Megan's Law in Minnesota: The Impact of Community Notification on Sex Offender Recidivism

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EXECUTIVE SUMMARY

In 1994, seven-year-old Megan Kanka was raped and murdered in Hamilton Township, New Jersey, by Jesse Timmendequas, a convicted sex offender who had been living across the street. In response to much interest and concern over this incident and other recent sex crimes involving child victims, Congress passed Megan's Law in 1996, requiring all 50 states to develop procedures to notify communities where released sex offenders will be residing. The following year, Minnesota implemented the Community Notification Act, which authorized law enforcement to notify local communities in which predatory offenders will be living. The Act further stipulated that the extent to which communities are notified would be determined by an offender's risk level assignment by the Minnesota Department of Corrections (MNDOC) prior to his/her release from a state prison or treatment facility.

The MNDOC developed a three-tiered notification system. Notification includes victims, witnesses to the crime, law enforcement agencies, and anyone else identified by the prosecutor for offenders given a Level I risk assignment (low public risk). For offenders receiving a Level II assignment (moderate public risk), notification is provided to anyone included in the Level I information release plus local schools, daycare centers, and other organizations where individuals who may become victims of the offender are regularly found. Broad community notification is required for offenders receiving a Level III assignment (high public risk), which generally involves law enforcement holding a public meeting, distributing information through the media, and releasing information to those included in the Level I and Level II notifications.

Previous Research

Although it has been ten years since Megan's Law was implemented nationwide, very little is known about whether community notification significantly reduces sex offender recidivism. Four studies have produced mixed results on the impact of community notification on sex offender recidivism, but each one is plagued by shortcomings that limit the confidence that can be placed in the findings. Instead, much of the community notification literature has focused on the effects it has had on the perceptions of

offenders, community residents, and stakeholders. Research has demonstrated, for example, that notification produces a number of collateral consequences for offenders, including isolation, harassment, and making it difficult to secure and maintain housing and employment. Community members have been shown to be largely in favor of Megan's Law, and the findings from one study suggest that those attending public meetings are more likely to indicate taking precautionary measures and engaging in community reporting behavior (Simpson Beck and Travis, 2004). Finally, research on stakeholders indicates that while law enforcement generally supports notification and believes it to be effective, sex offender treatment providers tend to have an opposite view, doubting its efficacy in reducing sex offender recidivism.

The Present Study

This study examines whether broad community notification has had an impact on reoffending by comparing the recidivism rates of 155 Level III sex offenders released between 1997 and 2002 who were subject to broad notification with two separate control groups who were not. The first control group (referred to as the pre-notification group) consists of 125 sex offenders released between 1990 and 1996 (the seven years preceding the implementation of the Community Notification Act) who likely would have been subject to broad community notification had the law been in effect at the time of their release. The offenders in this control group were matched to the notification group (i.e., the 155 Level III offenders released between 1997 and 2002) largely on the basis of scores from the Minnesota Sex Offender Screening Tool-Revised (MnSOST-R), an actuarial tool designed to predict the risk of sexual recidivism that is used to guide the assignment of risk levels. The second control group contains 155 offenders (37 Level I and 118 Level II) released between 1997 and 2002 who were not subject to broad community notification. Although the offenders in this group were considered to be lower-risk offenders with regard to sexual recidivism, a propensity score matching method was used to match these offenders with the notification group on a number of factors commonly associated with sex offender recidivism.

The average follow-up period for the offenders in all three groups was 8 years, with a minimum of 3 years and a maximum of 16. Measured three different ways (rearrest, reconviction, and reincarceration for a new crime) and distinguished by the type of reoffense (sex offense, non-sex offense, any offense), recidivism was analyzed by using a Cox proportional hazards model, a multivariate statistical technique.

Results

Sex Offense Recidivism

- The findings suggest that broad community notification has had a significant deterrent effect on sexual recidivism.
- Contrary to popular belief, the majority of the sex offenders examined here did not reoffend sexually.
- Of the 1,763 sex offenders examined in this study who received a risk level classification, the 155 Level III offenders had the lowest rates of rearrest (5.2 %), reconviction (3.2 %), and reincarceration (2.6 %) for a new sex offense.
- The 155 Level III offenders also had lower reoffense rates than either the pre-notification or non-notification groups for all three measures of sex offense recidivism (rearrest, reconviction, and reincarceration).
- In both the pre-notification and non-notification control group analyses, community notification significantly reduced the risk of timing to a sexual reoffense across all three measures of recidivism—rearrest, reconviction, and reincarceration for a new offense.[1]
- The pre-notification group results indicated that community notification reduced the risk of time to rearrest by 84 percent, reconviction by 89 percent, and reincarceration by 93 percent. There were no clear interaction effects, however, as the findings indicated an interaction for treatment dropouts (rearrest and

[1] The recidivism analyses were performed with a Cox proportional hazards model, which measures not only whether offenders recidivate but also how long it takes them to reoffend or how long they are at risk in the community without committing a new crime. Because this model analyzes both whether and when offenders recidivate, the results are expressed in terms of "risk of time to reoffense." Therefore, a variable that causes offenders to reoffend sooner and/or more often increases the risk of time to reoffense. In contrast, a variable that causes offenders to recidivate later and/or less often decreases the risk of time to reoffense.

reconviction), length of supervision (rearrest), disciplinary convictions (reconviction), and those with a history of victimizing male children (reincarceration).

- The non-notification group findings indicated that community notification decreased the risk of time to rearrest by 68 percent, reconviction by 78 percent, and reincarceration by 76 percent. Significant interactions were found for disciplinary convictions for both reconviction and reincarceration.

Non-Sex Offense Recidivism

- The findings were mixed as to whether community notification had a deterrent effect on non-sex offense recidivism.
- Whereas the results from the pre-notification group analyses indicated that community notification significantly reduced non-sexual recidivism, no such effects were found for the non-notification group analyses.

General Recidivism

- Like the findings for non-sex offense recidivism, the results from the pre-notification group analyses indicated that community notification significantly reduced general recidivism.
- Community notification did not have significant impact on general recidivism, however, in the non-notification group analyses.

Discussion

Why does broad community notification appear to have a deterrent effect on sexual recidivism? Sexual offending and, more narrowly, sexual recidivism frequently involve offenders who know their victims. To a large extent, then, sexual reoffending is about social relationships. Existing research reveals that when sex offender recidivists victimize someone they know, it is often a "collateral contact" victim whom they met through a friend, acquaintance, or loved one (Duwe, Donnay, and Tewksbury, forthcoming). Examples include an offender who victimizes his girlfriend's son or daughter, an offender who molests the daughter of a friend or acquaintance, or an

offender who baby-sits the children of an acquaintance or co-worker. In all of these examples, the offender is able to gain access to the victim by first establishing a relationship with the victim's parent, guardian, or family member.

Sex offenders often operate under a veil of secrecy, which enables them to obtain access, either directly or indirectly, to unwitting victims. By lifting this veil, community notification may severely limit their opportunities to form the types of relationships (or any relationships for that matter) that facilitate sexual offending. As noted above, research suggests that notified residents are more likely to report taking precautionary measures and engaging in community reporting behavior. Moreover, nearly every Level III offender is released to intensive supervision.

For offenders on intensive supervised release (ISR), the increased surveillance resulting from community notification likely creates a more rigorous version of ISR in that both community members and supervision agents can closely monitor the offender. Level III offenders may not only be aware they are subject to constant scrutiny but are also unable to confirm whether they are, in fact, being observed at all times. As such, these offenders may ultimately internalize the perception of constant surveillance by monitoring their own behavior. In deterring—or at least delaying—sexual recidivism, what may be important is not that sex offenders are actually being monitored at all times, only that they think they are.

Conclusion

There are several caveats to this study that bear mentioning. First, because there are variations in the way community notification is implemented nationwide and because this evaluation represents only one state's experience with Megan's Law, the results presented here are not necessarily generalizable to other states. Second, this study did not attempt to determine why community notification reduces sexual recidivism or which specific components (public meetings, release of information via the internet, etc.) are responsible for the reduction. Third, because offenders can receive multiple risk-level assignments while serving a single sentence, this report did not examine all offenders

released under the Level III classification during 1997-2002. Finally, due to a lack of data, this study was not able to control for the possible impact of community-based treatment on sex offender recidivism.

Although it might seem reasonable to conclude, on the basis of these results, that broad community notification should be applied more extensively, there are several factors that weigh against such a conclusion. First, while the expenditure of law enforcement and corrections personnel, time, and budgetary resources for broad community notification is substantial, it would be considerably more substantial if it were applied to Level II offenders, who are more than twice as numerous as Level III offenders. Second, applying broad community notification to Level I and Level II offenders would not likely produce an appreciable reduction in sexual recidivism given that the baseline rate for these offenders is already relatively low (e.g., a three-year rearrest rate of 5-7 %). Third, it is unclear whether community notification has an impact on non-sexual recidivism, which comprises roughly three-fourths of the reoffenses committed by sex offenders. Finally, broad community notification makes it difficult for sex offenders to successfully re-enter society, imposes hardships on their families, and appears to reduce offender compliance with their mandate to register.

In developing social policy that further decreases the extent of sexual recidivism, it is imperative to not only retain the deterrent effect of community notification, but to also limit the collateral consequences for offenders. For example, to alleviate part of the drain on law enforcement and corrections resources, Level II offender photographs and offense history information could be placed on the MNDOC public website in much the same way they are for Level III offenders. A more promising, and perhaps less costly, approach, however, might involve utilizing Circles of Support and Accountability (COSA), which have been shown to be effective in helping sex offenders re-enter communities and decreasing the extent to which they recidivate—for both sexual and non-sexual offenses. Additional research is still needed, however, to not only further clarify the impact of community notification on sex offender recidivism but to also identify the most effective ways to help sex offenders reintegrate into society.

Facilitating the successful re-entry of sex offenders is critical, for it can enhance public safety by lowering recidivism rates and—most important—limiting future sexual victimization.

INTRODUCTION

Following a number of high-profile sex crimes in the 1980s and 1990s, lawmakers across the country have enacted a variety of policies designed to increase public safety by decreasing the incidence of sexual recidivism. In the late 1980s, states began resurrecting civil commitment statutes ratified in the 1930s to incapacitate dangerous and psychopathic sex offenders. In 1990, Washington became the first state to implement community notification legislation requiring law enforcement agencies to inform residents living near a high-risk sex offender. The following year, Minnesota enacted the Predatory Offender Registration law, requiring predatory offenders to register their addresses with local law enforcement agencies who share the information with the Bureau of Criminal Apprehension (BCA). Three years later, Congress passed the Jacob Wetterling Act, which called for all 50 states to develop sex offender registries. And in 1996, Megan's Law was added to the Wetterling Act, authorizing each state to develop procedures to inform communities where sex offenders will be living.

Although Megan's Law required states to implement community notification for sex offenders, it did leave room for discretion in terms of how it should be put into practice. As a result, two broad types of notification have emerged.[2] The most common type is where individual members of the public can access information from a government-maintained central registry. The most recent data available suggest that approximately 40 states utilize this type of notification, with many states making the information available via the internet (Zevitz and Farkas, 2000a). The second type of notification is similar to that implemented by the State of Washington in that law enforcement agencies are responsible for the release of information on sex offenders who are considered the highest risks to sexually reoffend. This form of notification, which is generally based on a tiered risk management system, is used by approximately 10 states, of which Minnesota is one.

[2] Zevitz and Farkas (2000a) note that Louisiana is somewhat different than the other 49 states in that it requires paroled child molesters to identify themselves as sex offenders in the communities where they will live.

In Minnesota, the Community Notification Act went into effect on January 1, 1997. The Act requires offenders subject to predatory offender registration to be assigned a risk level prior to their release from prison by an End-of-Confinement Review Committee (ECRC), which is comprised of the prison warden or treatment facility head where the offender is confined, a law enforcement officer, a sex offender treatment professional, a caseworker experienced in supervising sex offenders, and a victim services professional. Figuring prominently in the risk level assignment is the Minnesota Sex Offender Screening Tool-Revised (MnSOST-R),[3] a 16-item actuarial tool designed to predict the risk of sexual recidivism that is completed on offenders eligible for predatory offender registration prior to their release from prison. Offenders who receive a MnSOST-R score greater than 7 are placed in the presumptive Level III category (high public risk), offenders with a score between 4 and 7 are placed in the presumptive Level II category (moderate public risk), while those with a score of less than 4 are placed in the presumptive Level I category (low public risk). In assigning risk levels, however, the ECRC may override the risk level suggested by the MnSOST-R because it considers additional factors that may either increase or decrease the risk of reoffense (e.g., an offender's stated intention to reoffend following release or a debilitating illness or physical condition that mitigates the risk of reoffense).

For offenders receiving a Level I assignment, notification includes victims, witnesses to the crime, law enforcement agencies, and anyone else identified by the prosecutor. For offenders given a Level II assignment, notification includes those in the Level I information release plus schools, daycare centers, and other organizations where individuals who may become victims of the offender are regularly found. For offenders assigned a Level III, broad public notification is required. More specifically, law enforcement is responsible for notifying the community where the Level III offender will be residing, generally by holding a public meeting in addition to distributing information through the media. Furthermore, following release from prison, the residential vicinities

[3] During the first two years following the enactment of the Community Notification Act, the Minnesota Department of Corrections used the Minnesota Sex Offender Screening Tool (MnSOST) to guide the assignment of risk levels. The MnSOST, which contained 21 items, was revised in 1999, resulting in the MnSOST-R.

of Level III offenders are published on the Minnesota Department of Corrections' (MNDOC) public website per statute.

Present Study

One of the salient goals of community notification is to enhance public safety by reducing sex offender recidivism. Using a retrospective quasi-experimental design, the hypothesis that community notification reduces reoffending was tested by comparing the recidivism rates of 155 Level III sex offenders (i.e., those subject to broad community notification) released from Minnesota prisons between 1997 and 2002 with two different control groups. The first control group (hereafter referred to as the pre-notification group) consists of 125 sex offenders released between 1990 and 1996 (the seven-year period immediately preceding the implementation of community notification) who, after a detailed file review, were considered high-risk offenders that likely would have been subjected to broad community notification had the law been in effect at the time of their release. The second control group (hereafter referred to as the non-notification group) consists of 155 Level I and II offenders released between 1997 and 2002 (the same timeframe as the notification group releasees) who, despite receiving a lower risk level classification, were carefully matched to the notification group on the basis of a propensity score.

The offenders in this study were tracked over an average of 8 years, with a minimum of 3 years and a maximum of 16. Measured nine different ways, recidivism was distinguished by type of criminal reinvolvement (arrest, conviction, and incarceration for a new offense)[4] and type of reoffense (sex offense, non-sex offense, and any offense).[5] Further, the impact of community notification on recidivism was analyzed with a Cox proportional hazards model, widely regarded as the most appropriate multivariate statistical technique for recidivism analyses. Due to the methodology used, this study provides what is arguably the most rigorous assessment of the impact of community notification on recidivism to date.

[4] "Criminal reinvolvement" includes misdemeanors, gross misdemeanors, and felonies.
[5] "Any offense" contains both sex offenses and non-sex offenses.

In the following section, the theoretical framework of community notification is discussed, followed by a review of the existing research on Megan's Law. Next, the data and methodology used in this study are described. The findings are then presented, beginning with the analyses from the pre-notification group followed by those from the non-notification group. This study concludes by discussing implications of the findings for Megan's Law both specifically within Minnesota and more generally across the United States.

LITERATURE REVIEW

Community notification is based on the assumption that providing the public with relevant information about sex offenders living nearby will lower the extent of sexual recidivism by reducing the opportunities for criminal offending and by deterring offenders from committing future offenses due to increased risk (Zevitz and Farkas, 2000b). Equipped with information about the offender, community members can not only reduce their chances of victimization by taking precautionary measures, but they can also extend the level of supervision by joining law enforcement and corrections professionals in monitoring the offender's behavior and reporting any suspected violations that may occur. The expanded surveillance network may, in turn, deter offenders from recidivating by enhancing the likelihood of detection. As Zevitz and Farkas (2000b) suggest, community notification is predicated on rational choice theory to the extent that it assumes community members and offenders will weigh the costs and benefits before they act.

As a mechanism of social control, community notification is a fusion of panopticism and synopticism (Feeley and Simon, 1992; Mathiesen, 1997; Petrunik, 2002). Panoptic control, which involves the few surveying the many, is a concept that derives from English philosopher Jeremy Bentham, who designed the Panopticon, the "all-seeing" prison, in the late eighteenth century. The Panopticon was devised to enable a single prison guard to monitor any prisoner at all times while remaining unseen. The key component of the Panopticon, Bentham argued, was not that prisoners were actually being observed at all times, but that they thought they were. Because surveillance would be visible yet unverifiable, inmates would monitor their own behavior on account of the belief that they are under constant scrutiny. Two centuries later, French theorist Michel Foucault elaborated on Bentham's work, suggesting that panopticism applied not only to prisons, but also to any system of disciplinary power such as a school, a factory, a hospital, or the military.

By using a small number of persons—namely, corrections and law enforcement personnel—who use expert knowledge and technology to identify and control high-risk

offenders (i.e., the few surveying the many), community notification is a panoptic mechanism. But community notification also involves the eyes of the many—the community—surveying the few—the high-risk Level III sex offenders. Accordingly, community notification is also a synoptic mechanism.

Previous Research on Community Notification

In the ten years since the enactment of Megan's Law, there has been a small but growing number of studies on the impact of community notification. Of the research that has been conducted, however, nearly all of it has focused on the effects of community notification on the perceptions of stakeholders, offenders, and community residents (Welchans, 2005). Several studies, for example, have examined how stakeholders such as law enforcement agencies, treatment providers, and supervision agents perceive community notification. In a study comparing the perceptions of law enforcement, law students, and community members, Redlich (2001) found that law enforcement was the most supportive of community notification and believed it to be effective. In contrast, sex offender treatment providers have a less optimistic view of the efficacy of community notification. Indeed, Malesky and Keim (2001) found that the majority of the 131 sex offender treatment providers they surveyed believed that community notification would not have an impact on sexual recidivism. Finally, in their study examining the perceptions of supervision agents in Wisconsin, Zevitz and Farkas (2000c) note that agents reported having higher caseloads due to community notification and that their greatest difficulty was finding suitable housing for Level III offenders.

Several studies have examined sex offenders' perceptions of community notification both before and after their release from incarceration. In their study of 40 sex offenders in an inpatient psychiatric hospital, Elbogen, Patry, and Scalora (2003) report that most of the offenders believed that, in addition to creating embarrassment, community notification would give them a strong disincentive to reoffend. In contrast to that study, which examined offenders who were still institutionalized, other studies have focused on offenders who have experienced the effects of community notification. Research on sex offenders in Florida, Kentucky, and Wisconsin reveals that most have reported

experiencing employment, housing and relationship difficulties stemming from community notification (Levenson and Cotter, 2005; Tewksbury, 2005; Zevitz and Farkas, 2000a). Although few offenders indicated that they have been physically assaulted, a significant minority reported that they had been verbally threatened or harassed and had their property damaged on account of notification (Levenson and Cotter, 2005; Tewksbury, 2005; Zevitz and Farkas, 2000a). The impact of community notification is not just isolated to offenders, however, as family members appear to be adversely affected as well. Two-thirds of the 30 offenders interviewed by Zevitz and Farkas (2000a) reported that their family members (e.g. parents, siblings, offspring, etc.) were shunned by friends and experienced public ridicule in response to the publicity surrounding broad notification. And nearly one-fifth of the 183 offenders interviewed by Levenson and Cotter (2005) indicated that a person with whom they had been living had also been subject to threats and harassment.

Research suggests that the majority of the public is in favor of community notification. Of the 400 community members from Washington State surveyed by Phillips (1998), more than 80 percent considered community notification to be very important. In a study in which they examined the perceptions of 704 participants of community notification meetings in Wisconsin, Zevitz and Farkas (2000b) reported that most of the participants found the meeting to be helpful. Whereas 35 percent were less concerned after the meeting, 38 percent reported being more concerned following the meeting. The level of concern was related primarily to pre-meeting expectations.

A few studies have also noted that those who attend community notification meetings are more likely to report changing their behavior afterward. For example, most of the 400 community residents Phillips (1998) surveyed indicated they were more mindful of their safety. Moreover, Simpson Beck and Travis (2004) found that notified respondents in Hamilton County, Ohio were significantly more likely than those who were not notified to engage in behaviors to protect themselves and others from victimization and to engage in community-reporting behavior.

Community notification appears to have a significant impact on stakeholders, offenders and community members, but does it reduce recidivism? To date, there have been four studies that have attempted to address whether community notification decreases the extent to which offenders recidivate. In 1995, Schram and Milloy examined whether Washington's community notification law, the first of its kind in the country, had an impact on sex offender recidivism. On the basis of victim-offender relationship and number of prior sex offenses, Schram and Milloy matched a comparison group of 90 sex offenders released prior to March 1990, the inception of the law, with a group of 90 offenders who were subject to community notification and released between March 1990 and December 1993. Using a follow-up period that ranged from 7 to 54 months for the 180 offenders, the authors found little evidence that community notification affects reoffending. In particular, there was not a statistically significant difference between the notification and comparison groups in the rate at which they were rearrested for either a sex offense or for any offense (including sex crimes).

In 1997, the State of Washington modified its notification law by requiring the assignment of risk levels (I, II, or III) to all sex offenders released from prison and broad community notification only for those receiving a Level III assignment. In 2005, Barnoski examined the impact of the 1990 Community Notification Act, and its 1997 modification, by analyzing the recidivism rates of 8,359 sex offenders released from Washington prisons during three time periods: 1986-1989 (pre-notification), 1990-1996 (post-1990 Community Notification Act), and 1997-1999 (post-1997 notification revision). Statistically controlling for demographic characteristics and criminal history, Barnoski (2005) found that the five-year sexual recidivism rates were significantly lower for sex offenders released during both of the notification periods; i.e. 1990-1996 and 1997-1999. The five-year recidivism rates were not significantly different, however, when recidivism was defined as any reoffense.

Unlike Schram and Milloy (1995), who used a retrospective quasi-experimental design, Petrosino and Petrosino (1999) examined the public safety potential of community notification for 36 currently incarcerated criminal sexual psychopaths. After drawing a

sample of 136 sexual psychopaths, they determined that 36 would have been required to register prior to their most recent sexual offense (i.e., the offense for which they were incarcerated at the time of the study). Reasoning that community notification would work only on offenses involving stranger victims since it was originally inspired by a stranger-on-stranger sexual murder, Petrosino and Petrosino carried out a detailed analysis of the 12 cases in which there was a stranger victim. They concluded that the public safety potential of community notification was limited after determining that the chances of notification reaching the victim prior to the assault were "good" in only four of the 12 cases.

In 2000, Adkins, Huff and Stageberg used a retrospective quasi-experimental design to evaluate the impact of Iowa's sex offender registry on recidivism. Unlike Washington (and Minnesota), where law enforcement is responsible for community notification regarding the highest-risk sex offenders, Iowa implemented a registry on July 1, 1995, in which information is available to the public on all sex offenders who are required to register. Adkins and colleagues compared the recidivism rates over a four-year period for 233 sex offenders placed on the registry during its first year (July 1, 1995-June 30, 1996) with a group of 201 offenders convicted of a sex crime before the inception of the registry, but who would have been required to register had the registry law been in effect at the time. The authors found that the rate at which the registry group recidivated with a sex crime (defined as a conviction) was not significantly different from the pre-registry group. Although recidivism (both sex and non-sex crime convictions) was slightly higher for the pre-registry group, the difference was not statistically significant.

Despite examining the efficacy of community notification, all four studies are plagued by a few important shortcomings. First, of the two studies that used a quasi-experimental design (Schram and Milloy, 1995; Adkins et al., 2000), neither one generated a comparison group that was carefully matched to the experimental group. For example, Adkins et al. (2000) did not attempt to match the pre-registry group with the registry group on any variables related to recidivism, whereas Schram and Milloy (1995) matched

their comparison group to the experimental group on only two variables (multiple sex offenses and victim-offender relationship).

Second, neither of these studies used a multivariate statistical technique to control for rival causal factors that might have had an impact on recidivism. Schram and Milloy (1995), for example, used a Life Table, while Adkins et al. (2000) employed a t test. Thus, the finding in both studies that community notification does not affect sex offender recidivism (either increasing or decreasing it) may have been a spurious one.

Third, although Barnoski (2005) utilized a multivariate statistical technique (logistic regression) to control for differences among the three time periods with respect to criminal history and demographic characteristics, he did not use an experimental or quasi-experimental design. Consequently, the analyses did not compare sex offenders subjected to broad community notification with a matched comparison group of offenders who were not.

Finally, the approach used by Petrosino and Petrosino (1999), although creative, was based on the faulty premise that community notification might only have an impact on sexual assaults involving a stranger victim-offender relationship. The criminal justice literature, however, is rife with examples of policies that have unintended consequences. Moreover, as the authors themselves point out, community notification could have "some unanticipated preventive benefits" for sex offenses involving victims who are known to the offender (p. 153).

DATA AND METHODOLOGY

Due to ethical and legal considerations, prospectively and randomly assigning Level III sex offenders to either an experimental or a control group was not an option. It was possible, however, to conduct a retrospective quasi-experimental study by comparing all Level III offenders released from Minnesota state correctional facilities between 1997 and 2002 (hereafter referred to as the notification group) with a control group of sex offender releasees who did not experience broad community notification. In an effort to provide the most rigorous evaluation of the impact of notification on sex offender recidivism, two separate control groups were used. All three groups examined in this study—notification, pre-notification, and non-notification—are described below.

Notification Group

When offenders are committed to the commissioner of corrections in Minnesota, they can be admitted to and released from prison multiple times for a given sentence due to supervised release revocations. Considering that sex offenders can have multiple releases from prison for a single sentence, they can receive more than one risk level assignment. When offenders have their risk level reassigned, it is generally in an upward direction, i.e., Level I to Level II or Level II to Level III. But when offenders have been assigned a Level III, they tend to remain a Level III for as long as they are required to register.[6]

To ensure that offenders in the notification group were exposed only to broad community notification while those in the control groups were not, the analyses focused on an offender's first release from prison for the sex offense for which he or she was incarcerated. Offenders were included in the notification group only if they were assigned a Level III prior to their initial release from a Minnesota correctional facility (MCF) between 1997 and 2002. The two control groups, on the other hand, contained sex offenders who 1) were not assigned a risk level (the pre-notification control group) or 2) were assigned a Level I or II prior to their initial release from prison (the non-

[6] Of the 616 offenders who received a Level III assignment between 1997 and 2005, 52 (8 %) were later given a risk level reduction prior to 2006. The average amount of time spent on Level III status for the 52 offenders was 34 months.

notification control group). Moreover, both groups only included offenders who were not subject to broad community notification at any time before January 1, 2006, or were not subject to notification prior to a recidivism event.[7]

During the 1997-2002 period, there were 90 offenders originally released as a Level 1 or II who later returned to prison for technical violations and were subsequently assigned a Level III. Because these offenders were exposed to both broad community notification and more narrow forms of notification prior to a recidivism event, they were removed from consideration for either the experimental or control groups. As a result, this study does not include every offender released during 1997-2002 who was subject to broad community notification. Excluding these 90 offenders, however, removes a potential confounding factor in the analyses.

Between 1997 and 2002, there were 1,823 sex offenders released from Minnesota state correctional facilities. Of these offenders, 193 were assigned a Level III prior to their initial release from prison. Thirty-eight offenders were removed from the analyses because they were civilly committed immediately upon their release from an MCF and, thus, did not have an opportunity to recidivate. There were 25 additional offenders who were later civilly committed but only after they had already spent time in the community. Because these offenders had an opportunity to reoffend, they were included in the study but were removed from the analyses (i.e., "right censored") at the time they were civilly committed. Overall, then, the notification group consists of 155 sex offenders who were assigned a Level III prior to their first release from prison between 1997 and 2002.

Pre-Notification Control Group

As noted above, the pre-notification group is comprised of sex offenders released between 1990 and 1996 who likely would have been subjected to broad community notification had the law been enacted prior to 1997. During the 1990-1996 period, there

[7] Prior to constructing both control groups, offenders were selected for the notification group. After doing so, both control groups were created with the remaining offenders who were released from prison between 1990 and 2002. Following the creation of both control groups, a duplicate case check was performed to ensure that offenders belonged to only one of the three groups.

were 1,415 sex offenders who were released from Minnesota state correctional facilities. Because the MnSOST-R is used to guide the assignment of risk levels, it was used to identify the offenders who likely would have been assigned a Level III at the time of their release between 1990 and 1996. Due to limitations on time and resources, however, it was not possible to complete MnSOST-R assessments on all of the offenders. To cut down on the number of assessments, a sample of 295 offenders was drawn from the 1990-1996 sex offender releasee population (N = 1,415). Moreover, to increase the chances of selecting Level III offenders so as to maximize the size of the pre-notification group, 295 offenders were selected on the basis of prior sex crime convictions, stranger victims, disciplinary history, and victim age because the MnSOST-R includes items related to these variables and data on these variables were already available. More specifically, offenders were selected if they had a prior sex crime conviction, a history of victimizing strangers, a major discipline conviction, and/or a history of offending against a victim between the ages of 13 and 15; i.e., factors that increase one's MnSOST-R score, thus improving the chances of being assigned a Level III.[8]

After the sample of 295 releasees from 1990-1996 had been drawn, MnSOST-R assessments on these offenders were performed by assessors in the MNDOC's Risk Assessment and Community Notification (RACN) Unit, which is responsible for completing MnSOST-R evaluations on all offenders eligible for predatory offender registration prior to their release from prison. Following a detailed file review, the 295 offenders were scored on the basis of file information that would have been current at the time of their release between 1990 and 1996. The scoring efforts by the RACN assessors reveal that the MnSOST-R scores of 113 offenders placed them in the presumptive Level III range, 77 offenders fell in the Level II range, and 105 offenders were in the Level I range. Although it was not possible to convene an ECRC to assign a risk level for all 295 offenders, RACN assessors assigned a risk level to each offender on the basis of the MnSOST-R score as well as additional considerations that either increased or mitigated

[8] Of the 155 offenders in the notification group, 153 (99 %) met at least one of the criteria used to select the 295 offenders in the pre-notification group sample. A separate set of Cox regression models was run without the two offenders in the notification group. Removing these two offenders did not have an appreciable effect on the results, as community notification still significantly reduced the risk of time to reoffense for all nine measures of recidivism.

an offender's risk to sexually reoffend. Overall, 125 offenders were assigned a Level III, 99 offenders were assigned a Level II, and 71 offenders were assigned a Level I.

Matching on the basis of the MnSOST-R score and, more generally, probable risk level assignment produced a comparison group that was not significantly different from the notification group with regard to sexual recidivism risk. Of the 155 notification group offenders, 76 were scored on the MnSOST because they were initially released from prison in either 1997 or 1998—prior to the revision of the MnSOST—while the remaining 79 offenders were scored on the MnSOST-R. To produce a valid comparison among scores for the two versions of the MnSOST, the MnSOST and MnSOST-R scores were standardized into a single score. The average standardized MnSOST score for the 155 offenders in the notification group was 1.40 compared to 1.44 for the 125 offenders in the pre-notification group. An independent-samples t test revealed that this difference was not statistically significant at the .05 level ($p = .658$).

Table 1. Overall Recidivism Rates by Recommended Risk Level, 1990-1996

Recidivism Type	*Level I*	*Level II*	*Level III*
Average MnSOST-R Score*	-0.32	4.41	10.75
Sexual Rearrest *	25.4	36.0	58.4
Sexual Reconviction *	21.1	34.0	52.8
Sexual Reincarceration *	18.3	27.0	41.6
Non-Sexual Rearrest *	63.4	40.0	63.2
Non-Sexual Reconviction *	59.2	38.0	59.2
Non-Sexual Reincarceration *	33.8	21.0	41.6
Any Rearrest *	71.8	63.0	88.0
Any Reconviction *	69.0	63.0	87.2
Any Reincarceration *	43.7	46.0	67.2
N	71	99	125

* Pearson chi-square significant at the .01 level

To address possible concerns about errors in the assignment of risk levels, recidivism rates were compared among the 295 sex offenders released between 1990 and 1996 who received a retrospective risk level assignment. Consistent with recent research on the efficacy of the MnSOST-R in predicting sexual recidivism risk (Knight and Thornton, 2007), the results shown in table 1 suggest, for the most part, that the risk level assignment process and, more narrowly, the MnSOST-R correctly identified the

offenders at greatest risk to reoffend sexually. For example, the 125 sex offenders assigned a Level III had significantly higher sexual recidivism rates (rearrest, reconviction, and reincarceration) than Level II offenders who, in turn, had higher rates than Level I offenders. Level II offenders, on the other hand, had significantly lower non-sexual recidivism rates than either Level I or Level III offenders. When recidivism was measured as any offense, Level III offenders had the highest rates of reoffense.

Although the pre-notification group was carefully matched to the notification group with respect to sexual recidivism risk, there were substantial changes in the way the State of Minnesota sentenced, managed, and supervised sex offenders during the period (1990-2005) in which pre-notification group offenders were at risk to reoffend.[9] For example, the average sentence length for sex offenders released in 1990 was 24 months compared to 44 months for those released in 2002. Moreover, the length and intensity of post-release supervision increased significantly. Indeed, the average length of post-release supervision for sex offenders released in 2002 was 63 months, which is 50 months greater than the average for those released in 1990. In addition, very few offenders were released to intensive supervision prior to 1997. In 2002, however, 53 percent of sex offenders were placed on intensive supervised release (ISR).

In light of these developments, the notification group has generally been supervised more intensely for longer periods of time following release from prison than the pre-notification group. Due to longer and more intensive post-release supervision, the notification group has, in general, also returned to prison as supervised release violators more often and for cumulatively greater periods of time. As a result of the differences

[9] One of the major differences between the two groups concerned the amount of follow-up time. Because the pre-notification group was released prior to 1997, they had more time to recidivate. Although the Cox regression model is able to handle censored data, an attempt was made to address concerns regarding the extended at-risk period for the pre-notification group by running a separate set of statistical analyses in which their follow-up time was capped at 108 months; i.e., the maximum amount of time the earliest releasees from the notification group had to reoffend (January 1, 1997-December 31, 2005). Moreover, for offenders in the pre-notification group who recidivated after they had been at-risk for more than 108 months, their reoffense was not included because it occurred beyond the nine-year mark. Capping the at-risk periods for the pre-notification group, however, did not produce a substantive difference in the results; that is, community notification significantly reduced the risk of time to reoffense for all nine measures of recidivism. Consequently, only the analyses with the uncapped at-risk periods are presented in this study.

between the notification and pre-notification groups, it was necessary to create a second control group, which is described below.[10]

Non-Notification Control Group

The non-notification control group is, as noted earlier, comprised of sex offenders released between 1997 and 2002 that have never been assigned a Level III risk level classification and, thus, exposed to broad community notification. To create the non-notification group, data were examined on sex offenders who did not receive a Level III assignment at the time of their first release from prison. The data revealed there were 1,630 sex offenders released between 1997 and 2002 who were not given a Level III assignment. As mentioned previously, however, 90 offenders who later received a Level III assignment after returning to prison for a technical violation were excluded from the analyses, leaving a total of 1,540 Level I and II offenders.

To produce a control group as similar as possible to the notification group, a propensity score matching (PSM) method was used.[11] PSM matches individual cases from a pool of eligible control group members with individual cases from the experimental group on the basis of a propensity score, which is the predicted probability of group membership (e.g.,

[10] In an effort to minimize the observed differences between the pre-notification and notification groups, an attempt was made to weight the pre-notification group so that it was proportional to the notification group. Although scale weighting would artificially increase the size of the pre-notification group so that it was similar to that of the notification group, this type of weight was not used because it would not minimize the observed differences and would produce biased significance tests. Instead, the WesVar software program was used to rake (i.e., balance) the pre-notification group sample so that it was proportional to the notification group. Due to several factors, however, it was not possible to achieve convergence between the two groups. First, the number of variables that needed to be raked (N = 7) was relatively large. Second, there were few observations for the pre-notification group for variables such as ISR. For example, only two offenders from the pre-notification group were released to intensive supervision. Finally, there were substantial differences between the two groups for variables like ISR, prior sex crimes, length of stay, and supervision length.

[11] Regression-discontinuity (RD) design is a rigorous method for examining situations in which offenders can be assigned to either the experimental or control group on the basis of a standardized risk assessment score (Shadish, Cook, and Campbell, 2002). A RD design was not used in this study, however, due to the lack of clear separation in MnSOST and MnSOST-R scores among risk levels. Although the MnSOST and MnSOST-R have been used to guide the assignment of risk levels, the ECRC deviated from the presumptive risk level implied by the MnSOST or MnSOST-R for 18 percent (N = 329) of 1,763 sex offenders released between 1997 and 2002. Because the MnSOST contained only one cut score (offenders with a score greater than 47 were placed in the presumptive Level III category, whereas those with 47 or less fell into the Level I and Level II categories), the percentage of overrides for the 834 offenders with MnSOST scores (8 %) was less than it was for the 929 with MnSOST-R scores (28 %).

experimental group or control group) based on observed predictors. Propensity scores were computed for both the 155 notification group offenders and the 1,540 eligible control group offenders by estimating a logistic regression model in which the dependent variable was broad community notification (i.e., the 155 Level III offenders were assigned a value of 1, while the 1,540 offenders in the control group pool received a value of 0). The predictors were the 20 control variables used in the statistical analyses. After obtaining propensity scores for the 1,695 offenders, a caliper matching method was then used to match 155 offenders from the control group sample (N = 1,540) with the 155 Level III offenders from the notification group. The caliper approach produced matches by randomly sorting offenders from both groups and then selecting the closest match on the basis of propensity score, but only if the control group offender's score was within a narrowly defined distance (i.e., caliper) of the notification group offender's score.

As shown later, PSM was effective in producing a similar control group of 155 offenders (37 Level I and 118 Level II). Indeed, the results from an independent-samples t test revealed no statistically significant differences between the notification and non-notification groups for all but one of the control variables used in the statistical analyses. The average standardized MnSOST score for the non-notification group was 0.24 compared to 1.40 for the notification group. However, this difference, which was significant at the .01 level, merely reflects the fact that offenders from the control group had lower MnSOST and MnSOST-R scores and, thus, were given lower risk level assignments (Level I or Level II).

Although matching on sexual recidivism risk is the strength of the pre-notification group, the inability to do so with the non-notification group is not necessarily a weakness. On the contrary, because the non-notification group consists of offenders who are perceived to be lower risks to reoffend sexually than the notification group, it provides what is arguably a more rigorous test of the community notification-recidivism hypothesis. Moreover, by closely matching the non-notification group to the notification group on the variables used in the statistical analyses, the disadvantages with using the pre-notification control group have, to a large extent, been eliminated. Together, the two control groups

Table 2. Summary of Control Groups

	Notification Group	*Pre-Notification Group*	*Non-Notification Group*
Release Period	1997-2002	1990-1996	1997-2002
Population Description	All Level III Offenders	All Sex Offenders	All Level I and Level II Offenders
Population Size	N = 193	N = 1,415*	N = 1,540
Assigned risk level at time of initial release	Level III	None	Level I or Level II
Matching Strategy		Retrospectively scoring MnSOST-R assessments and assigning probable risk levels to a sample of 295 offenders	Propensity Score Matching
Final Sample	155 Level III offenders	125 retrospectively assigned Level III offenders	155 Level I (N = 37) and Level II (N = 118) offenders
Differences with Notification Group		Fewer prior sex crimes More metro-area commits Shorter lengths of stay Less participation in treatment Shorter supervision Less intense supervision Fewer Supervised Release Revocations	Lower standardized MnSOST score (sexual recidivism risk)
Similarities with Notification Group		Standardized MnSOST score Offender gender Offender race Offender age at release Prior felonies Victim-Offender relationship Institutional discipline	All remaining control variables

* The population for the pre-notification group consists of all offenders released between 1990 and 1996 who likely would have been assigned a Level III had community notification been in effect. Therefore, the 1,415 offenders do not, strictly speaking, represent the population of "Level III" offenders from 1990-1996, but rather the total number of offenders from which the initial sample was drawn.

provide different, although complimentary, comparisons with the notification group (see table 2). As Shadish, Cook, and Campbell (2002, p. 159) point out, " Using thoughtfully chosen *multiple nonequivalent comparison groups* rather than just one comparison can expand the researcher's ability to explore more threats to the causal inference and to triangulate toward a narrower bracket within which the effect is inferred to lie (italics in original)."

Measures

Dependent Variable

Recidivism was measured nine different ways in this study. It was first operationalized as a: 1) rearrest, 2) reconviction, or 3) reincarceration in an MCF for a new offense following an offender's first release from prison. Because it is important to know whether offenders recidivate with a sex offense, recidivism was further distinguished by the type of reoffense: 1) sex offense, 2) non-sex offense, and 3) any offense. Sex offense is defined here as a 1^{st}-5^{th} degree Criminal Sexual Conduct (CSC) offense, while non-sex offense was measured as any crime other than 1^{st}-5^{th} degree CSC. This study thus includes the following nine measures of recidivism: sex crime rearrest, sex crime reconviction, sex crime reincarceration, non-sex crime rearrest, non-sex crime reconviction, non-sex crime reincarceration, any crime rearrest, any crime reconviction, and any crime reincarceration.

Arrest, conviction and incarceration data were collected on offenders through December 31, 2005. The minimum follow-up period, then, was 3 years, while the maximum was 16 years (for offenders in the pre-notification group). Data on arrests (misdemeanor, gross misdemeanor, and felony) and convictions (misdemeanor, gross misdemeanor, and felony) were obtained electronically from the BCA, whereas incarceration data were derived from the MNDOC's Correctional Operation Management System (COMS) database.[12] Consequently, a limitation with these data is that they measure only arrests, convictions or incarcerations that took place in the State of Minnesota. Moreover, as with any recidivism study, official criminal history data will likely underestimate the actual extent to which the sex offenders examined here recidivated.

An arrest, conviction, and/or incarceration was considered a recidivism event only if it pertained to an offense that had taken place following release. There were a handful of offenders who returned to prison for a "new" sex offense that had been committed prior

[12] Due to the low baseline rate for sexual recidivism and the relatively large number of sex offenses that go unreported, prior research has generally attempted to use the most sensitive measure of sexual offending. Consistent with this approach, all three offense levels (misdemeanor, gross misdemeanor, and felony) were included in measuring recidivism.

to the beginning of their previous prison term; e.g., an offender who was incarcerated from 1994 to 2000 (the beginning of the at-risk period) returns to prison in 2002 for an offense committed in 1992. In these instances, the offenses were not considered recidivism events, but the time that offenders served in prison was deducted from their at-risk period.

Independent Variables

Given that the central purpose of this study is to determine whether Megan's Law has had an impact on sex offender recidivism, community notification is the main variable of interest in the statistical analyses. Community notification was measured as 1 for the Level III offenders released between 1997 and 2002 (i.e., the experimental group) and as 0 for the offenders assigned to the pre-notification and non-notification control groups. The other independent variables included in the statistical models were those that were not only available in the COMS database but also might theoretically have an impact on whether an offender recidivates, sexually or otherwise. Prior research indicates that sex offender recidivism is predicted by factors such as prior sexual criminal history, victim characteristics, participation in institutional sex offender treatment, and the intensity and length of post-release supervision (Hanson and Morton-Bourgon, 2004; Minnesota Department of Corrections, 2007). To control for potential rival causal factors, it was necessary to include variables such as these in the statistical analyses.

The following lists the control variables used in this study and describes how they were created:

Offender Sex: dichotomized as male (1) or female (0).

Offender Race: dichotomized as white (1) or minority (0).

Age at Release: the age of the offender in years at the time of release based on the date of birth and release date.

Prior Felony Convictions: the number of prior felony convictions, excluding the conviction(s) that resulted in the offender's incarceration.

Prior Sex Crime Convictions: offenders who had at least one prior sex crime conviction (excluding the instant offense) were given a value of 1, whereas those without a prior sex crime conviction were assigned a value of 0.

Victim-Offender Relationship: three dichotomous dummy variables were created to measure the offender's relationship to the victim for the governing sex offense[13]; i.e., the crime for which the offender was incarcerated. The three variables were stranger victims (1 = stranger victim, 0 = known or non-stranger victim); acquaintance victims (1 = acquaintance victim, 0 = non-acquaintance victim); and family member victims (1 = family member victim, 0 = non-family member victim). The family member victim variable serves as the reference in the statistical analyses.

Male Child Victims: dichotomized as either male child victims (1) or non-male child victims (0), this variable measures whether offenders victimized a male under the age of 13 in their instant offense.

Adult Female Victims: dichotomized as either adult female victims (1) or non-adult female victims (0), this variable quantifies whether offenders victimized women over the age of 17 in their instant offense.

Metro-Area: this variable measures an offender's county of commitment, dichotomizing it into either metro-area (1) or Greater Minnesota (0). The seven metro-area counties are Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The remaining 80 counties were coded as non-metro area or Greater Minnesota counties.

[13] The "governing offense" is the crime carrying the sentence on which an offender's scheduled release date is based. Although offenders may be imprisoned for multiple offenses, each with its own sentence, the governing offense is generally the most serious crime for which an offender is incarcerated.

Recent Disciplinary History: this variable measures the number of disciplinary convictions that an offender received in the final 12 months prior to his or her initial release from prison. Because sex offenders often serve relatively long sentences, disciplinary convictions at the end of their term of imprisonment may be a more valid predictor of post-release behavior than the total number of convictions throughout the full prison term.

Sex Offender Treatment: three dichotomous dummy variables were created to measure prison-based sex offender treatment during the offender's term of imprisonment. Offenders' involvement in sex offender treatment was not included, however, if they participated in treatment during either a prior commitment to prison or a subsequent return to prison (either for a supervised release violation or new crime) following the release that initiated their at-risk period. The three variables were offenders who successfully completed treatment or were participating until the time of release (1 = treatment completers/participants, 0 = treatment dropouts or non-participants), offenders who were terminated from treatment or voluntarily quit (1 = treatment dropouts, 0 = treatment completers/participants or non-participants), and those who never entered treatment (1 = non-participants, 0 = treatment completers/participants and dropouts). The treatment non-participant variable serves as the reference in the statistical analyses.

Existing research has demonstrated that cognitive-behavioral treatment in the community significantly reduces the risk of sexual recidivism (Aos, Miller, and Drake, 2006). However, due to the lack of complete data throughout the entire period examined (1990-2005), it was not possible to include community-based treatment as a control variable.

Length of Post-Release Supervision: the number of months between an offender's first release date and the end of post-release supervision; i.e., the sentence expiration or conditional release date, the greater of the two.

Intensity of Post-Release Supervision: three dichotomous dummy variables were created to measure the level of post-release supervision to which offenders were released.

The three variables were intensive supervised release (ISR) (1 = ISR, 0 = non-ISR), supervised release (SR) (1 = SR, 0 = non-SR), and discharge (1 = discharge or no supervision, 0 = released to supervision). Discharge is the variable that serves as the reference in the statistical analyses.

Due to multicollinearity issues, however, ISR was measured differently for the pre-notification group analyses. At approximately the same time that community notification was implemented, the use of ISR began to increase, making it difficult to separate out the effects of ISR from those of community notification in the pre-notification group analyses. To reduce the level of collinearity, ISR was measured as the amount of time (in months) an offender spent on ISR in the pre-notification group analyses.

Supervised Release Revocations (SRRs): the number of times during an offender's sex crime sentence when he or she returned to prison as a supervised release violator.

MnSOST: this variable represents the standardized MnSOST and MnSOST-R scores.

Analysis

In analyzing recidivism, survival analysis models are preferable in that they utilize time-dependent data, which are important in determining not only whether offenders recidivate but also when they recidivate. As a result, the statistical technique employed was a Cox proportional hazards model, which uses both "status" and "time" variables in estimating the impact of the independent variables on recidivism. For the analyses presented here, the "status" variable was one of the nine recidivism variables mentioned above; e.g., sex crime rearrest, non-sex crime reconviction, any crime reincarceration, etc. The "time" variable, on the other hand, measures the amount of time (in days) from the date of release until the date of first rearrest, reconviction, reincarceration, or December 31, 2005, for those who did not recidivate.

To accurately measure the total amount of time an offender was actually at risk to reoffend (i.e., "street time"), it was necessary to account for instances in which an

offender was not at risk to recidivate following release from prison. Failure to do so would bias the findings by artificially increasing the lengths of offenders' at-risk periods. Accordingly, the time offenders spent in prison as supervised release violators was subtracted from their total at-risk period as long as it 1) preceded a reincarceration for a new offense, or 2) occurred prior to January 1, 2006 (the end of the follow-up period) for those who did not recidivate. In addition, when recidivism was defined as a sex reoffense, time spent in prison was deducted for offenders reincarcerated for a non-sex reoffense. Alternatively, when recidivism was defined as a non-sex reoffense, prison time was subtracted when offenders were reincarcerated for a new sex crime.

Because civilly committed offenders are incapacitated in a mental health institution, it was necessary to account for those who were civilly committed between September 1991—when Minnesota courts began using the civil commitment statute on released sex offenders—and December 31, 2005. Sixty sex offenders were excluded because they were later civilly committed without ever spending any time in the community. However, 29 offenders were included who had spent time in the community but had been civilly committed following a return to prison for either a supervised release violation or a new crime. Offenders who returned to prison for a supervised release revocation were "right censored" at the time of their civil commitment; that is, their at-risk period ended when they were civilly committed. For offenders who were civilly committed following a reincarceration for a non-sex reoffense, they were right censored at the time of their commitment when recidivism was defined as a sex reoffense. Similarly, when recidivism was defined as a non-sex reoffense, offenders were right censored at the time of their civil commitment following a return to prison for a new sex crime.

It was also necessary to account for instances in which offenders' risk levels changed following their initial release from prison. Of the 125 offenders in the pre-notification group, there were 71 who returned to prison for a new crime, often a sex offense (N = 55), and were released prior to 2006 with a Level III assignment. To ensure that these offenders were not exposed to broad community notification during their at-risk periods, they were right censored at the time of their release from prison as a Level III. Similarly,

24 of the 155 offenders in the notification group received a risk level reduction (from III to II) prior to January 1, 2006. These offenders were right censored on the date their risk level was reduced.

In the analyses presented below, Cox regression models were estimated separately for each comparison group (notification vs. pre-notification and notification vs. non-notification) on each of the nine measures of recidivism.[14] Moreover, to determine whether the effects of community notification were dependent on any of the 20 control variables included within each statistical model, interaction models were estimated for each measure of recidivism. Analogous to stepwise regression, all first-order interactions with community notification were examined and non-significant terms were removed until only the significant interactions remained in the model. Overall, a total of 376 Cox regression models was estimated.

[14] In the 18 sets of analyses (nine recidivism measures for both control group comparisons), there was a total of 69 ties in failure times. The Breslow method was used to resolve ties, as it was the only method available for Cox regression with the statistical software package that was used (SPSS).

RESULTS

As shown in table 3, which displays the three-year recidivism rates for each of the three groups, the notification group had the lowest reoffense rates for all nine measures of recidivism. The non-notification group had the next lowest recidivism rates, whereas the pre-notification group had, by far, the highest rates. The differences between the notification group and the two control groups were most apparent for sex reoffenses. For example, three years after release, 5 percent of the Level III offenders had been rearrested for a sex offense compared to 13 percent of the offenders in the non-notification group and 36 percent in the pre-notification group. Although the percentage of notification group offenders rearrested for a non-sex offense (14 %) was much lower than the rate for the pre-notification group (38 %), it was only slightly less than that of the non-notification group (16 %).

Table 3. Three-Year Recidivism Rates by Group

Recidivism Type	*Notification Group*	*Pre-Notification Group*	*Non-Notification Group*
Sexual Rearrest	5.2	36.0	12.8
Sexual Reconviction	3.2	32.8	9.6
Sexual Reincarceration	2.6	19.2	8.0
Non-Sexual Rearrest	13.5	37.6	16.0
Non-Sexual Reconviction	11.6	28.8	12.8
Non-Sexual Reincarceration	7.1	20.8	8.8
Any Rearrest	18.7	60.0	26.4
Any Reconviction	14.8	54.4	20.8
Any Reincarceration	9.0	33.6	16.0
N	155	125	125

The Level III offenders in the notification group also had recidivism rates that were, for the most part, lower than those of the Level I and II offenders released during the same time period. Of the 1,763 sex offenders released from an MCF between 1997 and 2002, 69 percent were assigned a Level I, 22 percent were assigned a Level II, and the remaining 9 percent were assigned a Level III (see table 4).[15] Level II offenders had the highest sexual recidivism rates for all three measures (rearrest, reconviction, and

[15] There were 1,823 sex offenders released from an MCF between 1997 and 2002, but 60 were removed from the analyses because they were civilly committed immediately after release.

Table 4. Overall Recidivism Rates by First Risk Level Assignment, 1997-2002

Recidivism Type	*Level I*	*Level II*	*Level III*
Sexual Rearrest	5.2	7.5	5.2
Sexual Reconviction	3.9	6.0	3.2
Sexual Reincarceration	2.7	3.9	2.6
Non-Sexual Rearrest	36.4	29.9	29.7
Non-Sexual Reconviction	34.9	29.4	28.4
Non-Sexual Reincarceration	15.1	14.5	17.4
Any Rearrest	41.7	35.6	32.9
Any Reconviction	39.8	34.8	29.0
Any Reincarceration	16.7	16.9	16.8
N	1,223	385	155

reincarceration). In contrast, Level III offenders not only had the same sexual rearrest rate as Level I offenders, they also had the lowest sexual reconviction and reincarceration rates. Level I offenders, on the other hand, generally had the highest non-sexual and general recidivism. Level III offenders, meanwhile, had non-sexual and general recidivism rates that were comparable to those assigned to Level II.

Pre-Notification Control Group

As noted above, the notification and pre-notification groups were carefully matched on the basis of sexual recidivism risk. Still, despite the absence of a significant difference in standardized MnSOST scores, there are several statistically significant differences between the two groups. For example, compared to the pre-notification group, the notification group was significantly more likely to have a prior sex crime conviction, a longer length of stay, a county of commitment from Greater Minnesota, a longer period of time on ISR, and more supervised release revocations (see table 5). These offenders, moreover, were significantly less likely to have been placed on supervised release and were more likely to have entered prison-based sex offender treatment, as reflected by the fact that they had significantly higher rates of dropping out and completing. Consistent with the figures presented above, the pre-notification group had significantly higher reoffense rates for all nine measures of recidivism.

Table 5. Comparison of Notification and Pre-Notification Group Offenders

Characteristics	*Notification*	*Pre-Notification*	*t test p Value*
Percent Male	99.4	100.0	.370
Percent Minority	35.5	40.8	.364
Age at Release (Years)	34.2	32.8	.273
Prior Sex Crimes	87.1	32.8	.000
Prior Felonies	59.4	68.0	.137
Stranger Victims	28.4	33.6	.349
Acquaintance Victims	53.6	48.8	.431
Male Child Victims	9.7	10.4	.842
Adult Female Victims	29.0	28.8	.966
Metro-Area	54.8	67.2	.036
Length of Stay (Months)	52.7	33.7	.000
Recent Discipline	2.1	1.7	.382
Treatment Completer	36.8	17.6	.000
Treatment Dropout	30.3	17.6	.014
Length of Supervision (Months)	55.1	20.3	.000
ISR Time (Months)	16.1	0.4	.000
SR	16.8	89.6	.000
SRRs	1.4	0.9	.003
Standardized MnSOST	1.40	1.44	.658
Release Year (Year)	1999	1993	.000
Percent Sex Crime Rearrest	5.2	58.4	.000
Percent Sex Crime Reconviction	3.2	52.8	.000
Percent Sex Crime Reincarceration	2.6	42.4	.000
Percent Non-Sex Rearrest	28.4	57.6	.000
Percent Non-Sex Reconviction	27.1	53.6	.000
Percent Non-Sex Reincarceration	16.1	41.6	.000
Percent Any Rearrest	31.0	86.4	.000
Percent Any Reconviction	28.4	84.8	.000
Percent Any Reincarceration	16.1	66.4	.000
N	155	125	

The results presented thus far suggest that notification group offenders are, compared to the pre-notification group, less likely to reoffend, either with a sex crime or a non-sex offense. But are the lower reoffense rates due to community notification? Or is the reoffense reduction due to other factors such as prior criminal history, prison-based treatment, or post-release supervision? To address this issue, Cox regression models with the aforementioned control variables were estimated across the nine different measures of recidivism.

Table 6. Cox Proportional Hazards Models for Pre-Notification Group Comparison: Time to Sex Offense Recidivism

Variables	*Sex Offense Rearrest*				*Sex Offense Reconviction*				*Sex Offense Reincarceration*			
	Main Effects		*Interaction*		*Main Effects*		*Interaction*		*Main Effects*		*Interaction*	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.159*	0.708	0.018*	1.193	0.108*	0.802	0.034*	1.175	0.070*	0.906	0.016*	1.243
Male	3482.88	273.61	1840.24	282.97	3509.45	306.16	1125.29	310.81	1536.33	374.90	14020.63	386.95
Minority	0.670	0.298	0.744	0.306	0.523	0.331	0.521**	0.333	0.380*	0.377	0.385**	0.382
Age at Release	1.009	0.015	1.012	0.016	1.018	0.016	1.023	0.016	1.024	0.018	1.029	0.019
Prior Sex Crimes	0.583	0.302	0.561	0.301	0.661	0.320	0.624	0.320	0.536	0.361	0.533	0.364
Prior Felonies	1.053	0.294	1.043	0.307	0.868	0.316	0.883	0.325	1.119	0.350	1.075	0.352
Stranger Victims	0.737	0.384	0.648	0.386	0.609	0.418	0.544	0.420	0.589	0.446	0.601	0.457
Acquaintance Victims	0.734	0.305	0.658	0.307	0.815	0.325	0.756	0.328	0.872	0.355	0.843	0.361
Male Child Victims	0.903	0.401	0.785	0.397	1.013	0.415	0.931	0.412	0.704	0.467	0.475	0.514
Adult Female Victims	0.425**	0.356	0.396*	0.353	0.507	0.383	0.497	0.385	0.592	0.435	0.512	0.446
Metro-Area	2.321*	0.314	2.410*	0.317	2.138**	0.336	2.174**	0.341	1.469	0.344	1.508	0.352
Length of Stay	0.986**	0.007	0.985**	0.007	0.986	0.008	0.985	0.008	0.995	0.008	0.994	0.009
Recent Discipline	1.080	0.047	1.102**	0.049	1.078	0.054	1.090	0.056	1.015	0.059	0.964	0.067
Treatment Completer	0.411**	0.406	0.514	0.417	0.520	0.417	0.617	0.424	0.621	0.435	0.626	0.442
Treatment Dropout	1.208	0.285	0.950	0.323	1.426	0.311	1.176	0.337	1.853	0.341	1.868	0.348
Length of Supervision	0.998	0.006	0.991	0.007	0.992	0.007	0.991	0.008	1.000	0.008	1.000	0.008
ISR Time	0.925	0.043	0.902**	0.044	0.893	0.064	0.881**	0.064	0.901	0.063	0.905	0.063
SR	0.482**	0.365	0.418**	0.371	0.530	0.406	0.542	0.409	0.693	0.470	0.655	0.493
SRRs	0.867	0.123	0.823	0.122	0.943	0.127	0.913	0.130	1.022	0.130	1.039	0.127
MnSOST	1.051	0.189	0.983	0.186	1.133	0.209	1.118	0.209	1.607**	0.219	1.673**	0.222
Release Year	1.071	0.081	1.065	0.082	1.127	0.090	1.113	0.090	1.219**	0.097	1.199	0.098
CN X TX Dropout			8.330**	0.923			11.174**	1.213				
CN X Sup. Length			1.029**	0.014								
CN X Male Child Victim											24.322*	1.164
CN X Recent Discipline											1.296**	0.120
N	280		280		280		280		280		280	

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

As shown in table 6, the results indicate that, controlling for other factors, community notification significantly reduced the timing to sexual reoffense for all three measures of recidivism in both the main effects and interaction models. In the main effects models, community notification reduced the risk of timing to rearrest by 84 percent, reconviction

by 89 percent, and reincarceration by 93 percent. Significant positive interactions were found for treatment dropouts (rearrest and reconviction), supervision length (rearrest), male child victims (reincarceration), and recent discipline (reincarceration). The results further show that the risk of timing to a sexual reoffense was significantly less for minority offenders (reincarceration), offenders with a history of victimizing adult females (reconviction), treatment completers (rearrest), and supervised release (rearrest). Conversely, a metro-area county of commitment hastened the time to rearrest and reconviction.

Table 7. Cox Proportional Hazards Models for Pre-Notification Group Comparison: Time to Non-Sex Offense Recidivism

Variables	*Non-Sex Rearrest*		*Non-Sex Reconviction*		*Non-Sex Reincarceration*			
	Main Effects		Main Effects		Main Effects		Interaction	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.263*	0.498	0.289**	0.507	0.093*	0.627	0.204**	0.719
Male	3923.49	194.715	4949.88	222.669	231.63	304.27	285.68	314.97
Minority	1.595**	0.222	1.488	0.225	1.439	0.262	1.469	0.257
Age at Release	0.973**	0.014	0.971**	0.014	0.945*	0.020	0.947*	0.020
Prior Sex Crimes	0.650	0.260	0.694	0.269	0.396*	0.319	0.435*	0.318
Prior Felonies	1.271	0.221	1.222	0.225	1.826**	0.282	1.716	0.283
Stranger Victims	0.437*	0.316	0.384*	0.326	0.377**	0.401	0.350*	0.402
Acquaintance Victims	0.672	0.261	0.580**	0.270	0.639	0.345	0.612	0.346
Male Child Victims	0.658	0.416	0.765	0.415	0.087**	1.037	0.090**	1.038
Adult Female Victims	1.362	0.263	1.468	0.269	1.359	0.297	1.394	0.295
Metro-Area	1.952*	0.232	1.907*	0.235	1.886**	0.288	1.880**	0.291
Length of Stay	0.998	0.004	1.000	0.004	1.003	0.005	1.004	0.005
Recent Discipline	1.054	0.031	1.061	0.032	1.017	0.039	1.013	0.040
Treatment Completer	1.220	0.259	1.190	0.265	1.618	0.327	1.757	0.333
Treatment Dropout	0.988	0.267	0.921	0.280	1.571	0.314	1.756	0.318
Length of Supervision	1.001	0.004	1.001	0.004	1.005	0.004	1.006	0.005
ISR Time	0.984	0.012	0.985	0.012	0.986	0.015	0.983	0.015
SR	0.440**	0.308	0.525**	0.306	0.332*	0.375	0.319*	0.383
SRRs	0.853	0.085	0.900	0.084	0.918	0.086	0.929	0.086
MnSOST	1.306	0.148	1.313	0.157	1.461	0.180	2.035*	0.237
Release Year	1.129	0.062	1.161**	0.066	1.284*	0.076	1.300*	0.077
CN X MnSOST							0.529**	0.304
N	280		280		280		280	

** p < .01*
*** p < .05*

The results in table 7 show that broad community notification had a statistically significant effect for all three measures of non-sex offense recidivism, reducing the risk of time to rearrest by 74 percent, reconviction by 71 percent, and reincarceration by 91 percent. Although no interaction terms reached statistical significance in the rearrest and

Table 8. Cox Proportional Hazards Models for Pre-Notification Group Comparison: Time to General Recidivism

Variables	*Any Rearrest*				*Any Reconviction*				*Any Reincarceration*			
	Main Effects		*Interaction*		*Main Effects*		*Interaction*		*Main Effects*		*Interaction*	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.273*	0.431	1.289	0.801	0.298*	0.433	1.494	0.825	0.138*	0.522	2.722	1.089
Male	5608.73	155.54	6688.13	156.00	6615.53	171.14	7755.76	171.27	1308.86	223.48	2036.82	226.51
Minority	1.437	0.198	1.393	0.198	1.294	0.198	1.246	0.198	1.112	0.234	1.067	0.231
Age at Release	0.995	0.011	1.019	0.014	0.991	0.011	1.013	0.014	0.992	0.014	1.025	0.016
Prior Sex Crimes	0.738	0.217	0.757	0.218	0.756	0.224	0.773	0.224	0.448*	0.258	0.472*	0.256
Prior Felonies	1.246	0.194	1.322	0.195	1.094	0.195	1.158	0.196	1.352	0.242	1.444	0.241
Stranger Victims	0.739	0.269	0.684	0.272	0.557**	0.269	0.516**	0.272	0.488**	0.325	0.444**	0.326
Acq. Victims	0.795	0.226	0.799	0.227	0.707	0.230	0.698	0.230	0.795	0.265	0.786	0.267
Male Child Victims	1.225	0.316	1.166	0.315	1.242	0.314	1.142	0.314	0.469	0.409	0.442**	0.402
Adult Fem. Victims	0.787	0.237	0.781	0.239	0.851	0.237	0.831	0.238	0.796	0.279	0.771	0.279
Metro-Area	1.749*	0.206	1.864*	0.209	1.639**	0.209	1.743*	0.212	1.460	0.241	1.627**	0.246
Length of Stay	0.995	0.004	0.996	0.004	0.998	0.004	0.999	0.004	1.001	0.004	1.003	0.005
Recent Discipline	1.082*	0.029	1.085*	0.029	1.069**	0.032	1.072**	0.031	1.034	0.035	1.045	0.035
Treatment Completer	0.771	0.227	0.747	0.225	0.854	0.228	0.833	0.226	1.236	0.283	1.253	0.278
Treatment Dropout	0.846	0.223	0.823	0.223	0.803	0.230	0.781	0.230	1.718**	0.251	1.659**	0.253
Length of Supervision	1.002	0.003	1.002	0.003	1.001	0.004	1.000	0.004	0.996	0.004	0.996	0.004
ISR Time	0.977	0.012	0.979	0.012	0.981	0.012	0.982	0.012	0.977	0.017	0.979	0.017
SR	0.493*	0.272	0.533**	0.274	0.632	0.268	0.691	0.269	0.527**	0.325	0.602	0.325
SRRs	1.050	0.089	1.044	0.089	1.145	0.090	1.136	0.090	1.034	0.087	1.029	0.088
MnSOST	1.083	0.128	1.097	0.128	1.098	0.135	1.114	0.135	1.243	0.159	1.283	0.161
Release Year	1.032	0.056	1.024	0.055	1.031	0.059	1.027	0.058	1.193*	0.066	1.170**	0.065
CN X Age at Release			0.955**	0.020			0.953**	0.021			0.914*	0.031
N	280		280		280		280		280		280	

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

reconviction models, a significant negative interaction was found for standardized MnSOST score in the reincarceration model. Offenders from the metro area (all three measures), younger offenders (reincarceration), release year (reconviction and reincarceration), and prior felonies (reincarceration) were significant predictors in at least one of the main effects models. The risk of timing to reoffense was significantly less, however, for those with stranger victims (all three measures), supervised release (all three measures), prior sex crimes (reincarceration), acquaintance victims (reconviction), and male child victims (reincarceration).

Community notification significantly decreased the risk of timing to any reoffense for all three measures of recidivism, reducing it by 73 percent for rearrest, 70 percent for reconviction, and 86 percent for reincarceration (see table 8). The results indicated that the effect of notification on general recidivism was dependent on age at release for all three measures. Offenders with a metro-area county of commitment (rearrest and reconviction), recent discipline (rearrest and reconviction), treatment dropouts (reincarceration), and release year (reincarceration) were significant predictors of at least one measure of general recidivism in the main effects models. The risk of timing to reoffense was significantly less, however, for those with stranger victims (reconviction and reincarceration), prior sex crimes (reincarceration), and supervised release (rearrest and reincarceration).

Non-Notification Control Group

As noted previously, the non-notification group had a significantly lower average MnSOST score than the notification group (see table 9). The non-notification offenders, however, had significantly higher recidivism rates for all three measures of sexual reoffending (rearrest, reconviction, and reincarceration) and two of the measures of general recidivism (rearrest and reconviction). Apart from these variables, however, there were no statistically significant differences between the notification and non-notification groups. Similar to the analyses for the pre-notification group, we estimated Cox regression models (both main effects and interaction) for each of the nine different measures of recidivism.

Table 9. Comparison of Notification and Non-Notification Group Offenders

Characteristics	*Notification*	*Non-Notification*	*t test p Value*
Percent Male	99.4	98.7	.563
Percent Minority	35.5	35.5	.999
Age at Release (Years)	34.2	35.5	.317
Prior Sex Crimes	87.1	87.7	.865
Prior Felonies	59.4	58.7	.908
Stranger Victims	28.4	23.9	.367
Acquaintance Victims	53.6	52.9	.910
Male Child Victims	9.7	9.7	.999
Adult Female Victims	29.0	24.5	.371
Metro-Area	54.8	54.8	.999
Length of Stay (Months)	52.7	46.5	.125
Recent Discipline	2.1	1.7	.371
Treatment Completer	36.8	43.2	.248
Treatment Dropout	30.3	24.5	.253
Length of Supervision (Months)	55.1	51.6	.358
ISR	81.3	80.0	.775
SR	16.8	17.4	.881
SRRs	1.4	1.2	.176
Standardized MnSOST	1.40	0.24	.000
Release Year (Year)	1999	1999	.870
Percent Sex Crime Rearrest	5.2	15.5	.003
Percent Sex Crime Reconviction	3.2	13.5	.001
Percent Sex Crime Reincarceration	2.6	9.0	.015
Percent Non-Sex Rearrest	28.4	34.2	.272
Percent Non-Sex Reconviction	27.1	32.9	.266
Percent Non-Sex Reincarceration	16.1	14.8	.754
Percent Any Rearrest	31.0	44.5	.014
Percent Any Reconviction	28.4	42.6	.009
Percent Any Reincarceration	16.1	20.6	.384
N	155	155	

Once again, the results in table 10 show that, controlling for other factors, community notification significantly reduced the risk of timing to sexual reoffense for all three measures of recidivism in both the main effects and interaction models. In the main effects models, notification decreased the risk of timing to a new sex offense by 68 percent for rearrest, 78 percent for reconviction, and 76 percent for reincarceration. Significant positive interactions between notification and recent discipline were found in both the reconviction and reincarceration models. The findings also indicate that ISR (all three measures), supervised release (reconviction and reincarceration), prior sex crime convictions (all three measures), and male offenders (reconviction) significantly reduced

the risk of timing to sexual reoffense in the main effects models, whereas stranger victims (rearrest) and treatment dropouts (reconviction) significantly increased the risk.

Table 10. Cox Proportional Hazards Models for Non-Notification Group Comparison: Time of Sex Offense Recidivism

Variables	*Sex Offense Rearrest*		*Sex Offense Reconviction*				*Sex Offense Reincarceration*			
	Main Effects		*Main Effects*		*Interaction*		*Main Effects*		*Interaction*	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.324**	0.507	0.224**	0.603	0.108*	0.772	0.239**	0.711	0.083*	0.915
Male	0.124	1.140	0.090**	1.193	0.076**	1.195	18757.970	665.892	14758.637	618.486
Minority	1.260	0.448	0.819	0.517	0.872	0.518	1.793	0.649	1.884	0.663
Age at Release	0.995	0.024	0.994	0.028	0.997	0.028	1.019	0.034	1.029	0.036
Prior Sex Crimes	0.291**	0.484	0.256**	0.543	0.239*	0.550	0.121*	0.674	0.094*	0.707
Prior Felonies	1.000	0.420	1.108	0.462	1.049	0.459	1.438	0.613	1.170	0.617
Stranger Victims	3.583**	0.639	2.753	0.761	2.478	0.773	2.548	0.973	1.836	1.019
Acquaintance Vics.	1.259	0.575	1.717	0.661	1.607	0.670	2.324	0.847	1.998	0.846
Male Child Victims	1.844	0.681	1.325	0.823	1.480	0.821	2.925	0.917	4.108	0.931
Adult Female Vics.	0.848	0.462	1.324	0.516	1.352	0.504	1.019	0.635	1.230	0.646
Metro-Area	1.376	0.397	1.345	0.451	1.472	0.454	1.309	0.580	1.601	0.594
Length of Stay	0.983	0.009	0.987	0.010	0.984	0.010	0.991	0.012	0.985	0.013
Recent Discipline	0.969	0.046	0.961	0.048	0.930	0.055	0.916	0.065	0.839	0.102
Treatment Completer	0.779	0.622	0.992	0.716	1.031	0.739	1.111	1.037	1.152	1.093
Treatment Dropout	2.618	0.558	3.638**	0.645	3.630	0.666	3.792	0.959	3.734	1.013
Supervision Length	1.003	0.006	0.995	0.007	0.996	0.007	1.010	0.008	1.013	0.009
ISR	0.124*	0.766	0.091*	0.817	0.074*	0.786	0.085*	0.910	0.054*	0.912
SR	0.258	0.751	0.158**	0.806	0.142**	0.775	0.113**	0.914	0.079*	0.905
SRRs	0.931	0.130	1.091	0.141	1.084	0.141	1.043	0.172	1.053	0.176
MnSOST	1.155	0.257	1.138	0.284	1.185	0.294	1.346	0.380	1.461	0.405
Release Year	1.078	0.152	1.233	0.184	1.248	0.188	0.905	0.229	0.897	0.246
CN X Discipline					1.254**	0.106			1.436**	0.146
N	310		310		310		310		310	

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

The results in table 11 reveal that community notification did not have a statistically significant impact on non-sexual recidivism. The risk of timing to non-sexual reoffense was significantly greater, however, for younger offenders (all three measures) and those with a metro-area county of commitment (rearrest). None of the control variables significantly reduced the risk of timing to a non-sexual reoffense.

Table 11. Cox Proportional Hazards Models for Non-Notification Group Comparison: Time to Non-Sex Offense Recidivism

Variables	*Non-Sex Rearrest*		*Non-Sex Reconviction*		*Non-Sex Reincarceration*	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.796	0.263	0.909	0.261	1.492	0.360
Male	0.312	1.073	0.291	1.059	259086.250	1260.051
Minority	1.226	0.236	1.382	0.238	1.506	0.323
Age at Release	0.947*	0.015	0.945*	0.015	0.936*	0.023
Prior Sex Crimes	0.692	0.301	0.692	0.308	0.601	0.402
Prior Felonies	1.119	0.232	1.224	0.237	1.266	0.340
Stranger Victims	0.799	0.361	0.715	0.369	1.138	0.492
Acquaintance Victims	0.933	0.290	0.797	0.295	0.700	0.435
Male Child Victims	0.401	0.548	0.488	0.544	0.000	374.403
Adult Female Victims	0.982	0.263	1.107	0.268	0.906	0.351
Metro-Area	1.715**	0.232	1.598**	0.238	1.043	0.340
Length of Stay	1.002	0.004	1.002	0.004	1.002	0.005
Recent Discipline	1.024	0.032	1.014	0.032	1.036	0.040
Treatment Completer	0.815	0.331	1.093	0.333	1.215	0.490
Treatment Dropout	0.734	0.345	0.864	0.351	1.677	0.484
Length of Supervision	0.996	0.004	0.996	0.004	0.989	0.006
ISR	1.121	0.902	0.775	0.851	1.501	1.277
SR	1.123	0.897	0.787	0.846	1.344	1.283
SRRs	0.970	0.078	1.031	0.077	0.967	0.111
MnSOST	1.133	0.147	1.054	0.147	0.875	0.193
Release Year	0.863	0.093	0.937	0.097	1.041	0.131
N	310		310		310	

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

The findings indicate that, after controlling for the effects of the independent variables, community notification did not have a statistically significant impact on general reoffending (see table 12). Age at release was a significant predictor of all three general recidivism measures. The risk of timing to any reoffense was significantly reduced, however, by ISR (rearrest and reconviction), supervised release (rearrest and reconviction), and prior sex crimes (all three measures).

Discussion

The results presented here suggest that community notification based on a tiered risk management system significantly reduces sexual recidivism in Minnesota. Indeed, the risk of timing to sexual reoffense was significantly less for the notification group than for either control group for all three measures of recidivism—rearrest, reconviction, and

Table 12. Cox Proportional Hazards Models for Non-Notification Group Comparison: Time to General Recidivism

Variables	*Any Rearrest*		*Any Reconviction*		*Any Reincarceration*	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Community Notification	0.694	0.237	0.723	0.240	1.030	0.325
Male	0.397	1.045	0.379	1.044	14033.961	265.515
Minority	1.491	0.217	1.461	0.222	1.759	0.307
Age at Release	0.958*	0.013	0.954*	0.013	0.955**	0.019
Prior Sex Crimes	0.561**	0.272	0.567**	0.282	0.424**	0.362
Prior Felonies	1.312	0.211	1.252	0.213	1.403	0.300
Stranger Victims	0.968	0.323	0.760	0.331	1.155	0.451
Acquaintance Victims	0.816	0.264	0.756	0.268	0.781	0.382
Male Child Victims	0.561	0.452	0.599	0.454	0.327	0.793
Adult Female Victims	0.926	0.237	1.079	0.243	0.785	0.326
Metro-Area	1.465	0.205	1.352	0.212	0.931	0.296
Length of Stay	0.995	0.004	0.998	0.004	1.000	0.005
Recent Discipline	0.984	0.026	0.974	0.027	0.978	0.034
Treatment Completer	1.068	0.305	1.369	0.315	1.185	0.451
Treatment Dropout	1.230	0.310	1.297	0.322	1.878	0.444
Length of Supervision	0.997	0.003	0.996	0.003	0.995	0.005
ISR	0.290**	0.569	0.251**	0.562	0.289	0.640
SR	0.322**	0.569	0.279**	0.564	0.302	0.656
SRRs	0.977	0.071	1.047	0.069	0.935	0.100
MnSOST	1.125	0.129	1.086	0.132	0.988	0.176
Release Year	0.971	0.082	1.009	0.088	0.971	0.118
N	310		310		310	

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

reincarceration. There were no clear interaction effects for sexual recidivism, as the pre-notification group findings indicated an interaction for treatment dropouts (rearrest and reconviction), supervision length (rearrest), discipline (reincarceration), and those with a history of victimizing male children (reincarceration), while those for the non-notification group findings revealed an interaction with discipline for reconviction and reincarceration. The results were mixed, however, regarding non-sexual and general recidivism. Whereas the findings from the pre-notification group analyses indicated that community notification significantly reduced non-sexual and general recidivism, no such effects were found for the non-notification group analyses.

Why does broad community notification appear to reduce sexual recidivism? It is reasonable to speculate that by isolating and ostracizing offenders, community

notification may make it more difficult for them to establish not only healthy relationships, but also the kinds of relationships that facilitate sexual reoffending. Sexual offending and, in particular, sexual recidivism often involves offenders who victimize someone they know (Langan, Schmitt, and DuRose, 2003). Previous research reveals that when sex offender recidivists victimize someone they know, it is often a "collateral contact" victim whom they met through a friend, acquaintance, or loved one (Duwe, Donnay, and Tewksbury, forthcoming). Examples include an offender who victimizes his girlfriend's son or daughter, an offender who molests the daughter of a friend or acquaintance, or an offender who baby-sits the children of an acquaintance or co-worker. In all of these examples, the offender is able to gain access to the victim by first establishing a relationship with the victim's parent, guardian, or family member.

In the research literature, it is commonly assumed that developing networks of social support is a critical step in preventing relapse. While this is likely true in many cases, it is worth suggesting that the type of social support network an offender develops may, in some instances, trigger relapse. For example, an offender with a history of molesting juvenile females may very well increase his risk for reoffending by developing a romantic relationship with a woman who has two daughters under the age of 13. Thus, while the offender is reducing his isolation by developing a social support system, he may also be placing himself—not to mention the woman's daughters—at risk.

Sex offenders often operate under a veil of secrecy, which enables them to obtain access, either directly or indirectly, to unwitting victims. By lifting this veil, broad community notification may severely limit their opportunities to form the types of relationships (or any relationships for that matter) that facilitate sexual offending (Petrosino and Petrosino, 1999). Prior research has suggested, for example, that notified local residents are more likely to take precautionary measures and engage in community reporting behavior (Simpson Beck and Travis, 2004). Moreover, nearly every Level III offender is released to intensive supervision. When sex offenders are placed on ISR, they are continuously supervised by a team of three to five supervision agents, whose caseloads are capped at 15 per state law. During all four phases of ISR, offenders are required to maintain steady

employment, comply with random alcohol/drug testing, and are subjected to unannounced face-to-face contacts with their supervision agents at both their residence and place of work.

For offenders on ISR, the increased surveillance resulting from broad community notification likely creates a more rigorous version of ISR in that both community members and supervision agents can closely monitor the offender. Similar to the Panopticon, where surveillance is both palpable and unverifiable, Level III sex offenders may be aware they are subject to constant scrutiny but are unable to confirm whether they are, in fact, being observed at all times. As such, these offenders may ultimately internalize the perception of constant surveillance by monitoring their own behavior. In deterring—or at least delaying—sexual recidivism, what may be important is not that sex offenders are actually being monitored at all times, only that they think they are.

CONCLUSION

This study offers evidence that suggests broad community notification has a deterrent effect on sex offense recidivism, thus providing support for rational choice theory as a framework within which to explain, predict, and control sexual offending. Nevertheless, the current study has several limitations that must be considered. First, because there are variations in the way community notification is implemented nationwide and because this evaluation represents only one state's experience with Megan's Law, the results presented here are not necessarily generalizable to other states. Still, it is worth noting that states using a tiered risk management system (Washington and Wisconsin) have reported a link, however tenuous, between community notification and a reduction in sexual recidivism (Barnoski, 2005; Zevitz and Farkas, 2000a). Second, no attempt was made to determine why community notification reduces sexual recidivism or which specific components (public meetings, release of information via the internet, etc.) are responsible for the reduction. Third, because offenders can receive multiple risk level assignments while serving a single sentence, not all offenders released under the Level III classification during 1997-2002 were examined. Fourth, due to a lack of data, it was not possible to control for the potential impact of community-based treatment on sex offender recidivism. Finally, the mixed findings for non-sexual and general recidivism may be attributable to differences not only in the methods used to select each control group, but also in the time periods in which they were at risk to reoffend. That is, although the pre-notification group was matched on sexual recidivism risk and the statistical analyses controlled for factors commonly associated with reoffending, it is possible that the significant non-sexual and general recidivism findings reflect an inability to control for unmeasured historical factors unique to the 1990-1996 period.

These caveats notwithstanding, some might reasonably conclude that broad community notification should be applied to Level II offenders or even all released sex offenders in light of the apparent impact it has had on Level III offenders. There are several considerations, however, that weigh against drawing such a conclusion. First, while the expenditure of law enforcement and corrections personnel, time, and budgetary resources for broad community notification is substantial, it would be considerably more substantial

if it were applied to Level II offenders, who are more than twice as numerous as Level III offenders.[16] Second, applying broad community notification to Level I and Level II offenders would not likely produce an appreciable reduction in sexual recidivism given that the baseline rate for these offenders is already relatively low (e.g., a three-year rearrest rate of 5-7 %). Third, it is unclear whether community notification has an impact on non-sexual recidivism, which comprises roughly three-fourths of the reoffenses committed by sex offenders (Minnesota Department of Corrections, 2007). Finally, previous research has clearly demonstrated that Megan's Law imposes a number of hardships on offenders, who have reported enduring harassment, having their property damaged, and losing their jobs and homes on account of community notification (Zevitz and Farkas, 2000a).

Community notification is, therefore, a double-edged sword. While it appears to cut down on sexual recidivism, it also creates numerous adverse collateral consequences for sex offenders, making it difficult for them to successfully re-enter the community. In developing social policy that further decreases the extent of sexual recidivism, it is imperative to not only retain the apparent deterrent effect of community notification but to also limit the collateral consequences for offenders. Given that social or relationship proximity, as opposed to residential proximity, figures prominently in sexual reoffending, one approach might involve publishing the photographs and offense histories but not the residential locations of Level II offenders on a government-maintained public website.[17] By excluding the public meetings that commonly occur with notification involving Level III offenders, this strategy for expanding the extent of notification for Level II offenders (who have had the highest sexual recidivism rates since 1997 compared to Level I and Level III offenders) would help alleviate part of the drain on corrections and, most

[16] As of July 1, 2006, there were 1,117 Level II sex offenders in the community compared to 595 Level III offenders.

[17] Expanding the notification parameters for Level II offenders would require a modification to the Community Notification Act. It is worth noting, however, that offender photographs and brief offense descriptions can be accessed via the "Offender Locator" on the MNDOC's website for all offenders currently under state correctional supervision. Because offenders are subject to Community Notification Act provisions for as long as they are required to register, Offender Locator information would not be available on offenders who are still required to register but are no longer under correctional supervision. In addition, the Offender Locator offense descriptions generally contain less detailed offense history information than that currently provided for Level III offenders.

notably, law enforcement. It is important to emphasize, however, that it remains unclear as to whether internet notification would, in and of itself, produce a reduction in sexual recidivism.

A more promising and perhaps less costly approach might involve utilizing Circles of Support and Accountability (COSA) to help sex offenders reintegrate into society. A recent evaluation of COSA in Canada, where the program was devised in 1994, revealed that sex offenders who participated in Circles were significantly less likely to recidivate (both sexual and non-sexual offenses) than a carefully matched control group of high-risk sex offenders who did not participate in the program (Wilson, Picheca, and Prinzo, 2005). The MNDOC is currently involved in efforts to implement a Minnesota Circles of Support and Accountability (MnCOSA) program for Level II offenders returning to Hennepin, Ramsey, and Olmsted counties. By targeting Level II offenders, this program will attempt to enhance public safety by decreasing the sexual recidivism risk of those who have had the highest sexual reoffense rates since 1997 (for more information on MnCOSA, please go to: web address for MnCOSA volunteer opportunities?).

In general, there remains much to be studied about the issue of community notification. For example, does it work only in Minnesota? Does it work—at least for sexual recidivism—because of the community meetings, public notification via the internet, or other factors? Are there differences among the two general types of notification in their impact on sex offender recidivism? That is, does community notification work only in states that use a tiered risk management system, but not reduce recidivism in states utilizing publicly available offender registries for all convicted sex offenders? Future research is needed to not only clarify the impact of notification on sex offender recidivism, but to also identify the most effective ways to increase public safety while also helping sex offenders successfully reintegrate into society.

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