

IDAHO DEPARTMENT OF CORRECTIONS

NORMING AND VALIDATING THE LSI-R

FINAL REPORT

DRAFT

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The purpose of this report is to provide a profile of offenders that have been assessed using the LSI-R by the Idaho Department of Corrections, and to determine the predictive validity of the LSI-R on the various subpopulations within IDOC (probation, parole, and full term offenders). The sample utilized for this report includes all individuals released on parole, released from probation, and those released after serving a full prison term in the years 2009, 2010 and 2011. The sample includes a total of 4867 offenders that were assessed with the LSI-R and under the jurisdiction of the Idaho Department of Corrections on parole, 3211 on probation, and 1168 that were released after serving their full term. Many of these offenders were assessed multiple times with the LSI-R, thus their most recent score was analyzed for the purposes of this report. Recidivism was measured multiple ways, including a return to incarceration and the commission of a parole violation for the parole sample and any new crime for the term sample. Each offender category (probation, parole, and term) will be discussed separately. As well, the relevant gender specific analysis will be discussed for each group.

PROFILE OF OFFENDERS

Demographics

Of the offenders released from probation during the study period, the vast majority were white (77.6%), male (74.9%) and most were moderate risk (45.5%). Of the offenders released on parole in that time, the vast majority were males

(87.1%), white (74.5%), and more (49%) fell into the "moderate" risk category than any other. Of the offenders released after serving a full term during the study period, the vast majority were males (87.8%), white (75.9%). The only difference between this group and the others was that more (61.2%) fell into the "high" risk category than any other as measured by the LSI-R (See Table 1). Given the nature of this subgroup (serving a full term in prison as opposed to being conditionally released to community supervision), this find is consistent with expectations. These demographics characteristics match the findings in other studies of the IDOC population.

In looking at the measures of recidivism, a large proportion (68.1%) of the probation sample reoffended in some way during the follow up period, while only 2.2% were reported to have picked up charges for a new crime. Again, there is dramatic difference between the community (probation) sample and those serving a full term in prison. Of the termers, 28.3% were reported to have picked up new charges during the follow up period (See Table 1). For the parole sample, recidivism was measured by examining parole violations, reincarceration, as well as a more comprehensive "any recidivism" measure. Roughly 60% of parolees recidivated in some way during the follow up period. This seems to be driven by the 51.6% of parolees who earned a parole violation during this time. Comparatively, only 7.8% of parolees were reincarcerated during the follow-up period (See Table 1). As expected, with all subgroups, the

more generous measures of recidivism yielded higher rates of failure than the more conservative measures (e.g. new crime, reincarceration).

Risk Assessment Information

Probation

The probation subsample consisted of predominantly moderate risk offenders (45.5%). This distribution was true for both males (45.2% moderate risk) and females (45.1% moderate risk). The average LSI-R score for the probation group was 26.4, again, falling squarely in the moderate risk category (See Table 2 and Figure 1). When separated by gender, the average LSI-R score for males was slightly but significantly higher than that for females (26.8 versus 25.4).

Detailed analysis of the subcomponent scores for the LSI-R (Table 3) reveals several areas in which many members of the probation subsample may have significant criminogenic needs. Subcomponent scores on the LSI-R are standardized for comparison by calculating the percent of points scored by an offender in each subcomponent. For example, a subcomponent score of .50 shows that the offender scored half of the available points in that subcomponent. With this in mind, the probation subsample as a whole showed higher scores (over .50) in the criminogenic need areas of education/employment (.50), family and marital (.51), attitude/orientation (.54),

and companions (.54). The highest need areas for this group were financial (.58) and leisure/recreation (.64).

Similar to the difference in total LSI-R score, some significant gender differences were found in subcomponent scores as well. Men scored significantly higher in criminal history (.57 versus .47), education/employment (.51 versus .48), leisure/recreation (.66 versus .56), and alcohol/drug (.44 versus .40). Women, however, scored significantly higher in the areas of financial (.68 versus .55), family and marital (.56 versus .50), and emotional/personal (.43 versus .35) (See Table 3). These findings suggest that IDOC may want to consider gender specific programming to address the specific needs of its female offenders, specifically, emotional/mental health concerns, and family concerns.

Parole

Like probation, the parole subsample also consisted of predominantly moderate risk offenders (49%). This distribution was true for both males (48.5% moderate risk) and females (51.8% moderate risk) (See Table 2 and Figure 2). The average LSI-R score for the parole group was 26.6, likewise falling in the moderate risk category. There was no gender difference in average total LSI-R score (See Table 3).

In examining subcomponent scores for the parole subgroup, education/employment (.50), family and marital (.50), and attitude/orientation (.51) showed average scores over .5, indicating an elevated level of need in

these areas for parolees. Financial (.52) and companions (.55) were the highest need areas for these offenders.

Gender comparisons again showed significant differences in most of the subcomponent scores. Among parolees, males scored significant higher in criminal history (.63 versus .59), leisure/recreation (.63 versus .56), and attitude/orientation (.52 versus .45). Like female probationers, female parolees scored significantly higher in the areas of financial (.60 versus .50) family and marital (.57 versus .49), and emotional personal (.43 versus .32) (See Table 3). The consistency in the elevated criminogenic needs across female probationers and parolees reinforces the recommendation for IDOC to address gender-specific needs in its community-supervised population.

Term

In contrast with both probation and parole, the subsample of full term offenders consisted of predominantly high risk offenders (61.2%). This distribution was true for both males (60.8% high risk) and females (66.2% high risk) (See Table 2 and Figure 3). The average LSI-R score for the term group was 32.2, also in the high risk category. In another departure from the community supervision samples, the average LSI-R score for females was significantly higher than that for males (33.8 versus 31.9) (See Table 3).

Among the full term offenders, all but two subcomponents (accommodations and emotional/personal) had average scores over .50. The

two highest need domains for term offenders were leisure/recreation (.82) and education/employment (.63) (See Table 3).

The pattern of gender differences in subcomponent scores was also unique to the full term subsample. In all need domains with significant gender differences in average score, females scored higher than males. These domains include financial (>.79 versus .56), family and marital (.65 versus .54), companions (.64 versus .60) and emotional/personal (.52 versus .36). The only domain where males full term offenders scored significantly higher than females was criminal history (.65 versus .57) (See Table 3). This pattern also echoes the dominant needs exhibited by both the probation and parole female subsamples.

VALIDATION

This section of the report focuses on determining how well the LSI-R predicts recidivism, both involvement in new criminal behavior and technical violations while under community supervision. To make this assessment, follow-up data was collected from the offenders' probation and parole records, as well as through criminal record checks. Different recidivism measures were collected for each subgroup included in the analysis. The analyses conducted involved predicting recidivism with the total LSI-R score and subcomponent scores for all offenders in each subgroup and also separated by sex within subgroups.

Probation

Of the 3212 probationers included in the analysis, 2187 (68.1%) recorded some kind of recidivism during the follow up period (See Table 1). Only 71 (2.2%) were recorded as committing a new crime during that time.¹ Based on the risk level scores established in the previous validation study, differences in recidivism by risk level were examined as a preliminary test of predictive validity. Among probationers, more high risk offenders (90.3%) reoffended than did moderate risk (65.2%). The low risk probationers, on the whole, offended the least, with only 31.8% of them being recorded as recidivists (See Table 4 and Figure 5). These findings support the validity of the previously established cut off scores.

In examining the predictive validity of the LSI-R and its subcomponents for predicting recidivism, correlational analyses (Pearson's r) were conducted on these variables. Among probationers, the analysis revealed a strong moderate relationship (.45) between LSI-R total score and recidivism (See Table 5). This value is consistent with correlation values reported in other research on the LSI-R and recidivism. In examining the predictive validity of each of the subcomponents of the LSI-R, analyses reveal that each subcomponent had a moderate significant relationship with recidivism (r values ranging from .16 for the financial subcomponent to .46 for the criminal history subcomponent) (See Table 5). This suggests that each domain of the LSI-R is important in predicting

¹ Given the small number of probationers recording a new crime during the follow up period, all validation analyses were conducted using the "any recidivism" outcome variable.

recidivism. Moreover, while they vary in strength of prediction, the best predictive validity appears when all of the subcomponents are taken together.

When analyzing the probation subsample separated by sex, analyses reveal that both total LSI-R score and all subcomponent scores are significantly correlated with recidivism for both males and females (.44 and .49 respectively). Like the full sample analysis, for both males and females the criminal history subcomponent was strongest (.42 and .54 respectively) and the financial subcomponent was weakest although still significant (.19 and .13 respectively). The same conclusion may also be reached for the single sex subsamples: utilizing the total LSI-R score provides the strongest predictive power (see Table 5).

Parole

Of the 5867 parolees included in the validation analysis, 54.9% were reported to have some kind of recidivism. Parole violations were the most common, with 51.6% of the sample recording a violation, while only 7.8% were reincarcerated (see Table 1.) In comparing parolees by risk level, the existing LSI-R cut off scores were able to significantly differentiate offending by risk level for all measures of recidivism. Specifically, 82.9% of high risk parolees had some form of recidivism, while only 52.3 % of moderate risk and 15.9% of low risk parolees recidivated. High risk parolees are also most likely to violate parole (78.4% compared to 44.5%[moderate] and 14.8%[low]), and high risk parolees were most likely to be reincarcerated (14.6%) (See Table 4 and Figure 4).

The correlation analyses of the LSI-R total and subcomponent scores reveal the same pattern of significant predictive validity that was seen in the probation subsample. For every outcome measure (any recidivism, parole violation and reincarceration), both the total LSI-R score and each of the subcomponent scores were significant predictors. Total LSI-R score was a moderately strong predictor of both total recidivism and parole violation (.50 and .47 respectively). For both of those outcomes, each of the subcomponent was significant as well, with r values ranging from .21 (family and marital predicting parole violation) to .36 (emotional/personal predicting total recidivism) (See Table 6). Although still significant, total and subcomponent LSI-R scores were much weaker predictors of reincarceration. The correlation between total LSI-R score and reincarceration was .21, indicating a weakly moderate relationship. The r values for all of the subcomponents were much lower than that of the total LSI-R score, with the exception of the alcohol/drug subcomponent ($r=.20$) (See Table 6). This suggests that substance abuse is a significant issue for parolees, and plays a crucial role in parolee behavior that is likely to get an offender incarcerated. This finding suggests that an increased focus on substance abuse support for parolees might be helpful in reducing the likelihood of reincarceration.

In separating parolees by sex, the same trends continue. **Total LSI-R score and the subcomponent scores are all significant predictors of all three outcomes for both men and women.** Regardless of sex, all LSI-R measures were

weaker predictors of reincarceration than for parole violation of total recidivism. Of note is the correlation between total LSI-R score and parole violations. The assessment score was a stronger predictor for women than for men (.50 versus .47 respectively), contrary to what has been seen in some research on the LSI-R. The difference, though small, is notable.

Term

Of the 1168 full term offenders included in the analysis, 28.3% of them committed a new crime during the follow up period (See Table 1). As with the community supervision samples, the established cut off scores adequately distinguished reoffending by risk level. Of the high risk term offenders, 33.3% reoffended, while 24.4% of the moderate risk offender and 18.9% of low risk offenders recidivated (See Table 4 and Figure 6). While the rates of recidivism for term offenders seems lower when compared to the community supervision samples, it must be noted that the outcome measure used for those samples also include **technical violations**, which are recorded at a much higher rate than new crimes. The rates of the term offenders are consistent with other research on recidivism as defined by new criminal behavior.

While the LSI-R was a moderately strong predictor of recidivism for community supervision samples, that same pattern was not repeated in the results of the analyses on full term offenders. For all offenders in the subsample, total LSI-R score was significantly but weakly correlated with new criminal

behavior ($r=.14$). The r values were similar for both male and female subgroups (.15 and .14 respectively). In examining subcomponent scores, only criminal history (.28), financial (.11), family and marital (.15), companions (.09) and emotional/personal (.11) were correlated with new criminal behavior, and all at weaker levels than for the community supervision subsamples (See Table 5). A further departure is noted in the single sex analysis. For females, the only subcomponent that was significantly related to new criminal behavior was criminal history (.28). These findings suggest that the LSI-R, while a valid predictor of recidivism for full term offenders, is not as robust with this subgroup compared to parolees and probationers. A further examination of the differences between this group of offenders and others might shed light on the limited predictive validity of the LSI-R with this group.

CONCLUSIONS AND RECOMMENDATIONS

In terms of the norming of the LSI-R, the cut off scores established in the previous norming study proved to be valid and we supported by the findings in this study. The established risk categories are adequately differentiating offenders by risk level in terms of their likelihood of offending.

Based on the analyses conducted, it has been determined that the LSI-R as it is currently being administered by the Idaho Department of Corrections is operating as a significant and relatively strong predictor of recidivism for its offenders. The LSI-R has predictive validity for probationers, parolees and full

term offenders. No significant gender differences in predictive validity were observed, suggesting that this assessment is useful for both male and female offenders. Where gender differences were observed (in criminogenic need areas e.g. females scoring higher in financial, family and marital, and emotional/personal subcomponents), this information could be taken into consideration when developing gender-specific programming to address offenders' needs, particularly in the community. While the LSI-R was not as strong a predictor for full term offenders as for the others, it is still a valid tool. An important implication of those findings is that the alcohol/drug subcomponent significantly contributes to the risk of new criminal behavior for these offenders. This could be taken into account in developing support services within the community for ex-offenders in the area of substance abuse, recognizing that, as full term offenders, there is no requirement to participate in such services. It is recommended that the Idaho Department of Corrections continue to collect LSI-R data on all three categories of offenders for additional norming and validation in the future.

Table 1. Descriptive Statistics - Parole, Term, and Probation Offenders

	Parole		Term		Probation	
	N	%	N	%	N	%
Release Year						
2009	1808	37.1	302	25.8	249	7.8
2010	1663	34.2	422	36.1	1118	34.8
2011	1396	28.7	445	38.1	1844	57.4
Sex						
Male	4238	87.1	1026	87.8	2405	74.9
Female	628	12.9	142	12.1	774	24.1
Ethnicity						
White	3628	74.5	887	75.9	2493	77.6
Black	116	2.4	27	2.3	60	1.9
Hispanic	842	17.3	160	13.7	337	10.5
Native American	136	2.8	61	5.2	161	5.0
Other/Unknown	145	3.0	34	3.0	161	5.0
Reincarceration						
Yes	378	7.8		--		
No	4489	92.2				
Parole Violation					New Crime	
Yes	2511	51.6		--	71	2.2
No	2356	48.4			3141	97.8
Any Recidivism			New Crime		Any Recidivism	
Yes	2672	54.9	331	28.3	2187	68.1
No	2195	45.1	837	71.1	1025	31.9
LSI Risk Category						
Low	675	14.3	37	3.3	507	16.1
Moderate	2316	49.0	393	35.4	1424	45.5
High	1740	36.8	679	61.2	1204	38.4
Average LSI Score	26.6		32.2		26.4	

Table 2. LSI-R risk level by offender type and gender

	Probation			Parole			Term		
	All	Males	Females	All	Males	Females	All	Males	Females
Low	16.1	15.0	19.5	14.3	14.3	13.8	3.3	3.6	1.5
Moderate	45.5	45.2	45.1	49.0	48.5	51.8	35.4	35.6	32.3
High	38.4	39.8	35.3	36.8	37.1	34.4	61.2	60.8	66.2

Table 3. Average I.SI-R score by offender type and gender

	Probation			Parole			Term		
	All	Males	Females	All	Males	Females	All	Males	Females
Total I.SI-R score	26.4	26.8	25.4 *	26.6	26.6	26.5	32.2	31.9	33.8 *
Criminal History	0.54	0.57	0.47 *	0.62	0.63	0.59 *	0.65	0.65	0.57 *
Education/Employment	0.50	0.51	0.48 *	0.50	0.50	0.48	0.63	0.62	0.65
Financial	0.58	0.55	0.68 *	0.52	0.50	0.60 *	0.59	0.56	0.79 *
Family and Marital	0.51	0.50	0.56 *	0.50	0.49	0.57 *	0.55	0.54	0.65 *
Accommodations	0.27	0.28	0.26	0.25	0.25	0.23	0.41	0.40	0.45
Leisure/Recreation	0.64	0.66	0.56 *	0.62	0.63	0.56 *	0.82	0.81	0.83
Companions	0.54	0.55	0.53	0.55	0.54	0.56	0.61	0.60	0.64 *
Alcohol/Drug	0.43	0.44	0.40 *	0.41	0.42	0.40	0.58	0.57	0.60
Emotional/Personal	0.37	0.35	0.43 *	0.34	0.32	0.43 *	0.39	0.36	0.52 *
Attitude/Orientation	0.54	0.57	0.47 *	0.51	0.52	0.45 *	0.71	0.71	0.68

*sig=p<.05

Table 4. Recidivism by Risk Level and by Offender Type %

		PROBATION		
		Low	Moderate	High
Any Recidivism*				
	Yes	31.8	65.2	90.3
	No	68.2	34.8	9.7
		TERM		
		Low	Moderate	High
New Crime*				
	Yes	18.9	24.4	33.3
	No	81.1	75.6	66.7
		PAROLE		
		Low	Moderate	High
Reincarceration*				
	Yes	1.0	5.0	14.6
	No	99	95	85.4
Parole Violation*				
	Yes	14.8	44.5	78.4
	No	85.2	55.5	21.6
Any Recidivism*				
	Yes	15.9	52.3	82.9
	No	84.1	47.7	17.1

*sig= $p < .05$

Table 5. Correlation between LSI-R score and outcome by offender type and gender

	Probation			Term		
	Any Recidivism			New Crime		
	All	Males	Females	All	Males	Females
Total LSI-R score	0.45 *	0.44 *	0.49 *	0.14 *	0.15 *	0.14 *
Criminal History	0.46 *	0.42 *	0.54 *	0.28 *	0.27 *	0.28 *
Education/Employment	0.31 *	0.31 *	0.31 *	0.04	0.04	0.05
Financial	0.16 *	0.19 *	0.13 *	0.11 *	0.14 *	0.05
Family and Marital	0.29 *	0.32 *	0.26 *	0.15 *	0.17 *	0.05
Accommodations	0.26 *	0.25 *	0.24 *	-0.35	-0.03	-0.01
Leisure/Recreation	0.27 *	0.22 *	0.21 *	-0.01	-0.01	-0.05
Companions	0.29 *	0.29 *	0.32 *	0.09 *	0.10 *	0.09
Alcohol/Drug	0.25 *	0.22 *	0.32 *	0.01	0.01	0.11
Emotional/Personal	0.21 *	0.20 *	0.29 *	0.11 *	0.14 *	0.04
Attitude/Orientation	0.32 *	0.30 *	0.31 *	0.02	0.02	0.05

*sig=p<.05

Table 6. Correlation between LSI-R score and outcome by offender type and gender

	Parole			Parole			Parole		
	Total Recidivism			Reincarceration			Parole Violation		
	All	Males	Females	All	Males	Females	All	Males	Females
Total LSI-R score	0.50 *	0.49 *	0.53 *	0.21 *	0.22 *	0.21 *	0.47 *	0.47 *	0.50 *
Criminal History	0.34 *	0.34 *	0.30 *	0.15 *	0.16 *	0.13 *	0.31 *	0.31 *	0.27 *
Education/Employment	0.35 *	0.35 *	0.36 *	0.14 *	0.14 *	0.14 *	0.35 *	0.34 *	0.35 *
Financial	0.23 *	0.24 *	0.19 *	0.10 *	0.10 *	0.09 *	0.21 *	0.23 *	0.18 *
Family and Marital	0.33 *	0.34 *	0.33 *	0.11 *	0.11 *	0.13 *	0.32 *	0.33 *	0.31 *
Accommodations	0.27 *	0.26 *	0.31 *	0.13 *	0.12 *	0.17 *	0.26 *	0.25 *	0.30 *
Leisure/Recreation	0.28 *	0.28 *	0.33 *	0.12 *	0.12 *	0.11 *	0.27 *	0.26 *	0.32 *
Companions	0.29 *	0.29 *	0.32 *	0.13 *	0.13 *	0.11 *	0.27 *	0.27 *	0.31 *
Alcohol/Drug	0.36 *	0.34 *	0.46 *	0.20 *	0.20 *	0.18 *	0.33 *	0.32 *	0.44 *
Emotional/Personal	0.22 *	0.23 *	0.18 *	0.11 *	0.11 *	0.12 *	0.19 *	0.21 *	0.14 *
Attitude/Orientation	0.37 *	0.37 *	0.41 *	0.11 *	0.12 *	0.09 *	0.37 *	0.36 *	0.42 *

*sig=p<.05

Figure 1. Risk Level by Gender - Probation

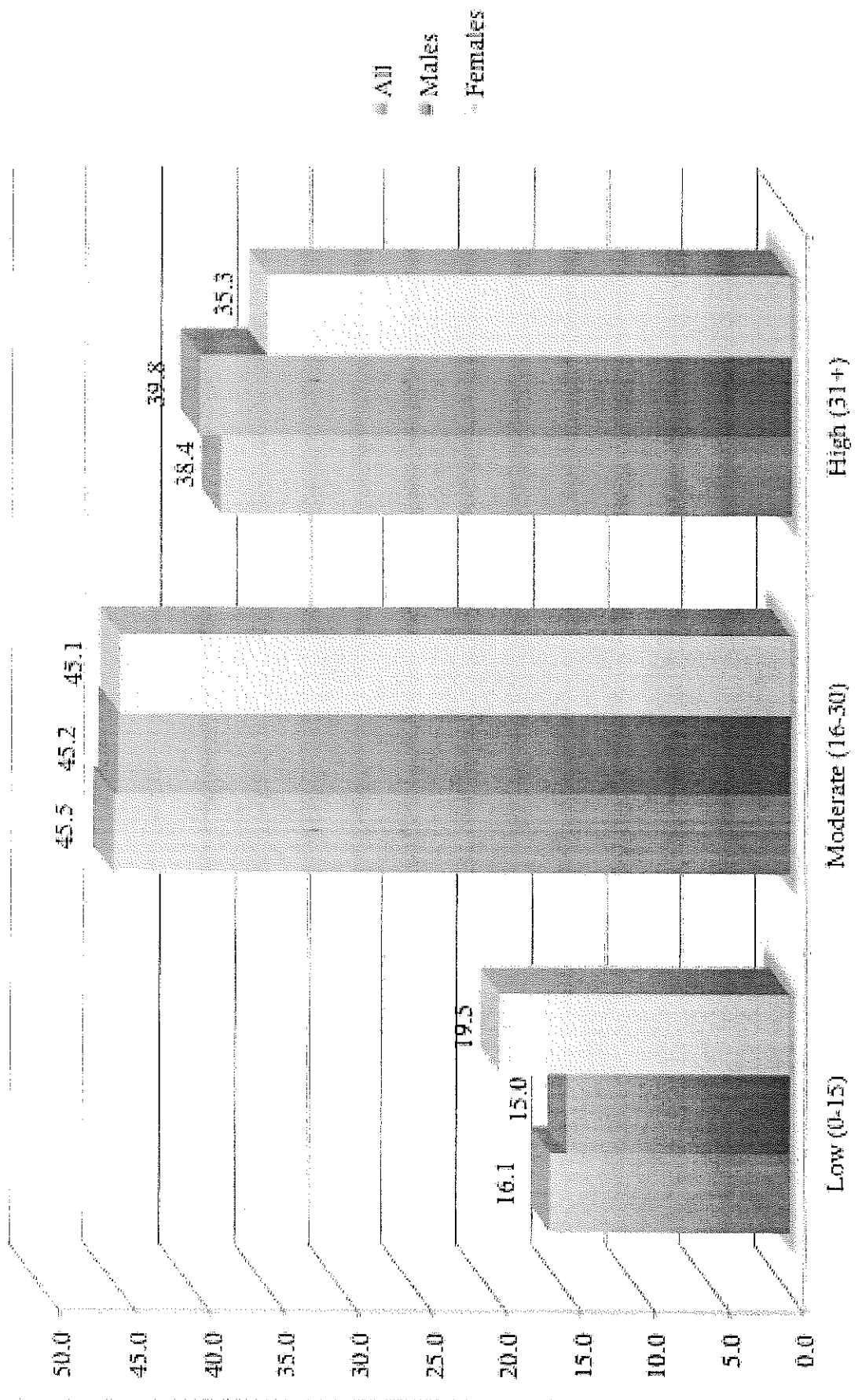


Figure 2. Risk Level by Gender - Parole

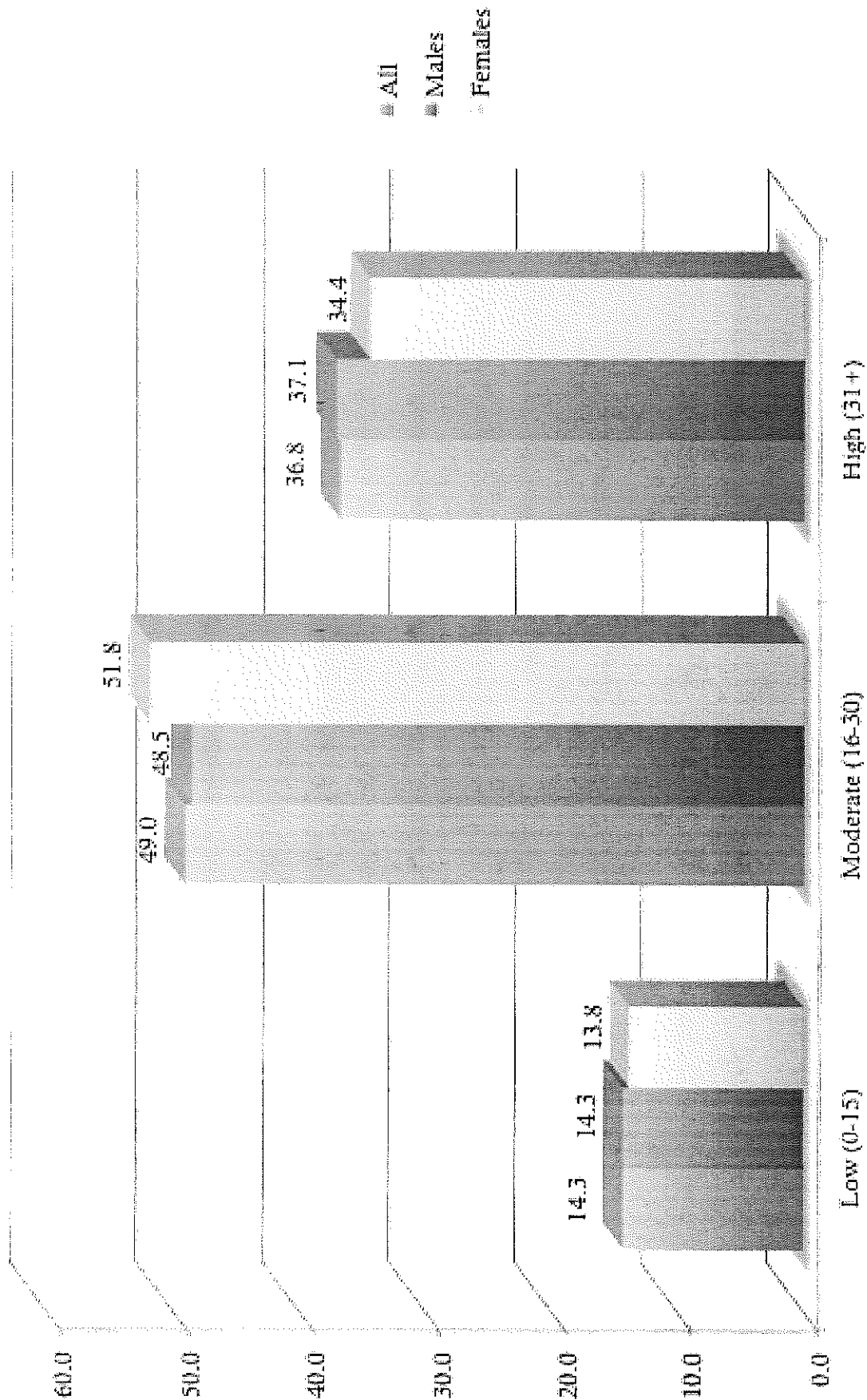


Figure 3. Risk Level by Gender - Term

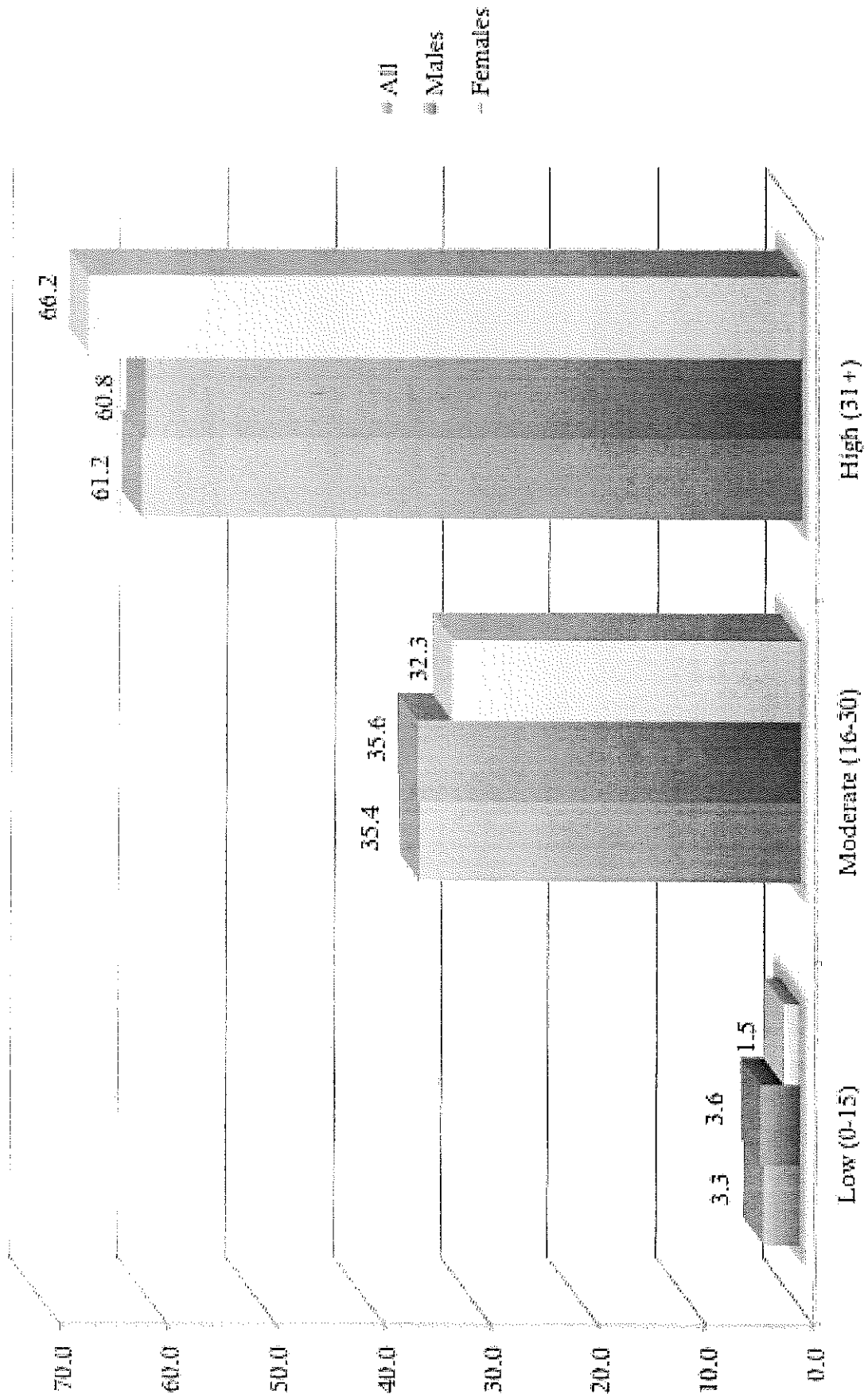


Figure 4. Recidivism by Risk Level - Parole



Figure 5. Recidivism by Risk Level - Probation

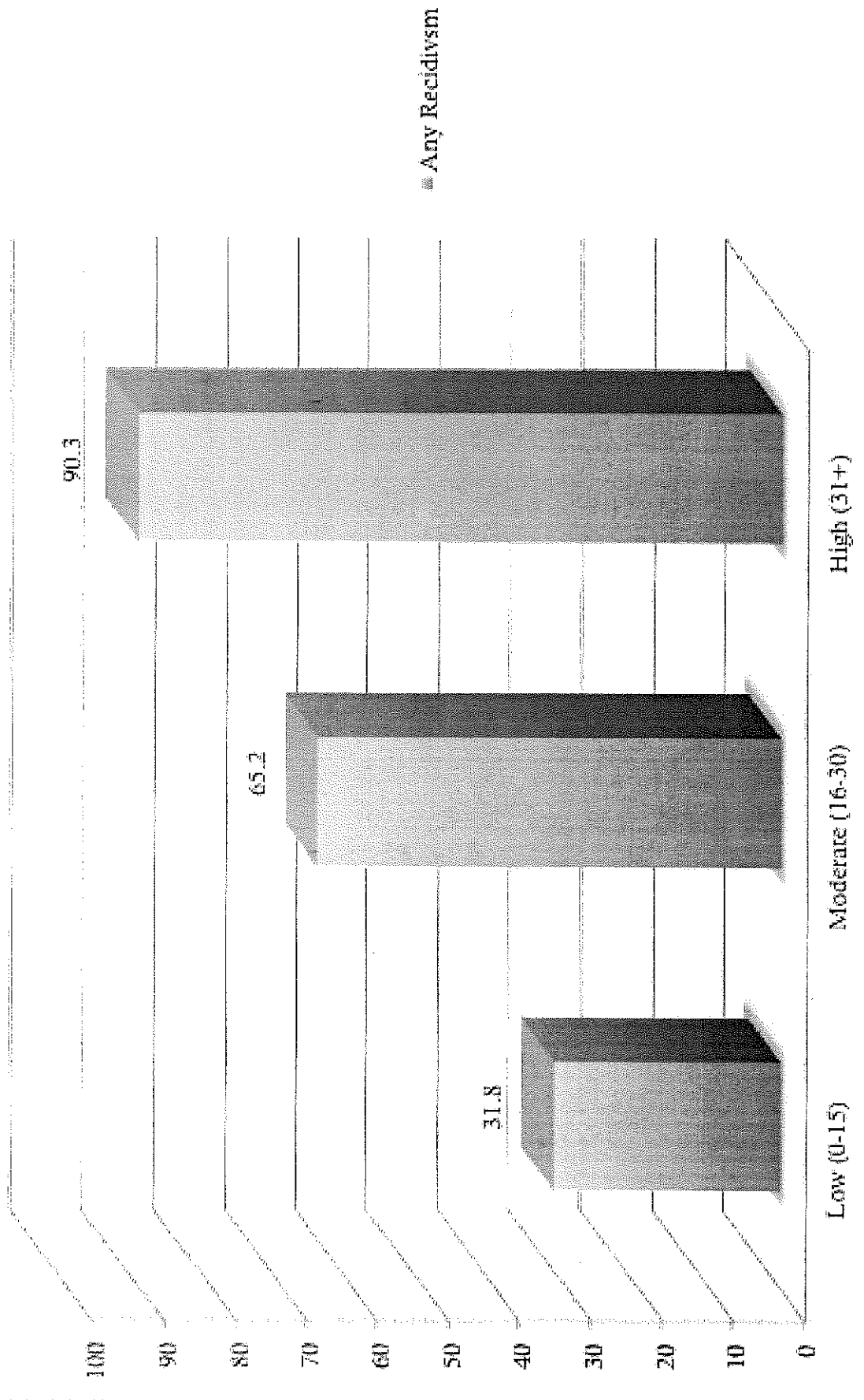


Figure 6. Recidivism by Risk Level - Term

