 to 1.144)
A7 Total	.063 (.043)	2.177*n.s.*	1.065 (.980 to 1.158)
A8 Total	.148 (.138)	1.152*n.s.*	1.159 (.885 to 1.518)
Constant	-3.329 (.231)	207.715***	.036
Block 2			
A1 Total	.262 (.054)	23.674***	1.300 (1.169 to 1.444)
A2 Total	.037 (.043)	.752*n.s.*	1.038 (.954 to 1.129)
A3 Total	.090 (.092)	.958*n.s.*	1.094 (.914 to 1.309)
A4 Total	-.056 (.150)	.138*n.s.*	.946 (.705 to 1.268)
A5 Total	.063 (.115)	.307*n.s.*	1.066 (.851 to 1.334)
A6 Total	-.003 (.094)	.001*n.s.*	.997 (.829 to 1.199)
A7 Total	.057 (.043)	1.763*n.s.*	1.058 (.973 to 1.151)
A8 Total	.084 (.140)	.358*n.s.*	1.087 (.827 to 1.430)
Gender[b]	.607 (.836)	.527*n.s.*	1.835 (.356 to 9.445)
Age	-.025 (.008)	9.300**	.975 (.959 to .991)
Ethnicity[c]	-.060 (.195)	.095*n.s.*	.942 (.642 to 1.381)
Constant	-2.923 (.955)	9.363**	.054
Block 3			
A1 Total	.289 (.059)	23.924***	1.335 (1.189 to 1.499)
A2 Total	.039 (.044)	.788*n.s.*	1.040 (.954 to 1.133)
A3 Total	.107 (.097)	1.226*n.s.*	1.113 (.921 to 1.346)
A4 Total	-.066 (.152)	.188*n.s.*	.936 (.694 to 1.262)
A5 Total	.075 (.115)	.426*n.s.*	1.078 (.860 to 1.351)
A6 Total	-.049 (.103)	.230*n.s.*	.952 (.778 to 1.164)
A7 Total	.063 (.044)	2.063*n.s.*	1.065 (.977 to 1.160)
A8 Total	.094 (.143)	.429*n.s.*	1.099 (.829 to 1.455)
Gender[b]	.677 (.851)	.634*n.s.*	1.969 (.372 to 10.429)
Age	-.024 (.008)	8.250**	.976 (.960 to .992)
Ethnicity[c]	-.008 (.204)	.002*n.s.*	.992 (.665 to 1.478)
B1 Total	.018 (.067)	.075*n.s.*	1.018 (.893 to 1.161)
B2 Total	-.047 (.090)	.267*n.s.*	.955 (.800 to 1.139)
C1 Total	-.142 (.096)	2.223*n.s.*	.867 (.719 to 1.046)
F1 Total	-.018 (.047)	.149*n.s.*	.982 (.895 to 1.077)
F2 Total	.008 (.253)	.001*n.s.*	1.008 (.613 to 1.656)
G1 Total	.120 (.102)	1.375*n.s.*	1.127 (.923 to 1.377)
Constant	-3.120 (.982)	10.101***	.044

Note. n = 1,321.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table G 28

Hierarchical logistic regression analysis for variables related to non-violent recidivism for non-violent offenders using A1 to A8 total scores

	β (SE)	Wald[a]	Exp(β) and 95% CI
Block 1			
A1 Total	.160 (.009)	311.180***	1.173 (1.153 to 1.194)
A2 Total	.066 (.008)	70.372***	1.069 (1.052 to 1.085)
A3 Total	.016 (.017)	.869*n.s.*	1.016 (.983 to 1.051)
A4 Total	.109 (.028)	15.669***	1.116 (1.057 to 1.178)
A5 Total	.120 (.020)	35.190***	1.128 (1.084 to 1.173)
A6 Total	.090 (.020)	19.559***	1.094 (1.051 to 1.138)
A7 Total	.051 (.008)	37.540***	1.053 (1.036 to 1.070)
A8 Total	-.061 (.031)	3.897*	.940 (.885 to 1.000)
Constant	-1.989 (.042)	2237.721***	.137
Block 2			
A1 Total	.186 (.010)	371.772***	1.204 (1.182 to 1.227)
A2 Total	.052 (.008)	40.781***	1.053 (1.036 to 1.070)
A3 Total	.027 (.018)	2.234*n.s.*	1.027 (.992 to 1.063)
A4 Total	.116 (.028)	17.294***	1.123 (1.063 to 1.185)
A5 Total	.078 (.021)	14.014***	1.081 (1.038 to 1.126)
A6 Total	.129 (.021)	38.740***	1.138 (1.092 to 1.185)
A7 Total	.059 (.009)	47.665***	1.061 (1.043 to 1.079)
A8 Total	-.121 (.032)	14.316***	.886 (.832 to .943)
Gender[b]	.196 (.045)	18.838***	1.216 (1.113 to 1.329)
Age	-.016 (.002)	89.216***	.984 (.981 to .987)
Ethnicity[c]	.075 (.038)	3.862*	1.078 (1.000 to 1.161)
Constant	-1.746 (.089)	387.241***	.175
Block 3			
A1 Total	.193 (.011)	323.841***	1.213 (1.188 to 1.239)
A2 Total	.050 (.008)	36.494***	1.051 (1.034 to 1.068)
A3 Total	.025 (.019)	1.883*n.s.*	1.026 (.989 to 1.064)
A4 Total	.107 (.028)	14.505***	1.113 (1.053 to 1.176)
A5 Total	.073 (.021)	12.316***	1.076 (1.033 to 1.121)
A6 Total	.131 (.022)	34.152***	1.140 (1.091 to 1.192)
A7 Total	.062 (.009)	50.402***	1.064 (1.046 to 1.083)
A8 Total	-.130 (.032)	16.121***	.878 (.824 to .936)
Gender[b]	.183 (.047)	15.262***	1.201 (1.096 to 1.317)
Age	-.014 (.002)	61.650***	.986 (.983 to .990)
Ethnicity[c]	.061 (.038)	2.497*n.s.*	1.063 (.985 to 1.146)
B1 Total	.107 (.016)	42.949***	1.113 (1.078 to 1.149)
B2 Total	-.095 (.020)	22.223***	.909 (.874 to .946)
C1 Total	.013 (.028)	.208*n.s.*	1.013 (.959 to 1.070)
F1 Total	-.015 (.010)	2.138*n.s.*	.985 (.966 to 1.005)
F2 Total	-.207 (.067)	9.585**	.813 (.713 to .927)
G1 Total	-.040 (.024)	2.773*n.s.*	.961 (.917 to 1.007)
Constant	-1.814 (.092)	392.161***	.163

Note. n = 16,914.
[a] All df = 1. [b] Gender: 1 = Male, 2 = Female. [c] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

APPENDIX H: Hierarchical Multiple Regression Analyses

Table H 1

Model summary for hierarchical multiple regression analysis for variables related to the override for all offenders using A1 to A8 total scores

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
1	.328[a]	.108	.108	.496	.108	$F(8, 40527) = 611.543$***
2	.347[b]	.121	.120	.492	.013	$F(3, 40524) = 196.526$***
3	.383[c]	.147	.146	.485	.026	$F(6, 40518) = 207.817$***

Note. $N = 40{,}536$.
[a] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total. [b] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity. [c] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity, B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1202.079	8	150.260	611.543	.000[b]
	Residual	9957.729	40527	.246		
	Total	11159.808	40535			
2	Regression	1344.874	11	122.261	504.794	.000[c]
	Residual	9814.933	40524	.242		
	Total	11159.808	40535			
3	Regression	1637.903	17	96.347	409.981	.000[d]
	Residual	9521.905	40518	.235		
	Total	11159.808	40535			
a. Dependent Variable: Override change score						
b. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total						
c. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission						
d. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission, F2 Total, F1 Total, C1 Total, G1 Total, B2 Total, B1 Total						

Table H 2

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for all offenders using A1 to A8 total scores

	β (SE)[a]	β[b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.431 (.005)		80.123*** (.420 to .441)			
A1 Total	-.018 (.001)	-.087	-13.453*** (-.020 to -.015)	-.225	-.067	-.063
A2 Total	-.029 (.001)	-.155	-25.534*** (-.032 to -.027)	-.254	-.126	-.120
A3 Total	.009 (.002)	.019	3.686*** (.004 to .014)	-.109	.018	.017
A4 Total	-.014 (.004)	-.020	-3.525*** (-.021 to -.006)	-.166	-.018	-.017
A5 Total	-.059 (.003)	-.123	-20.557*** (-.065 to -.054)	-.248	-.102	-.096
A6 Total	.026 (.003)	.060	8.957*** (.021 to .032)	-.100	.044	.042
A7 Total	-.026 (.001)	-.123	-21.696*** (-.029 to -.024)	-.242	-.107	-.102
A8 Total	.021 (.005)	.037	4.626*** (.012 to .030)	-.173	.023	.022
Block 2						
Constant	.488 (.012)		39.115*** (.464 to .513)			
A1 Total	-.024 (.001)	-.116	-17.583*** (-.027 to -.021)	-.225-	-.087	-.082
A2 Total	-.025 (.001)	-.132	-21.611*** (-.027 to -.023)	-.254	-.107	-.101
A3 Total	.010 (.002)	.021	3.986*** (.005 to .015)	-.109	.020	.019
A4 Total	-.015 (.004)	-.022	-3.927*** (-.023 to -.008)	-.166	-.020	-.018
A5 Total	-.048 (.003)	-.100	-16.392*** (-.054 to -.043)	-.248	-.081	-.076
A6 Total	.017 (.003)	.037	5.549*** (.011 to .022)	-.100	.028	.026
A7 Total	-.027 (.001)	-.127	-22.332*** (-.030 to -.025)	-.242	-.110	-.104
A8 Total	.030 (.005)	.053	6.531*** (.021 to .039)	-.173	.032	.030
Gender[c]	-.129 (.007)	-.090	-18.718*** (-.142 to -.115)	-.069	-.093	-.087
Age	.003 (.000)	.074	14.386*** (.003 to .004)	.115	.071	.067

Ethnicity[d]	-.036 (.005)	-.033	-6.926*** (-.046 to -.026)	-.065	-.034	-.032
Block 3						
Constant	.447 (.013)		35.112*** (.422 to .472)			
A1 Total	-.034 (.001)	-.167	-23.250*** (-.037 to -.031)	-.225	-.115	-.107
A2 Total	-.029 (.001)	-.153	-25.061*** (-.031 to -.027)	-.254	-.124	-.115
A3 Total	-.007 (.003)	-.015	-2.653** (-.012 to -.002)	-.109	-.013	-.012
A4 Total	-.027 (.004)	-.038	-6.967*** (-.034 to -.019)	-.166	-.035	-.032
A5 Total	-.047 (.003)	-.098	-16.255*** (-.053 to -.042)	-.248	-.080	-.075
A6 Total	-.008 (.003)	-.019	-2.604** (-.014 to -.002)	-.100	-.013	-.012
A7 Total	-.032 (.001)	-.151	-26.448*** (-.035 to -.030)	-.242	-.130	-.121
A8 Total	.009 (.005)	.016	1.906 *n.s.* (.000 to .018)	-.173	.009	.009
Gender[c]	-.111 (.007)	-.078	-15.818*** (-.124 to -.097)	-.069	-.078	-.073
Age	.003 (.000)	.068	13.340*** (.003 to .004)	.115	.066	.061
Ethnicity[d]	-.026 (.005)	-.024	-5.124*** (-.037 to -.016)	-.065	-.025	-.024
B1 Total	.055 (.002)	.177	25.785*** (.051 to .060)	-.040	.127	.118
B2 Total	.015 (.003)	.034	5.525*** (.010 to .020)	-.076	.027	.025
C1 Total	.002 (.004)	.004	.604 *n.s.* (-.005 to .010)	-.095	.003	.003
F1 Total	.003 (.001)	.011	1.862 *n.s.* (.000 to .005)	-.107	.009	.009
F2 Total	-.007 (.010)	-.004	-.686 *n.s.* (-.025 to .012)	-.078	-.003	-.003
G1 Total	.031 (.003)	.058	9.594*** (.025 to .038)	-.026	.048	.044

Note. N = 40,536.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table H 3

Model summary for hierarchical multiple regression analysis for variables related to the override for violent offenders using A1 to A8 total scores

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
1	.380[a]	.144	.144	.509	.144	$F(8, 21460) = 452.133$***
2	.394[b]	.155	.155	.506	.011	$F(3, 21457) = 92.308$***
3	.417[c]	.174	.173	.500	.019	$F(6, 21451) = 82.163$***

Note. n = 21,469.
[a] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total. [b] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity. [c] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity, B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	938.392	8	117.299	452.133	.000[b]
	Residual	5567.471	21460	.259		
	Total	6505.862	21468			
2	Regression	1009.330	11	91.757	358.196	.000[c]
	Residual	5496.533	21457	.256		
	Total	6505.862	21468			
3	Regression	1132.811	17	66.636	266.033	.000[d]
	Residual	5373.052	21451	.250		
	Total	6505.862	21468			
a. Dependent Variable: Override change score						
b. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total						
c. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission						
d. Predictors: (Constant), A8 Total, A3 Total, A7 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission, F2 Total, F1 Total, C1 Total, G1 Total, B2 Total, B1 Total						

Table H 4

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for violent offenders using A1 to A8 total scores

	β (SE)[a]	β[b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.533 (.008)		69.278*** (.517 to .548)			
A1 Total	-.021 (.002)	-.100	-11.240*** (-.025 to -.017)	-.275	-.077	-.071
A2 Total	-.034 (.002)	-.175	-21.135*** (-.037 to -.031)	-.304	-.143	-.133
A3 Total	.002 (.003)	.005	.667*n.s.* (-.004 to .009)	-.144	.005	.004
A4 Total	-.023 (.006)	-.032	-4.197*** (-.034 to -.012)	-.210	-.029	-.027
A5 Total	-.061 (.004)	-.122	-14.788*** (-.069 to -.053)	-.291	-.100	-.093
A6 Total	.016 (.004)	.034	3.837*** (.008 to .024)	-.145	.026	.024
A7 Total	-.030 (.002)	-.134	-17.427*** (-.033 to -.026)	-.284	-.118	-.110
A8 Total	.028 (.006)	.049	4.499*** (.016 to .040)	-.221	.031	.028
Block 2						
Constant	.583 (.019)		31.207*** (.546 to .620)			
A1 Total	-.024 (.002)	-.115	-12.767*** (-.028 to -.021)	-.275	-.087	-.080
A2 Total	-.031 (.002)	-.160	-19.102*** (-.035 to -.028)	-.304	-.129	-.120
A3 Total	.001 (.004)	.002	.287*n.s.* (-.006 to .008)	-.144	.002	.002
A4 Total	-.024 (.005)	-.033	-4.316*** (-.034 to -.013)	-.210	-.029	-.027
A5 Total	-.051 (.004)	-.102	-12.057*** (-.059 to -.043)	-.291	-.082	-.076
A6 Total	.007 (.004)	.015	1.650*n.s.* (-.001 to .015)	-.145	.011	.010
A7 Total	-.030 (.002)	-.134	-17.389*** (-.033 to -.026)	-.284	-.118	-.109
A8 Total	.036 (.006)	.063	5.669*** (.023 to .048)	-.221	.039	.036
Gender[c]	-.109 (.011)	-.064	-9.927*** (-.131 to -.088)	-.046	-.068	-.062
Age	.003 (.000)	.068	9.880*** (.003 to .004)	.123	.067	.062

Ethnicity[d]	-.069 (.007)	-.061	-9.494*** (-.084 to -.055)	-.084	-.065	-.060
Block 3						
Constant	.552 (.019)		28.939*** (.515 to .589)			
A1 Total	-.034 (.002)	-.160	-16.133*** (-.038 to -.030)	-.275	-.109	-.100
A2 Total	-.035 (.002)	-.178	-21.230*** (-.038 to -.032)	-.304	-.143	-.132
A3 Total	-.012 (.004)	-.024	-3.221*** (-.019 to -.005)	-.144	-.022	-.020
A4 Total	-.035 (.005)	-.048	-6.422*** (-.046 to -.024)	-.210	-.044	-.040
A5 Total	-.052 (.004)	-.103	-12.331*** (-.060 to -.044)	-.291	-.084	-.077
A6 Total	-.015 (.004)	-.033	-3.371*** (-.024 to -.006)	-.145	-.023	-.021
A7 Total	-.035 (.002)	-.158	-20.270*** (-.038 to -.032)	-.284	-.137	-.126
A8 Total	.016 (.006)	.028	2.477* (.003 to .028)	-.221	.017	.015
Gender[c]	-.103 (.011)	-.060	-9.241*** (-.125 to -.081)	-.046	-.063	-.057
Age	.003 (.000)	.060	8.655*** (.002 to .004)	.123	.059	.054
Ethnicity[d]	-.057 (.007)	-.050	-7.756*** (-.071 to -.042)	-.084	-.053	-.048
B1 Total	.047 (.003)	.145	15.879*** (.042 to .053)	-.100	.108	.099
B2 Total	.011 (.004)	.024	2.938** (.004 to .018)	-.131	.020	.018
C1 Total	.006 (.005)	.009	1.122*n.s.* (-.004 to .017)	-.139	.008	.007
F1 Total	.003 (.002)	.011	1.374*n.s.* (-.001 to .006)	-.148	.009	.009
F2 Total	.028 (.014)	.016	2.089* (.002 to .055)	-.110	.014	.013
G1 Total	.027 (.005)	.048	5.877*** (.018 to .036)	-.070	.040	.036

Note. n = 21,469.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table H 5

Model summary for hierarchical multiple regression analysis for variables related to the override for sexual offenders using A1 to A8 total scores

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
1	.498[a]	.248	.243	.905	.248	*F*(8, 1348) = 55.502***
2	.502[b]	.252	.245	.904	.004	*F*(3, 1345) = 2.293*n.s.*
3	.512[c]	.262	.253	.899	.011	*F*(6, 1339) = 3.297**

Note. n = 1,357.
[a] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total. [b] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity. [c] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity, B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
** $p < .01$ *** $p < .001$.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	363.912	8	45.489	55.502	.000[b]
	Residual	1104.816	1348	.820		
	Total	1468.728	1356			
2	Regression	369.534	11	33.594	41.106	.000[c]
	Residual	1099.194	1345	.817		
	Total	1468.728	1356			
3	Regression	385.537	17	22.679	28.034	.000[d]
	Residual	1083.192	1339	.809		
	Total	1468.728	1356			
a. Dependent Variable: Override change score						
b. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A2 Total, A5 Total, A6 Total, A1 Total						
c. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A2 Total, A5 Total, A6 Total, A1 Total, Ethnicity, Gender, Age at admission						
d. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A2 Total, A5 Total, A6 Total, A1 Total, Ethnicity, Gender, Age at admission, F2 Total, C1 Total, G1 Total, F1 Total, B2 Total, B1 Total						

Table H 6

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for sexual offenders using A1 to A8 total scores

	β (SE)[a]	β[b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	1.542 (.052)		29.631*** (1.440 to 1.644)			
A1 Total	-.061 (.015)	-.133	-4.002*** (-.091 to -.031)	-.398	-.108	-.095
A2 Total	-.071 (.012)	-.182	-6.072*** (-.094 to -.048)	-.385	-.163	-.143
A3 Total	-.032 (.024)	-.036	-1.346*n.s.* (-.080 to .015)	-.243	-.037	-.032
A4 Total	-.025 (.038)	-.018	-.649*n.s.* (-.099 to .050)	-.261	-.018	-.015
A5 Total	-.022 (.033)	-.021	-.662*n.s.* (-.086 to .043)	-.325	-.018	-.016
A6 Total	.008 (.028)	.009	.282*n.s.* (-.047 to .062)	-.233	.008	.007
A7 Total	-.091 (.013)	-.201	-6.982*** (-.116 to -.065)	-.387	-.187	-.165
A8 Total	-.099 (.043)	-.085	-2.323* (-.182 to -.015)	-.341	-.063	-.055
Block 2						
Constant	1.923 (.257)		7.494*** (1.419 to 2.426)			
A1 Total	-.065 (.015)	-.141	-4.210*** (-.095 to -.035)	-.398	-.114	-.099
A2 Total	-.072 (.012)	-.184	-6.085*** (-.095 to -.049)	-.385	-.164	-.144
A3 Total	-.027 (.025)	-.030	-1.082*n.s.* (-.075 to .022)	-.243	-.029	-.026
A4 Total	-.037 (.038)	-.027	-.957*n.s.* (-.111 to .038)	-.261	-.026	-.023
A5 Total	-.021 (.033)	-.020	-.631*n.s.* (-.086 to .044)	-.325	-.017	-.015
A6 Total	.011 (.028)	.013	.402*n.s.* (-.044 to .066)	-.233	.011	.009
A7 Total	-.090 (.013)	-.199	-6.901*** (-.116 to -.064)	-.387	-.185	-.163
A8 Total	-.105 (.043)	-.091	-2.467* (-.189 to -.022)	-.341	-.067	-.058
Gender[c]	-.334 (.230)	-.035	-1.450*n.s.* (-.785 to .118)	-.030	-.040	-.034
Age	-.002 (.002)	-.031	-1.205*n.s.* (-.006 to .001)	.081	-.033	-.028

Ethnicity[d]	.100 (.052)	.046	1.924*n.s.* (-.002 to .202)	.006	.052	.045
Block 3						
Constant	1.774 (.260)		6.833*** (1.265 to 2.283)			
A1 Total	-.080 (.017)	-.174	-4.624*** (-.114 to -.046)	-.398	-.125	-.109
A2 Total	-.077 (.012)	-.197	-6.313*** (-.101 to -.053)	-.385	-.170	-.148
A3 Total	-.042 (.026)	-.047	-1.625*n.s.* (-.093 to .009)	-.243	-.044	-.038
A4 Total	-.039 (.039)	-.029	-1.015*n.s.* (-.115 to .036)	-.261	-.028	-.024
A5 Total	-.022 (.033)	-.020	-.650*n.s.* (-.087 to .044)	-.325	-.018	-.015
A6 Total	-.010 (.030)	-.012	-.338*n.s.* (-.069 to .049)	-.233	-.009	-.008
A7 Total	-.096 (.013)	-.213	-7.324*** (-.122 to -.070)	-.387	-.196	-.172
A8 Total	-.115 (.043)	-.099	-2.661** (-.200 to -.030)	-.341	-.073	-.062
Gender[c]	-.290 (.231)	-.030	-1.255*n.s.* (-.743 to .163)	-.030	-.034	-.029
Age	-.002 (.002)	-.026	-1.003*n.s.* (-.006 to .002)	.081	-.027	-.024
Ethnicity[d]	.120 (.053)	.055	2.255* (.016 to .224)	.006	.061	.053
B1 Total	.049 (.020)	.091	2.506* (.011 to .087)	-.264	.068	.059
B2 Total	.041 (.028)	.048	1.481*n.s.* (-.013 to .096)	-.259	.040	.035
C1 Total	-.032 (.029)	-.032	-1.103*n.s.* (-.090 to .025)	-.249	-.030	-.026
F1 Total	.004 (.014)	.008	.271*n.s.* (-.023 to .031)	-.231	.007	.006
F2 Total	-.147 (.074)	-.056	-1.979* (-.292 to -.001)	-.221	-.054	-.046
G1 Total	.049 (.029)	.051	1.676*n.s.* (-.008 to .107)	-.162	.046	.039

Note. n = 1,357.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table H 7

Model summary for hierarchical multiple regression analysis for variables related to the override for non-violent offenders using A1 to A8 total scores

	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F
1	.216[a]	.047	.046	.358	.047	$F(8, 17699) = 108.346$***
2	.225[b]	.051	.050	.357	.004	$F(3, 17696) = 25.865$***
3	.255[c]	.065	.064	.354	.014	$F(6, 17690) = 45.255$***

Note. $n = 17{,}708$.
[a] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total. [b] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity. [c] Predictors: (Constant), A1 Total, A2 Total, A3 Total, A4 Total A5 Total, A6 Total, A7 Total, A8 Total, Gender, Age, Ethnicity, B1 Total, B2 Total, C1 Total, F1 Total, F2 Total, G1 Total.
*** $p < .001$.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.882	8	13.860	108.346	.000[b]
	Residual	2264.154	17699	.128		
	Total	2375.036	17707			
2	Regression	120.767	11	10.979	86.183	.000[c]
	Residual	2254.269	17696	.127		
	Total	2375.036	17707			
3	Regression	154.845	17	9.109	72.575	.000[d]
	Residual	2220.191	17690	.126		
	Total	2375.036	17707			
a. Dependent Variable: Override change score						
b. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total						
c. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission						
d. Predictors: (Constant), A8 Total, A7 Total, A3 Total, A4 Total, A5 Total, A2 Total, A1 Total, A6 Total, Ethnicity, Gender, Age at admission, F2 Total, F1 Total, C1 Total, G1 Total, B2 Total, B1 Total						

Table H 8

Coefficient summary for hierarchical multiple regression analysis for variables related to the override for non-violent offenders using A1 to A8 total scores

	β (SE)[a]	β[b]	*t*-test (95% CI)	Zero-Order	Partial	Part
Block 1						
Constant	.203 (.006)		34.634*** (.192 to .215)			
A1 Total	-.004 (.001)	-.029	-2.909** (-.007 to -.001)	-.119	-.022	-.021
A2 Total	-.019 (.001)	-.142	-15.227*** (-.021 to -.017)	-.185	-.114	-.112
A3 Total	-.006 (.003)	-.018	-2.125* (-.011 to .000)	-.097	-.016	-.016
A4 Total	-.005 (.004)	-.010	-1.151*n.s.* (-.013 to .003)	-.106	-.009	-.008
A5 Total	-.020 (.003)	-.059	-6.442*** (-.026 to -.014)	-.138	-.048	-.047
A6 Total	.016 (.003)	.049	4.713*** (.009 to .022)	-.056	.035	.035
A7 Total	-.012 (.001)	-.079	-9.093*** (-.015 to -.009)	-.148	-.068	-.067
A8 Total	.011 (.005)	.027	2.178* (.001 to .021)	-.104	.016	.016
Block 2						
Constant	.205 (.013)		15.560*** (.179 to .231)			
A1 Total	-.006 (.002)	-.043	-4.187*** (-.009 to -.003)	-.119	-.031	-.031
A2 Total	-.017 (.001)	-.131	-13.773*** (-.020 to -.015)	-.185	-.103	-.101
A3 Total	-.005 (.003)	-.016	-1.863*n.s.* (-.011 to .000)	-.097	-.014	-.014
A4 Total	-.005 (.004)	-.011	-1.295*n.s.* (-.014 to .003)	-.106	-.010	-.009
A5 Total	-.016 (.003)	-.047	-5.070*** (-.023 to -.010)	-.138	-.038	-.037
A6 Total	.011 (.003)	.037	3.441*** (.005 to .018)	-.056	.026	.025
A7 Total	-.012 (.001)	-.079	-8.910*** (-.015 to -.009)	-.148	-.067	-.065
A8 Total	.015 (.005)	.038	3.008** (.005 to .026)	-.104	.023	.022
Gender[c]	-.031 (.007)	-.035	-4.512*** (-.044 to -.017)	-.029	-.034	-.033
Age	.002 (.000)	.048	6.002*** (.001 to .002)	.062	.045	.044

Ethnicity[d]	-.030 (.006)	-.039	-5.137*** (-.041 to -.018)	-.067	-.039	-.038
Block 3						
Constant	.199 (.013)		14.743*** (.172 to .225)			
A1 Total	-.011 (.002)	-.077	-6.763*** (-.015 to -.008)	-.119	-.051	-.049
A2 Total	-.020 (.001)	-.146	-15.316*** (-.022 to -.017)	-.185	-.114	-.111
A3 Total	-.012 (.003)	-.039	-4.336*** (-.018 to -.007)	-.097	-.033	-.032
A4 Total	-.012 (.004)	-.025	-2.901** (-.021 to -.004)	-.106	-.022	-.021
A5 Total	-.018 (.003)	-.051	-5.550*** (-.024 to -.011)	-.138	-.042	-.040
A6 Total	-.002 (.004)	-.007	-.656*n.s.* (-.009 to .005)	-.056	-.005	-.005
A7 Total	-.014 (.001)	-.095	-10.626*** (-.017 to -.012)	-.148	-.080	-.077
A8 Total	.005 (.005)	.013	1.026*n.s.* (-.005 to .015)	-.104	.008	.007
Gender[c]	-.031 (.007)	-.036	-4.448*** (-.045 to -.017)	-.029	-.033	-.032
Age	.002 (.000)	.049	5.968*** (.001 to .002)	.062	.045	.043
Ethnicity[d]	-.026 (.006)	-.035	-4.574*** (-.038 to -.015)	-.067	-.034	-.033
B1 Total	.030 (.003)	.129	11.651*** (.025 to .035)	-.032	.087	.085
B2 Total	.006 (.003)	.017	1.741*n.s.* (-.001 to .012)	-.046	.013	.013
C1 Total	-.011 (.005)	-.023	-2.396* (-.020 to -.002)	-.065	-.018	-.017
F1 Total	.003 (.002)	.016	1.698*n.s.* (.000 to .006)	-.067	.013	.012
F2 Total	-.015 (.011)	-.012	-1.396*n.s.* (-.037 to .006)	-.048	-.010	-.010
G1 Total	.026 (.004)	.066	6.917*** (.018 to .033)	-.002	.052	.050

Note. n = 17,708.
[a] Unstandardized beta coefficients. [b] Standardized beta coefficients. [c] Gender: 1 = Male, 2 = Female. [d] Ethnicity: 1 = White, 0 = Non-White.
** $p < .01$ *** $p < .001$.

Table H 9

Summary table of the strongest significant predictors (in order) of the override and recidivism for violent, sexual, and non-violent offenders

	Override	General Recidivism	Violent Recidivism	Sexual Recidivism	Non-violent Recidivism
Violent Offenders	Gender (-) Ethnicity (-) B1 (+) G1 (+) F2 (+) General Risk/Need (-) B2 (+) F1 (+) Age (+)	Gender (-) General Risk/Need (+) C1 (+) Ethnicity (+) B1 (+) B2 (+) G1 (-) Age (-) F1 (-)	Gender (-) B2 (+) B1 (+) General Risk/Need (+) Age (-)	Gender (-) B1 (+)	Ethnicity (+) General Risk/Need (+) C1 (+) F1 (-) Age (-)
Sexual Offenders	Ethnicity (+) G1 (+) General Risk/Need (-) B1 (+)	F2 (-) B2 (+) General Risk/Need (+) Age (-)	F2 (-) B2 (+) General Risk/Need (+) Age (-)	F2 (-)	General Risk/Need (+) Age (-)
Non-violent Offenders	Gender (-) G1 (+) B1 (+) Ethnicity (-) General Risk/Need (-) B2 (+) Age (+)	Gender (-) B1 (+) Ethnicity (+) B2 (+) C1 (+) General Risk/Need (+) Age (-) F1 (-)	Gender (-) B2 (+) Ethnicity (+) B1 (+) General Risk/Need (+) Age (-)	Gender (-) B1 (+) F1 (+)	F2 (-) B1 (+) Ethnicity (+) Gender (+) General Risk/Need (+) C1 (+) G1 (-) B2 (-) F1 (-) Age (-)

Note. Predictors are listed in each cell descending order of strength. The direction of the prediction is shown in brackets where "-" denotes negative prediction and "+" denotes positive prediction. Gender was coded as 1 = Male, 2 = Female. Ethnicity was coded as 1 = White, 0 = Non-White. B1 = Personal Problems with Criminogenic Potential. B2 = History of Perpetration. C1 = Prison Experience – Institutional Factors. F1 = Social, Mental, and Mental Health. F2 = Barrier to Release. G1 = Special Responsivity Considerations.