Moderating effects of age, employment status and level of education on the predictive utility of the LSI-R for sexual offenders

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Abstract

Using a Midwestern sample of sex offenders, the current study reports findings on the utility of the Level of Service Inventory-Revised (LSI-R) in predicting recidivism for offenders with a history of sexual crimes. The current study includes data from a sample of 250 sexual offenders over a 36-month period. This study aims to investigate how three variables – level of education, age and employment status – correlate to recidivism, and if they moderate the effectiveness of the tool in predicting future offending. This study found a statistically significant relationship between total LSI-R score and general recidivism, supporting the predictive utility of the LSI-R for sex offenders. These findings imply the need for intervention programmes focused on young sex offenders to reduce their potential for reoffending. The present study contributes to the available research by increasing the knowledge regarding sexual offender recidivism rates.

Keywords: Sex offenders, recidivism, age, level of education, employment.

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1. Introduction

To date, methods that have been used to assess recidivism risk among sex offenders have not been very accurate in appropriately predicting recidivism risk (Hanson & Bussiere, 1998). Sex offenders cause fear in the community and reintegration of such offenders is a delicate subject. In contrast to the common opinion that sex offenders will repeat their crimes (Levenson & Cotter, 2005), research has found that sexual recidivism is relatively low, and these offenders are more likely to commit subsequent non-sexual offenses (Beck & Shipley, 1989; Doren, 1998; Hanson, 2000; Hanson & Morton-Bourgon, 2005; Ragusa-Salerno, Ostermann & Thomas, 2013). In a recent study conducted by Ragusa-Salerno et al. (2013), within 5 years of their release, 63.98% of sex offenders were rearrested for a new offense, but less than 2% of these offenders were rearrested for a new sex crime. Still, it is necessary to assess what risk factors lead to reoffending, whether sexual or non-sexual.

Actuarial instruments to assess the risk of reoffending have been developed such as the Level of Service Inventory-Revised (LSI-R) (Andrews & Bonta, 1995). The LSI-R has become a popular tool for assessing offender’s risk of recidivism, classifying, managing and assessing their criminogenic needs (Bonta, 2002). This tool has been demonstrated to be more accurate than unstructured clinical professional judgment (Harris, 2006). This actuarial instrument assesses the risk offenders have to misbehave in community and institutional settings (Andrews & Bonta, 1995), including static risk factors and dynamic variables.

Static factors are invariable such as age at first conviction or number of prior arrests. They are useful in identifying long-term risk potential, but not for providing information about when offenders are likely to reoffend or how to intervene to decrease recidivism risk (Hanson, 2000). The strongest static predictors of sexual offense recidivism are deviant sexual preferences, previous sex crimes, early onset of sex offending, choosing male strangers as victims, committing a wide range of sexual offenses, antisocial personality disorder, early family factors (Gendreau, Little & Goggin, 1996) and total number of prior offenses (Hanson, 2000; Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005).

Dynamic variables are subject to change and are the appropriate targets for treatment interventions (Andrews, Bonta & Hoge, 1990). Some examples of dynamic variables empirically associated to recidivism are education, employment, substance abuse, criminal attitudes and values (Simourd, 2004) and limited ability to control impulses (Hanson, 2000). On the contrary, factors such as having low self-esteem, being sexually abused as a child, denying the sex crime and lack of empathy with the victim, as well as motivation to receive treatment, have not been related to sexual offense recidivism (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005). These factors are usually associated with the onset of sexual offending but not with its persistence (Hanson & Morton-Bourgon, 2005; Lee, Jackson, Pattison & Ward, 2002; Smallbone & Dadds, 1998).

Sexual offenders who offend against children tend to reoffend sexually against children and sexual offenders who offend against adults tend to reoffend sexually against adults (Hall & Proctor, 1987). However, the latter are more likely to commit non-sexual offenses after being released from incarceration (Hall & Proctor, 1987; Hanson & Bussiere, 1998). In these cases, the same factors that predict recidivism among non-sexual offenders predict non-sexual offense recidivism among sexual aggressors such as young age, juvenile delinquency, antisocial orientation, history of prior offenses.

and minority race (Gendreau et al., 1996). Antisocial personality disorder is the strongest predictor of violent and non-sexual recidivism (Hanson & Morton-Bourgon, 2005). Hence, the likelihood of sexual and non-sexual recidivism risk should be assessed separately (Hanson, 2000). Correctional professionals should consider a range of relevant risk factors to successfully predict recidivism risk because no single variable can predict recidivism by itself. Consequently, the LSI-R is an appropriate instrument to assess recidivism risk due to the fact that it considers many static and dynamic risk factors. In such a way that, if the offender shows a high number of risk factors, he/she is classified as having a high risk of recidivism (Andrews & Bonta, 1995).

In relation to sexual offender recidivism rates, recidivism differs according to the definition. That is to say, recidivism can vary based on the inclusion of a new sexual crime or non-sexual crime, the follow-up time considered, the type of sexual offender studied (i.e., rapists and child molesters) and the data sources such as rearrests, official records, self-reports, records from treatment programmes or parole files. All of these factors contribute to the difficulty of comparing findings across previous research. In the present study, a more extensive definition of sex offenders that includes individuals who offend sexually through certain kinds of physical contact, violently or in non-physical ways, such as making obscene phone calls and exposing their genitals publicly, is considered. When a more extended definition of recidivism is taken into account, research has found that the average re-incarceration rate for a 5-year period is 12.7% (Hanson & Bussiere, 1996) and 34% for an 11-year period (Broadhurst & Maller, 1992).

Two types of sex offenders can be distinguished: incest and non-incestuous sexual aggressors (Doren, 1998). Incest offenders are those who offend against family members and non-incestuous sexual aggressors offend outside of their immediate family (Doren, 1998). There are two subtypes of non-incestuous offenders: 1) those whose victims are underage, referred to as extra-familial child molesters, and 2) those who commit sexual offenses against females who are at least 18 years old, called rapists (male victims were not included in this definition) (Doren, 1998). Each type of sex offender has different recidivism rates. Both types of sexual offenders will be included in the current study. However, in the current study, they will be classified together and categorised as sex offenders.

Prentky, Lee, Knight and Cerce (1997) conducted a study using a sample of 115 extra-familial child molesters and 136 rapists over a 25-year period. In this study, recidivism was defined as a new sexual offense charge including only physical contact with the victim (Prentky et al., 1997). The authors reported that 52% of child molesters (n = 60) and 39% of rapists (n = 53) reoffended over a 25-year period (Prentky et al., 1997). Nevertheless, this rate of recidivism is underestimated due to the restrictive definition of recidivism. Charges resulting from only physical contact with the victim are considered sexual offenses, not every new offender from the sample was necessarily caught and legally charged for a new sexual crime (they could have been found innocent), and those offenders who were never caught or legally charged for a new offense were labelled as non-recidivist. Hanson, Scott and Steffy (1995) conducted a study with the longest follow-up period of 31 years. Their study included 191 extra-familial child molesters. A 35.1% rate of recidivism (n = 67) was reported. The significant difference between both studies can be explained due to the fact that Hanson et al. (1995) used a lesser inclusive definition of recidivism than Prentky et al. (1997). Hanson et al. (1995) measured recidivism as reconviction rates only. A total of 18.3% of the sample (n = 35) were incest offenders who offended against female children only. Consistently, research has found that incest offenders show lower recidivism rates especially those with female victims only (Abel & Rouleau,
1990; Frisbie & Dondis, 1965; Hanson, Steffy & Gauthier, 1993). Therefore, this study clearly underestimates the rate of recidivism when compared to Prentky et al. (1997) findings. When similar populations and definitions of recidivism were taken into account a more accurate range of recidivism from 44.6% to 51.6% was found (Doren, 1998). Soothill and Gibbens (1978) studied a sample of rapists over a 22-year follow-up period and found that 23% of them committed a new sexual crime. Similar results were reported by Prentky et al. (1997).

Broadhurst and Maller (1992) studied a sample of 560 sex offenders, rapists and child molesters over 11 years using a definition of recidivism defined as re-incarceration following a sexual or non-sexual violent offense. The rate of recidivism was 34% \( (n = 191) \) over a period of 11 years. Similar results were found during the first 10 years of the Prentky et al. (1997) study. Shorter studies of sex offender recidivism rates showed that over a 4–5-year follow-up time around 12% of extra-familial child molesters (Hanson & Bussiere, 1996; Prentky et al., 1997; Radzinowicz, 1957) and an average of 18.9% of rapists reoffend (Hanson & Bussiere, 1996; Marques, Day, Nelson & West, 1993; Quinsey, Harris, Rice & Lalumiere, 1993). Very low reconviction rates are found with follow-up frames shorter than 5 years (Davis, Hoffman & Stacken, 1991; Lab, Shields & Schondel, 1993; Marshall, 1994; Motiuk & Brown, 1996), due to the fact that first-time recidivism in sexual offenders tends to happen 5 years after being released from prison (Hanson et al., 1993; Hanson et al., 1995; Prentky et al., 1997). In conclusion, recidivism rates for sex offenders increases to 30%–40% as the follow-up period extends over 20 years (Hanson et al., 1995; Prentky et al., 1997). Longitudinal studies have shown that sexual aggressors show ‘first-time’ recidivism even 20–28 years after their release from incarceration (Hanson et al., 1995; Prentky et al., 1997). Thus, studies with shorter follow-up frames underestimate the risk of sex offender recidivism.

Similarly, Hanson and Bussiere (1998) reviewed 61 sexual offender recidivism studies involving around 24,000 sexual offenders. They found that only 13.4% \( (n = 3,216) \) committed a new sexual crime and 12% \( (n = 2,880) \) committed a new non-sexual violent offense within 4–5 years from release. Rapists are more likely to reoffend violently (22%) than child molesters (10%). When a more extended definition of recidivism was considered, a higher recidivism rate was found (36%). Broadhurst and Loh (2003) studied 164,466 sex offenders by criminal record over a 5.7-year follow-up time. Recidivism was assessed as rearrests for any sexual or non-sexual offense. The results show that 51% of sex offenders \( (n = 83,878) \) committed a violent offense and 33% \( (n = 54,274) \) repeated a new sexual offense (Broadhurst & Loh, 2003). This study also showed that younger aggressors tend to recommit any crime, and older offenders are more likely to repeat sexual offending. However, this research presents some weaknesses that limit the generalisation of the results: 1) absence of dynamic variables; 2) short follow-up period; and 3) imprecise definitions of different types of sex offending (Broadhurst & Loh, 2003).

Wormith, Hogg and Guzzo (2012) studied 1,849 sex offenders (all male) who were released during the calendar year 2014. After a follow-up period of 4.54 years, the rate of general recidivism (non-sexual and property offenses) was 44.1% \( (n = 816) \), the rate of violent recidivism was 12.34% \( (n = 229) \) and the rate of sexual reoffending was 3.73% \( (n = 690) \) (Wormith et al., 2012). They also found that sexual offenders had a greater rate of general reoffending and tended to commit a new crime more quickly than non-sexual offenders; no existing differences were found in sexual and violent recidivism between either samples. This study presents some limitations: 1) due to the fact that the data were obtained from an existing database, it was not possible to determine the inter-rater reliability of those
administering the LSI-R; 2) the assessment of criminal recidivism was based on internal agency recontact with the offenders, 3) the most serious convicted offenders (sexual and nonsexual) in the province were not included; and 4) the follow-up period was considerably short (4.54 years) (Wormith et al., 2012).

In relation to the type of offenders, the studies presented have shown that rapists have higher reconviction rates within their first 5 years at risk; extra-familial child molesters show higher recidivism when longer follow-up frames or lesser stringent definitions of recidivism are used (Prentky et al., 1997). Thus, child molesters may recidivate after longer periods of non-offending (Hanson et al., 1993). Furthermore, research has shown that extra-familial child molesters against boys are more likely to repeat a sexual offense than rapists and extra-familial child molesters against girls (Hanson et al., 1993).

With regard to data sources, when arrests and informal reports of criminal activity are taken into account, the recidivism rate for sexual offenders is higher than when only official convictions are considered (Marshall & Barbaree, 1988; Prentky et al., 1997). Studies that consider data beyond reconviction rates show a higher sexual recidivism rate ranging from 27% to 47% (Marques et al., 1993; Pacht, Halleck & Ehrmann, 1962; Prentky et al., 1997; Quinsey et al., 1993).

Given previous research regarding this topic, this study aims to predict recidivism with a Midwestern sample of sex offenders when considering a follow-up period of 36 months (3 years). The total LSI-R score is used as well as three variables: level of education, age and employment status. Each is taken into account to determine how they correlate to recidivism. This study tests the following hypotheses: 1) sexual offenders recidivate lesser than other offenders in the same time period; 2) one’s level of education will moderate the predictive utility of the LSI-R for sex offenders; 3) unemployment will moderate the predictive utility of the LSI-R for sex offenders; and 4) age will moderate the predictive utility of the LSI-R for sex offenders.

2. Method and materials

2.1. Participants

The current study utilised a sample from a medium-sized Midwestern Department of Corrections. The initial sample comprised a total number of 2,921 inmates, including sex offenders, person offenders, property offenders and drug offenders. All offenders included in the sample were released from prison in the fiscal year 2008. This study focused on the included 250 sex offenders. Of these, 246 were male and 4 female (Table 1).

2.2. Design

As the dependent variable, recidivism was defined as committing a new sexual crime or a new non-sexual offense within 36 months of release from prison (Hanson & Bussiere, 1996). One’s total LSI-R score served as the independent variable. Finally, age, level of education and employment were used as moderating variables. The variable age was categorised into two: offenders aged 25–54 years and offenders 55 years and older. These categories were chosen as the youngest offender included in the
sample was 25 and the oldest was 95. In this particular correctional department, offenders 55 and older are considered geriatric. These categories were chosen to reflect departmental designations.

2.3. Materials

<table>
<thead>
<tr>
<th>Table 1. Descriptive statistics for the research sample</th>
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<tbody>
<tr>
<td>Total sample</td>
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<tr>
<td>(n = 250)</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
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<tr>
<td>Race</td>
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<tr>
<td>Black</td>
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<tr>
<td>White</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Education</td>
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<tr>
<td>Non-HS</td>
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<tr>
<td>HS Grad/GED</td>
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<tr>
<td>Some col.</td>
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<tr>
<td>Col. Grad/Post Grad</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Unemployment</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Recidivism</td>
</tr>
<tr>
<td>No</td>
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<td>Yes</td>
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</table>

The LSI-R was used to assess recidivism risk factors. The LSI-R is a risk assessment tool used in over 200 countries (Flores, Lowenkamp, Holsinger & Latessa, 2006). The LSI-R assesses the risk factors involved in criminal activity in community and institutional settings, including both static and dynamic items (Andrews & Bonta, 1995). The tool is useful for classifying, managing and assessing offender’s criminogenic needs (Bonta, 2002). The LSI-R was originally intended for male offenders who were sentenced to 1 year or less, but has been validated on males, females, sex offenders, drug offenders and long-term inmates, among others (Wormith et al., 2012). The LSI-R comprises 54 items and is answered in either a ‘yes or no’ format or a ‘0–3’ rating format, based on the following scale: 0 means a very unsatisfactory situation with a very clear and strong need for improvement; 1 refers to a relatively unsatisfactory situation with a need for improvement; 2 refers to a relatively satisfactory situation, with some room for improvement evident; and 3 refers to a satisfactory situation with no need for improvement (Andrews & Bonta, 1995). The LSI-R includes 10 subscales: criminal history, education and employment, financial, family and marital, accommodations, leisure and recreation, companions, alcohol and drug, emotional and personal and attitudes and orientation (Andrews & Bonta, 1995).
2.4. Procedure

The information was obtained from a medium-sized Midwestern Department of Corrections. The LSI-R was completed based on information obtained from both available file information and a face-to-face semi-structured interview with the offenders. The LSI-R information for each offender, including subscales and scores, was provided. The data included 36 months of demographic and recidivism information on each offender.

3. Results

The secondary data was analysed using logistic regression, chi-square analyses and t-tests. Specifically, the predictive utility of the LSI-R was assessed for offenders with a history of sexual crimes. Analyses showed that 37.6% of sex offenders, 36.8% of person offenders, 29.5% of property offenders and 23.6% of drug offenders committed a new crime within 36 months of release from prison (Table 2). Thus, offenders with a history of sexual crimes comprised the highest rates of recidivism in this particular study.

<table>
<thead>
<tr>
<th>Table 2. Recidivism rate by type of offenders</th>
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<tr>
<td>Recidivism</td>
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<tr>
<td>Yes</td>
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<tr>
<td>No</td>
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</table>

Logistic regression analysis did not find a significant relationship between unemployment and sex offender recidivism rates ($\beta = 0.013, p = 0.966$) nor education and sex offender recidivism rates (Table 3). Statistically significant differences were rendered for age. The logistic regression analysis showed a negative relationship between the variables age and sex offender general recidivism rate ($\beta = -1.393, p < 0.01$). Additionally, statistical significance was found for all three moderating variables for the total LSI-R score ($\beta = 0.073, p < 0.001; \beta = 0.072, p < 0.001; \beta = 0.069, p < 0.001$, respectively) (Table 3).

<table>
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<th>Table 3. Logistic regression analysis: moderating variables</th>
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<tbody>
<tr>
<td>Predictors</td>
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<tr>
<td>Unemployed</td>
</tr>
<tr>
<td>Total LSI-R Score</td>
</tr>
<tr>
<td>Constant</td>
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</tbody>
</table>

Education
Non-HS Grad. | −0.034 | 0.404 | 0.007 | 0.932 | 0.966
HS Grad./GED | −0.292 | 0.351 | 0.691 | 0.406 | 0.747
Some College | 0.283   | 0.501 | 0.320 | 0.572 | 1.327
College Grad./Post Grad. | 0.072   | 0.018 | 16.275 | 0.000 | 1.075
Constant    | −1.993  | 0.521 | 14.624 | 0.000 | 0.136

Age             | −1.393  | 0.473 | 8.664 | 0.003 | 0.248
Total LSI-R Score | 0.069   | 0.018 | 15.536 | 0.000 | 1.072
Constant    | −0.469  | 0.668 | 0.493 | 0.483 | 0.626
Discussion

The present study contributes to the available research by increasing the knowledge regarding sexual offender recidivism rates. This study aimed to investigate whether level of education, age and employment status affect the predictive utility of the LSI-R for a Midwestern sample of sex offenders when considering a follow-up period of 36 months (3 years). The following hypotheses were tested: 1) sexual offenders recidivate lesser than other offenders in the same time period; 2) one’s level of education will moderate the predictive utility of the LSI-R for sex offenders; 3) unemployment will moderate the predictive utility of the LSI-R for sex offenders; and 4) age will moderate the predictive utility of the LSI-R for sex offenders.

Overall, the findings did not support the hypotheses presented. Within 36 months of their release, 37.6% of sex offenders committed a new offense, showing a higher recidivism rate than person, property and drug offenders. Similar studies have shown a lower sex offender recidivism rate when compared to other crime categories (Bartosh, Garby, Lewis & Gray, 2003; Davis et al., 1991; Hanson & Bussiere, 1996; Hanson & Morton-Bourgon, 2005; Lab et al., 1993; Marshall, 1994; Motiuk & Brown, 1996). The fact that general recidivism has been assessed, and different types of sex offenders have been considered together, could explain the high sex offender recidivism rate in this study. Future research should assess the risk for sexual reoffending and the predictive utility of the LSI-R for general recidivism, as well as sexual recidivism. Also, future research should separate different types of sex offenders (i.e., child molesters, rapists etc.) in order to assess differences in the rates of recidivism between groups, as well as the predictive utility of the LSI-R for these sexual offense categories.

In addition, the analyses do not support that one’s level of education and unemployment moderate the predictive utility of the LSI-R for sex offenders. These findings are inconsistent with previous research that found sex offenders with unstable employment were more likely to commit any (sexual or non-sexual) new crime (Broadhurst & Loh, 2003; Gendreau et al., 1996; Marshall & Barbaree, 1988; Proulx et al., 1997; Rice, Quinsey & Harris, 1991). Furthermore, Simourd (2004) claims that employment and education are dynamic variables empirically associated to recidivism; he found that sex offenders who were reconvicted of a sexual offense tended to be younger and employed.

While the previous hypotheses were not supported, the current research found moderating effects for age in the predictive utility of the LSI-R. A negative relationship was found between age and sex offender general recidivism rates. That is to say, as age increases, the likelihood of recidivating decreases. This result confirms Bartosh et al. (2003), Gendreau et al. (1996) and Proulx et al.’s (1997) studies; sex offenders who reoffended were younger than those who did not commit a new crime. Furthermore, this study found a statistically significant relationship between total LSI-R score and general recidivism. Thus, the findings suggest the LSI-R is a valid predictor of general recidivism for sex offenders. The results found are comparable with the findings reported in previous research (Beck & Shipley, 1989; Doren, 1998; Hanson, 2000; Hanson & Morton-Bourgon, 2005; Ragusa-Salerno et al., 2013).

These findings imply the need for intervention programmes focused on young sex offenders to reduce their potential for reoffending. Although statistically significant differences were not found between those with higher education and employment and those with lower education and employment, statistically insignificant differences were noted. Thus, according to previous research, it
seems also recommendable to introduce educational programmes and increase employability as part of the reintegration process for sex offenders.

Several limitations of this study need to be reviewed. First, the sample is based on only one correctional department in a medium-sized state in the Midwest; therefore, the data may not be generalisable to other parts of the country. Second, the sample only included four female sex offenders, thus the representativeness of the sample may be also affected. Third, as is with secondary data, the authors did not have the ability to control for variables that may have influenced recidivism rates such as interventions and treatments.

References


