Norming the Proxy Risk Assessment for Salt Lake County

Report

March 31, 2008

THE UNIVERSITY OF UTAH

Utah Criminal Justice Center

COLLEGE OF SOCIAL WORK
COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES
UTAH COMMISSION ON CRIMINAL AND JUVENILE JUSTICE
S.J. QUINNEY COLLEGE OF LAW

Table of Contents

Acknowledgements

Executive Summary

The Salt Lake County Adult Detention Center (ADC, jail) implemented a proxy risk assessment following a site visit by William Woodward of the National Institute of Corrections and Center for the Study and Prevention of Violence, University of Colorado, Boulder, Colorado.

A random sample of offenders who were given the proxy assessment during their booking process were selected. This group was split into two random samples (Group 1 = 502, Group 2 = 505). Results of the proxy assessment were scored according to the procedures outlined by Bogue, Woodward, and Joplin (2006). Proxy scores and official offender data from the jail database (JEMS) were compared to recidivism (new charge bookings in the nine months following the proxy booking).

Results from the norming and validation analyses suggest the following:

Total Score

- Higher proxy total scores are related to higher recidivism in Group 1. Only 10% of those with a score of 2 recidivate, compared to 16% recidivism for those with a score of 4, and 23% for those with a score of 6.

- Higher proxy total scores are *not* related to higher recidivism in Group 2. About one-third of offenders who have a score of 2 through 7 recidivate.

Individual Item Scores

- More self-reported prior arrests are related to higher recidivism in Group 1 and 2.

- Age at first arrest has an inconsistent relationship with recidivism.

- Current age is not related to recidivism in Group 1.

- Older current age is related to *higher* recidivism in Group 2. This is contrary to the scoring of the proxy assessment that gives a higher risk score to younger offenders. The proxy risk scoring is based on the theory that older offenders are *less* likely to recidivate.

Other Predictors of Recidivism

- Recidivism didn't vary by gender or minority status

- Having a commitment at the proxy booking decreased recidivism. This is not surprising since those individuals spent an average of 70 days in jail on that booking, thus reducing opportunity for reoffense.

- Having a new charge at the proxy booking was related to higher recidivism. Having drug offenses at the proxy booking increased recidivism further (Group 1 and 2). Having a

public order offense (disorderly conduct, criminal mischief, intoxication, false information, and concealing identity) increased recidivism in Group 1 only.

- Two types of offenders had the highest recidivism: 1) Class C Misdemeanants with several prior jail bookings who were older and generally had public order offenses, and 2) 1st Degree Felons with outstanding warrants who had some prior jail bookings and generally had drug and person offenses.

- The most consistent predictors of recidivism (across Group 1 and 2) were total jail bookings in the two years prior to the proxy booking and having a drug charge at the proxy booking. Each additional booking was associated with a 20-34% increase in likelihood of recidivism. Having a drug charge increased chance of recidivism by 2-2.5 times.

The study's conclusions are:

1. The proxy assessment is not a consistent predictor of recidivism for offenders booked into the Salt Lake County ADC.

2. The proxy assessment may be less appropriate for certain offenders booked into the jail, specifically older offenders who have a high frequency of bookings.

3. The proxy score does not differentiate well between frequent low-level offenders and less frequent more severe offenders.

4. JEMS data available to CJS and ADC staff at the time of an offender's booking can be at least equally helpful as the proxy assessment in making release and programming decisions.

Proxy Risk Assessment
Salt Lake County Criminal Justice Services
March 31, 2008

Background and Purpose

In May 2006 William Woodward of the National Institute of Corrections and Center for the Study and Prevention of Violence, University of Colorado, Boulder, Colorado, conducted a site visit in Salt Lake County and provided recommendations to the Criminal Justice Advisory Council (CJAC) and Mayor Peter Corroon. A major recommendation was the "immediate adoption of a 'proxy' instrument to determine risk of re-offending." Similarly, Dr. Woodward suggested that offender risk and needs information be available for appropriate matching to new alternatives to incarceration.

In response to the recommendations, Criminal Justice Services (CJS) staff began implementing the Proxy Score Risk Assessment (hereafter, proxy) at the Salt Lake County Adult Detention Center (ADC, jail). The proxy assessment was based on the model developed by Dr. Woodward and colleagues and has been used in Hawaii. The proxy consists of three items: 1) Current Age, 2) Age at First Arrest, and 3) Number of Prior Arrests. These items were asked of all offenders during their booking process.

In May 2007 Gary K. Dalton, Division Director of CJS, asked the Utah Criminal Justice Center (UCJC) to norm the proxy assessment for the Salt Lake County population. In addition, UCJC agreed to validate the instrument by examining its relationship to future jail bookings and recidivism.

Methods

Data Collection

As previously noted, the three proxy items were collected by CJS staff at the ADC during the offender booking process. CJS staff already interview offenders during the booking process and these items were folded into that process. Results of the three items were entered into a free-text field in the jail management information system, JEMS.

For this study, a random sample of offenders who were booked into the ADC from 1/1/06 through 4/30/07 was selected by choosing 19 random dates over that time period. CJS staff indicated that approximately 80 persons are booked into the ADC per day; therefore, 19 days were selected to give a sample of 1,500 bookings. Special care was taken to select booking dates that fell in different months and on different days of the week to account for variance in offending by season and day of week. After the booking dates were selected, a separate group of CJS staff pulled booking records from JEMS for those dates and transferred the three item responses to a separate database.

Data Management

UCJC staff cleaned the proxy data, recoding vague responses (ex: "many" instead of a number of prior offenses on the answer to the third item) as missing. Fewer bookings occurred per day than first anticipated and after incomplete assessments were removed the resulting sample was smaller than expected (N=1031). The three proxy items were re-linked with the JEMS booking information for those assessments. Proxy booking data were further merged with offenders' JEMS records from July 1, 2000 through March 7, 2008 to examine offender history and future bookings and recidivism. Lastly, the proxy booking sample of 1,031 was randomly split into two groups: Group 1 (N=516) was the sample that the data were normed on and Group 2 (N=515) was the hold-out confirmatory sample. Data were further reduced in each group based on multiple proxy bookings per person. Final sample size was, Group 1 N=502 and Group 2 N=505.

Data Analyses

Data analyses were conducted to answer the following research questions outlined in the scope of work. An additional research question (#8) was added.

1. What is the distribution of proxy scores?
2. What are the relationships between proxy items and outcomes of interest?
3. What percent of variance in outcomes is explained by each proxy item?
4. What interaction between proxy items affects outcomes?
5. What cut-points differentiate low, medium, and high risk on proxy assessment?
6. Do these cut-points correspond to low, medium, and high groupings on outcomes?
7. Does validity of proxy assessment vary by sub-sample characteristics (gender, ethnicity, offender type (misdemeanant, felon))?
8. Are there other variables that are available in JEMS data that could be used in lieu of the proxy assessment?
9. Are the cut-points and norming developed on one sample confirmed with the hold-out sample?

The proxy score was calculated based on the procedures outlined by Bogue, Woodward, and Joplin (2006), with the range of raw item scores being divided into thirds and given the appropriate point value. Total proxy scores ranged from two to eight.

Construct validity is a way of assessing whether a tool is truly measuring the concept it is intended to measure. Because the proxy risk assessment is supposed to measure risk of recidivism, proxy risk scores were analyzed in relation to new jail bookings on new charges. New charge bookings rather than a sum of new charges was selected as the primary outcome to reduce the likelihood of measuring bootstrapping[1] and also because discrete bookings into the jail represent increased contact with the criminal justice system and the related costs. Recidivism analyses were limited to a nine month follow-up period. This was the longest follow-up period available for all persons in the sample.

---

[1] The practice by law enforcement of adding charges in a single criminal episode

Several analyses were conducted to examine the relationship between proxy scores and recidivism. Variables from JEMS, such as criminal history and charge types, were examined in relation to recidivism as well. In this report recidivism refers to new charge bookings in the nine months following the proxy assessment. Some analyses compare the presence of any new charge bookings in the follow-up period to having zero. Other analyses examine the total number of new charge bookings in the follow-up period (ranging from zero to 27). A detailed description of the analyses and statistical significance of the results can be found in the technical report.

Results

1. What is the distribution of proxy scores?

The distribution of the proxy individual items, divided into the appropriate point values, is presented in Table 1. As one can see in Table 1, an offender who is 25 years old, was 16 at his or her first arrest, and has 9 priors would have a proxy score of 7. It should be noted that Bogue et al. indicate that item #3, prior arrests, should include only adult arrests, although age at first arrest, item #2, includes both juvenile and adult arrests. Discussions with CJS determined that CJS staff sometimes recorded prior lifetime arrests in item #3, instead of only adult prior arrests.

Table 1 Group 1 Proxy Score Criteria

Proxy Score for Salt Lake County Group 1				
Point Value	0	1	2	3
Current Age	>=36	25-35	0-24	
Age at First Arrest		>=23	19-22	0-18
Priors		0-3	4-7	>=8

As shown in Figure 1, on the following page, the distribution of total proxy scores for Group 1 is relatively "normal." This means most offenders have a score in the middle of the distribution (4-6), while fewest offenders have a score on the extremes (2 or 8). This shape of distribution is consistent with total proxy scores calculated in other jurisdictions.

2. What are the relationships between proxy items and outcomes of interest? and
3. What percent of variance in outcomes is explained by each proxy item?

Higher proxy scores were significantly[2] related to increased recidivism. As shown in Figure 2 on the following page, this relationship was observed for those who had a score of two through seven on the proxy, but did not hold true for the few offenders that had a proxy score of eight. This is believed to be due to both 1) the small number of offenders who had a score of eight on the proxy assessment, and, more importantly, 2) the likelihood that these most serious offenders were already being limited in their opportunity for re-offense through either jail or prison incarceration.

---

[2] χ^2= 40.738, p < .01, Cramer's V = .285

3

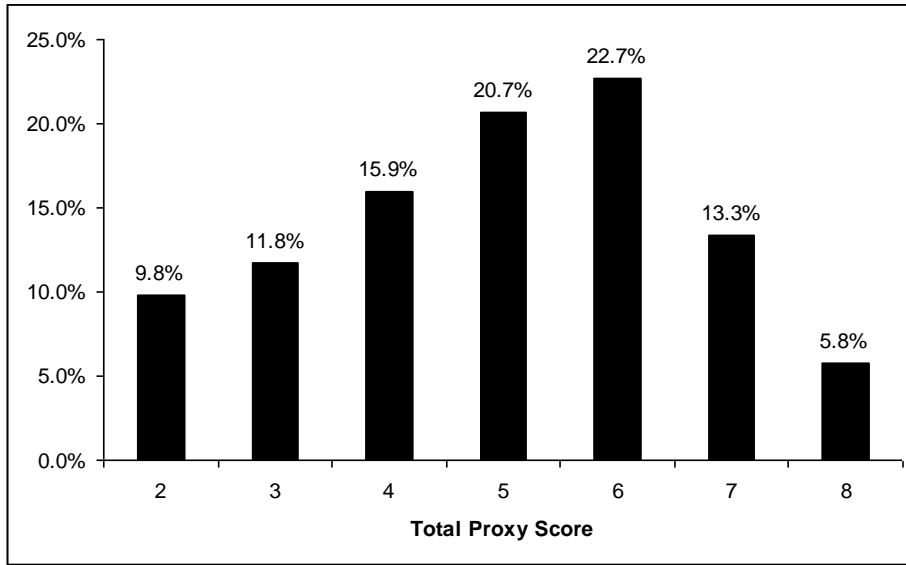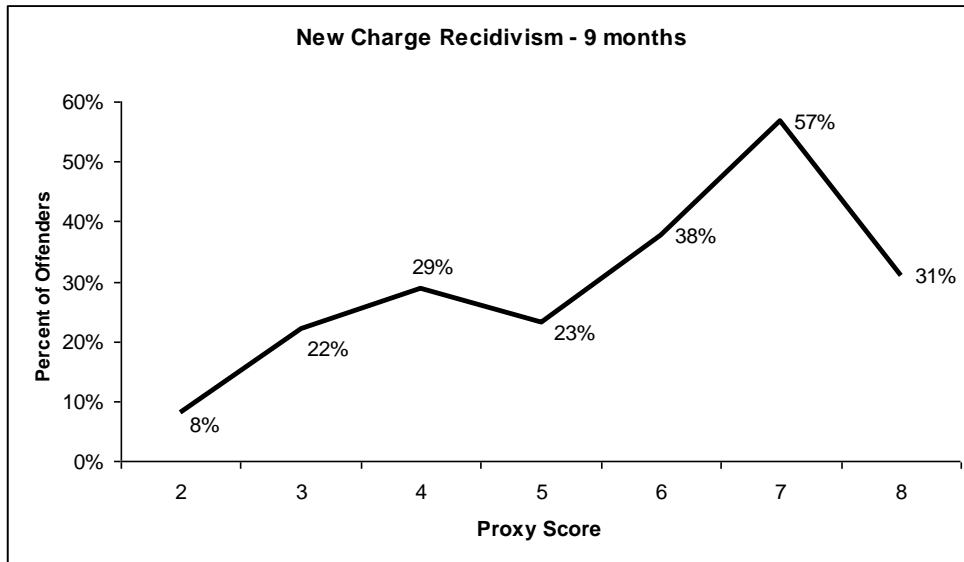**Figure 1** Group 1 Total Proxy Score Distribution

**Figure 2** Group 1 Recidivism by Proxy Score Distribution

Although the total proxy score was significantly related to recidivism, the relationship between individual proxy items and recidivism was not as clear. As shown in Figure 3 on the following page, higher scores on age at first arrest (younger age) and prior arrests (more priors) were statistically significantly[3] related to recidivism. For example, nearly half of those with a score of 3 on the priors item (had > 7 priors) recidivated, compared to one-third of those with a score of 2 (4-7 priors) and only 17.4% of those with a score of 1 (0-3 priors). There was not a statistically

---

[3] Age at First χ^2= 23.299, p < .01, Cramer's V = .215; Priors χ^2= 37.062, p < .01, Cramer's V = .272

significant[4] relationship between current age and recidivism. As shown in Figure 3, about one-third of offenders, regardless of their score on the current age item, recidivated.

Figure 3 Group 1 Recidivism by Proxy Item Categories
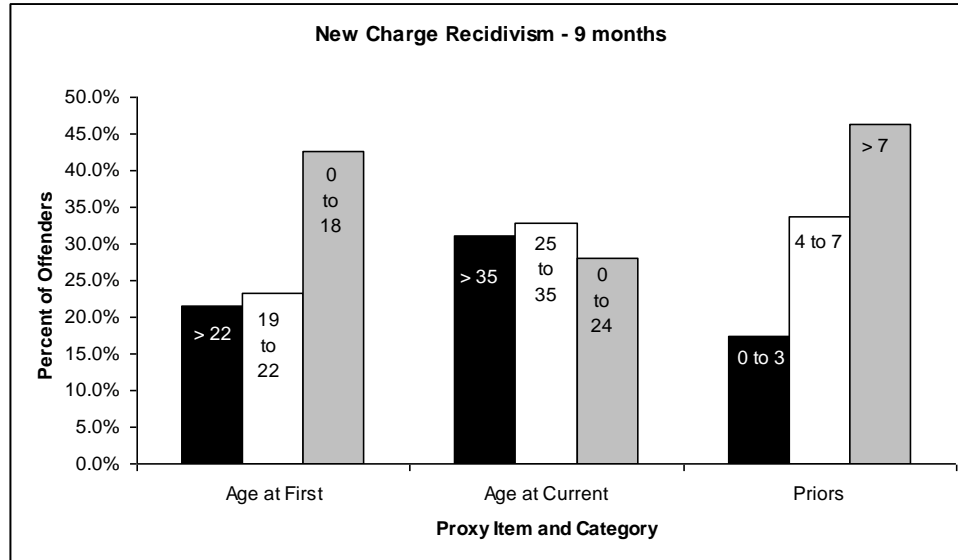
Several follow-up analyses confirmed that more prior arrests were related to higher likelihood of recidivism. In one test, the number of prior arrests reported at the proxy booking accounted for 42.4% of variance in recidivism. No consistent relationship between the age items (age at first arrest and current age) and recidivism could be confirmed.

4. What interaction between proxy items affects outcomes?

An interaction between prior arrests and age affects likelihood of recidivism. A test that looked at the interactions suggested that current age and age at first arrest are only important predictors of recidivism for individuals who have a high number of prior arrests. In this test, older offenders (current age) who started offending early (age at first) and frequently (priors) had the greatest likelihood of recidivism. This finding is consistent with the life-course persistent theory of offending. The life course persistent offenders are identified by an early age of first arrest and a very high number of prior arrests. These offenders are most likely to continue offending at an older age.

5. What cut-points differentiate low, medium, and high risk on proxy assessment? and
6. Do these cut-points correspond to low, medium, and high groupings on outcomes?

A visual examination of new charge bookings by proxy scores (see Figure 2), indicates that there may be three natural cut-points in the proxy score distribution: low = 2, medium = 3-5, and high = 6-7. Figure 4 on the following page displays recidivism for Group 1 by low, medium, and high cut-point groupings. Group 1 offenders with a proxy score of eight (N=29, 5.8%) were excluded

---

[4] $\chi^2 = .993$, p = .609

from the analysis for the previously mentioned reason that their likelihood of recidivism didn't conform to the trend. Because these cut-points were selected based on the distribution of recidivism by proxy score, they are statistically significantly[5] related to recidivism.

These cut-points, however, may not be most advantageous for applying release and programming criteria. For example, the low-risk group only comprises 9.8% of the sample (see Figure 1), while the medium-risk group includes the bulk of offenders (48.4%). Furthermore, the high-risk offenders include those with a proxy score of 6 and 7 (36% of the sample), who differ substantially on risk of recidivism (38% vs. 57% recidivated, see Figure 2).

Other methods of determining cut-off scores include setting an arbitrary cut-point (e.g., based on the percent of offenders the ADC wants to release, they can select the proxy score that corresponds with that percent) and validating it with a more in-depth risk tool (e.g., the Level of Service Inventory (LSI)) to set a cut-point (Bogue, et al., 2006). Both of these methods are beyond the scope of this report.

Figure 4 Group 1 Recidivism by Low, Medium, and High Proxy Score
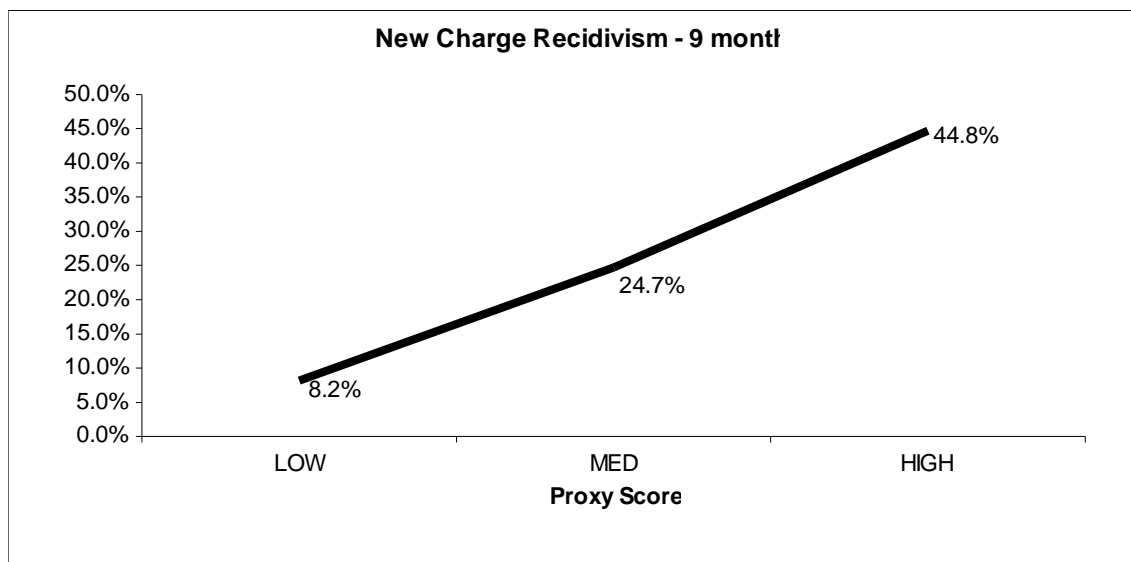
7. Does validity of proxy assessment vary by sub-sample characteristics?

For the most part, the relationship between higher proxy scores and greater likelihood of recidivism remained true for the following sub-groups: females vs. males, minorities vs. whites, and low level offenders (those with Class B or less severe offenses at the time of their proxy booking) vs. more severe offenders (Class A or higher as most severe charge at time of proxy booking). As shown in Figures 5, 6, and 7, there is some variation by these subgroups. All three figures compare the sub-groups against the entire Group 1 trend line that was first presented in Figure 2. The only trend line that deviates a great degree is for female offenders (Figure 5). This difference may be due to the small number of female offenders in the sample (N = 106, 21.1%).

χ^2 = 32.645, p < .01

6

It could also be due to an important relationship between gender and recidivism; therefore, gender was included as an additional variable examined in research question #8 (see section below). The close proximity of the lines on Figure 6 indicates that the relationship between proxy score and recidivism does not vary much by minority status. Similarly, Figure 7 shows that the relationship between proxy score and recidivism is similar for those who had less or more severe charges at the time of their proxy booking. It should be noted that this comparison excludes the group of offenders who did not have any new charges at the time of their proxy booking (N = 208, 41.4%).

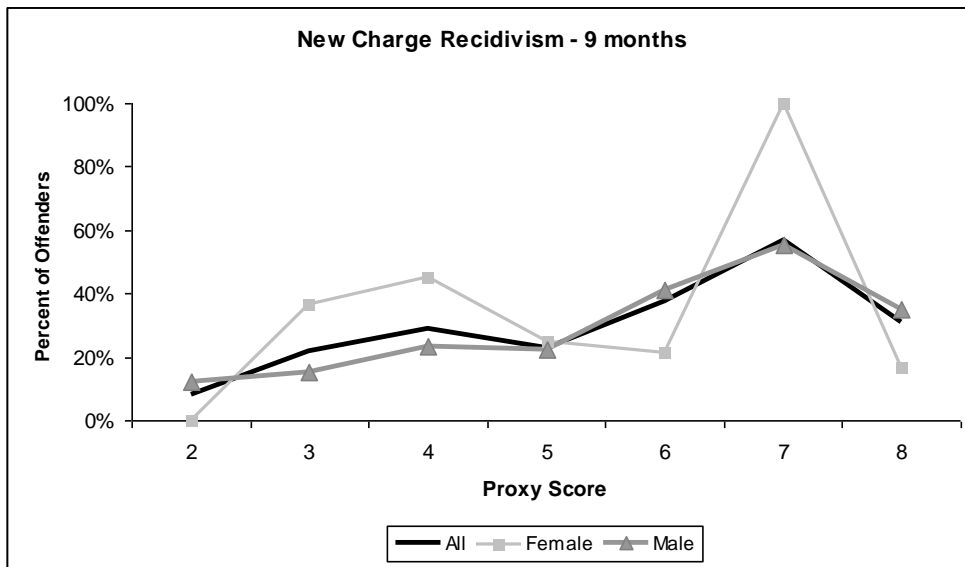**Figure 5** Recidivism by Proxy Score Distribution – Gender Comparison

Figure 6 Recidivism by Proxy Score Distribution – Minority Status Comparison
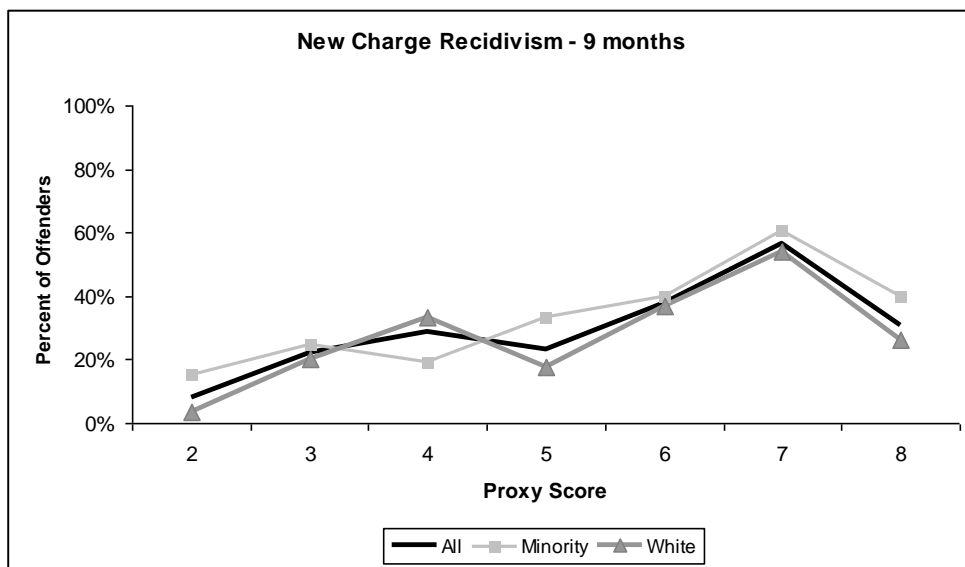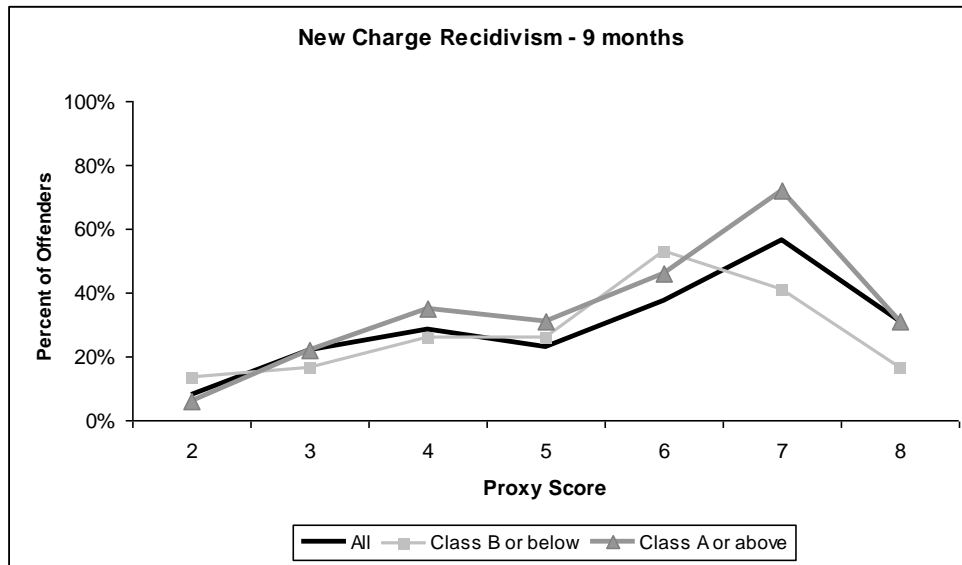
Figure 7 Recidivism by Proxy Score Distribution – Charge Severity Comparison

New Charge Recidivism - 9 months

8. Are there other variables that are available in JEMS data that could be used in lieu of the proxy assessment?

Yes, several variables drawn from the JEMS database were significantly related to recidivism. These additional variables were examined because it was thought that they may help to understand recidivism further. In addition, the new variable analyses highlighted two different kinds of recidivism (frequent, low-level offending vs. less frequent but more serious offending) that required further exploration.

At Proxy Booking Measures

Having a commitment at the time of the proxy booking was linked to a significant[6] decrease in recidivism (18.8% vs. 33.7%). This finding is not surprising, as those who are being booked on a commitment spent an average of 70 days in jail for that booking, thus reducing the opportunity for re-offense. In contrast, having a new charge at the time of the proxy booking was associated with a significant[7] increase in recidivism, with 36.0% of those with a new charge recidivating vs. 24.9% of those who didn't have new charges (these were individuals booked for other reasons, including only warrants, commitments, or holds). Of those with new charges, specific types of charges were also associated with increased likelihood of recidivism. As shown in Table 2 on the following page, offenders who had person, drug, or public order[8] charges were more likely to re-offend.

---

[6] $\chi^2 = 8.371$, p < .01
[7] $\chi^2 = 7.284$, p < .01
[8] Public order included disorderly conduct, criminal mischief, intoxication, false information, and concealing identity, among others

There were no significant differences in recidivism by gender,[9] minority status,[10] or having an outstanding warrant at the proxy booking.[11]

Table 2 Recidivism by Charge Type at Proxy Booking

Recidivism by Charge Type at Proxy Booking		
	Has Charge Type at PB	
	Yes	No
Property	39.5%	34.4%
Person*	44.9%	32.8%
Drug*	46.1%	31.9%
Public Order*	60.5%	31.2%
* Significant at .05 level		

Recidivism varied significantly[12] by charge severity at the proxy booking. As shown in Figure 8, offenders whose most severe charge at the time of their proxy booking was a Class C misdemeanor (7.8%) were most likely to recidivate in the nine months following the proxy booking (65.2% had a new charge in the follow-up). Those who had first degree felonies (4.8%) were second most likely to have a new charge in the follow-up period (50%). Excluding the high recidivism rate for Class C offenders, the general trend is that having more serious charges at the proxy booking is associated with higher recidivism in the follow-up period.

Figure 8 Recidivism by Charge Severity at Proxy Booking

---
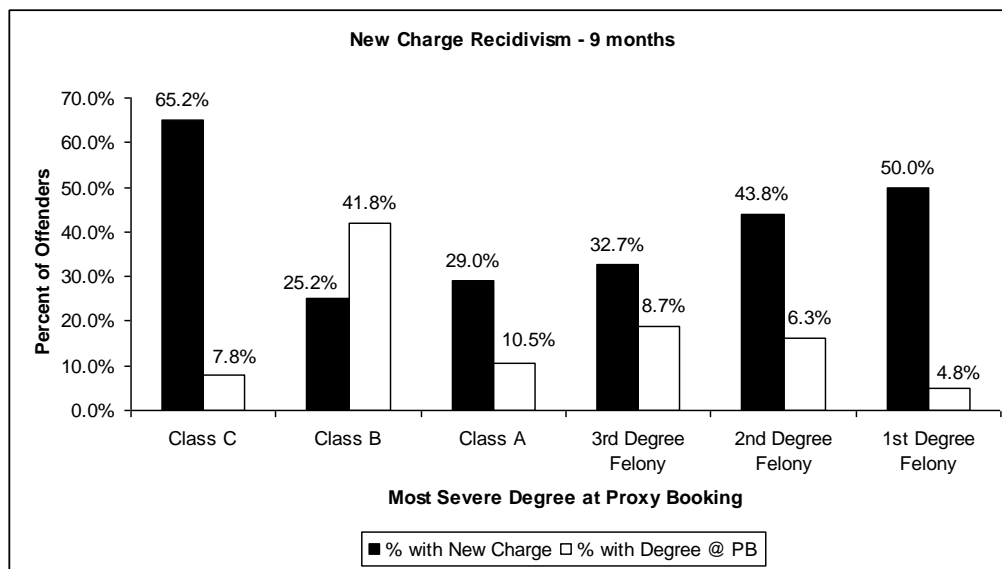
[9] χ^2= .696, p = .239
[10] χ^2= 1.513, p = .130
[11] χ^2= 1.230, p = .157
[12] χ^2= 18.134, p < .01

The finding that Class C and First Degree Felony offenders were the most likely to recidivate, although they comprise a small percent of offenders, led to additional descriptive analyses. As shown in the following table (Table 3), there are several areas where these groups differ in meaningful ways. Although both groups were young at the time of their first arrest (self-reported median = 20), the Class C group was both older and had more priors at the time of the proxy booking.

Table 3 Comparison of Class C Misdemeanants and First Degree Felons

	Most Severe Degree at Proxy Booking	
	Class C	Felony 1
N	23	14
	2 Years Pre-Proxy Booking	
Any Booking	78.3%	85.7%
Mn	8.7	2.9
Md	3	2.5
New Charge Booking	69.6%	78.6%
Mn	7.4	1.6
Md	2	1
Commitment Booking	69.6%	35.7%
Class A or more severe	17.4%	78.6%
	At Proxy Booking	
Person Offense	0.0%	57.1%
Property Offense	21.7%	14.3%
Drug Offense	0.0%	57.1%
Public Order Offense	87.0%	0.0%
Warrant	43.5%	85.7%
Age at First (Md)	20	20
Current Age (Md)	41	31
Priors (self-report, Md)	15	6

The descriptive statistics in Table 3 paint the picture of two types of offenders being booked into the ADC that are at highest risk of short-term recidivism. The Class C group is older, has more frequent contact with the ADC (average of approx 5 bookings per year), and has less severe offenses. The Felony 1 group is younger, has a high recidivism rate, but less frequent contact with the ADC, has more warrants, and commits more serious and dangerous (person) crimes. To reiterate, these groups comprise a small percent of offenders (only 12.6% of new charge bookings, only 7.4% of Group 1 overall). However, their high recidivism rate warranted this additional description of their offense histories and presenting offenses at the time of the proxy booking. Their unique profiles could help distinguish these groups so appropriate action could be taken to reduce the risk for recidivism.

Pre-Proxy Booking Measures

All of the criminal history measures found in JEMS were significantly related to recidivism. As shown in Table 4, below, having more jail bookings in the two years prior to the proxy was associated with increased recidivism. This finding is not surprising, as past behavior is often the best predictor of future behavior. It should be noted that official criminal history records (2-year pre-proxy bookings) accounts for more variance in recidivism (57%), than self-reported lifetime criminal history (prior arrests item on the proxy, 42.4%).

Table 4 Correlation between History of Jail Bookings and Recidivism

Correlation with Recidivism	
Bookings 2 Years Pre-Proxy	R^2
New Charge*	0.58
Warrant*	0.38
Commitment*	0.18
Total Bookings*	0.57
*Significant at .05 level	

Predictive Models

Proxy Model. A model predicting recidivism was developed using the three raw proxy items: 1) Current Age, 2) Age at First Arrest, and 3) Number of Prior Arrests. Only self-reported priors were significantly related to recidivism. For each additional prior arrest an offender reported on the proxy measure his or her likelihood of recidivating in the following nine months increased by 6.7%.

JEMS Model. A model predicting recidivism was developed using five measures from JEMS: total bookings in the two years prior to the proxy assessment, gender, minority status, presence of drug offense at proxy booking, and presence of public order offense at proxy booking. Three variables were significantly related to recidivism: bookings in the two years prior, having a drug offense at the proxy booking, and having a public order offense at the proxy booking. Each new booking in the two years prior increased the likelihood of recidivism by 36.5%, while having a public order offense increased the likelihood 2.8 times and a drug offense increased it 2.5 times.

Combined Models. Next a combined model was run including all eight independent variables from the proxy and JEMS models. A specific type of test was used to remove non-significant variables step-by-step until the best predictors of recidivism remained. The final step included the following five predictors that were all significantly related to recidivism: bookings in the two years prior, having a drug offense at the proxy booking, having a public order offense at the proxy booking, self-reported prior arrests, and self-reported age at first arrest. Younger age at first arrest was associated with increased likelihood of recidivism. The other significant variables had similar relationships with recidivism as they did in the previous proxy and JEMS models.

A final model was created with four independent variables from the combined stepwise model (See Table 6). Self-reported prior arrests were not included in this model since they represented

essentially the same thing[13] as prior official bookings, and the official criminal history record was more strongly related to recidivism in the earlier tests. This final model correctly identified 31.2% of recidivists and 93.4% of those who didn't have a new charge booking. As with the previous models, this one was not as good at predicting recidivists as it was at predicting non-recidivists. As shown in the Odd's ratios displayed in Table 6, below, each additional booking in the two years prior to the proxy is associated with a 34% increase in likelihood of recidivism, while each year younger a person reports being at the age of their first arrest increases recidivism likelihood by 3.5%. Having either a public order or drug offense at the proxy booking more than doubles the likelihood of recidivism.

Table 6 Combined Model Predicting Recidivism

	B	Wald's	Sig.	Odd's Ratio
Total Bookings 2 Years Pre-Proxy	0.292	36.87	0.000	1.34
Drug Offense at Proxy	0.923	11.14	0.001	2.52
Public Order Offense at Proxy	0.985	6.85	0.009	2.68
Age at First Offense	-0.036	6.60	0.010	0.96

9. Are the cut-points and norming developed on one sample confirmed with the hold-out sample?

The relationship between total proxy score and recidivism found in Group 1 was not confirmed in Group 2 (N=505). Furthermore, the cut-points based on Group 1 were not identical to new cut-points calculated from the distribution of raw proxy items on Group 2 (see Table 7).

As shown in Table 7 below, based on the Group 2 cut-points, an offender who is 25 years old at the time of their proxy booking would have a score on the current age item of two instead of one. Based on Group 2 cut-points, having seven prior arrests would translate to a score of three on the priors item instead of two, as based on Group 1 cut-points.

Table 7 Proxy Score Criteria by Group

Proxy Score Criteria by Group				
Point Value	0	1	2	3
Current Age - Group 1	>=36	25-35	0-24	
Current Age - Group 2	>=35	26-34	0-25	
Age at First Arrest - Group 1		>=23	19-22	0-18
Age at First Arrest - Group 2		>=23	19-22	0-18
Priors - Group 1		0-3	4-7	>=8
Priors - Group 2		0-3	4-6	>=7

---

[13] Pearson R = .625, p < .01

Figure 9 shows that the distribution of total proxy scores for Group 2 is similar, whether Group 1 or Group 2 criteria are used for cut-points. The distribution of proxy scores for Group 2 that are presented in Figure 9 can be visually compared to the distribution of proxy scores for Group 1 that are presented in Figure 1. Again, the distribution is approaching a "normal" curve, with most offenders having a score in the middle (proxy scores of 3-6) and fewest offenders having a score at the extremes (2 or 8).

Figure 9 Group 2 Proxy Score Distribution by Group 1 and 2 Scoring Criteria
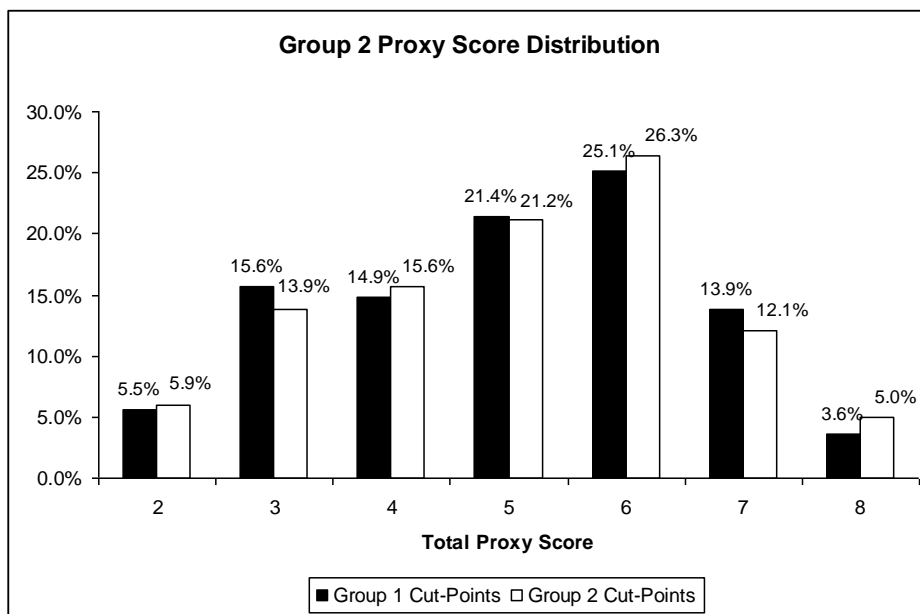
The remaining analyses on the Group 2 sample all used Group 1 scoring criteria and the resulting proxy scores. If the proxy scores demonstrate a statistically significant relationship with recidivism, then the use of these proxy scores will be confirmed with the hold-out sample.

As shown in Figure 10 on the following page, higher proxy scores were not significantly[14] related to recidivism. In fact, offenders with proxy scores of two through seven had approximately equal likelihood of recidivating, with approximately 30% of each group having a new charge booking.

Follow-up examinations of individual proxy item scores, shown in Figure 11 on the following page, demonstrate that older persons were actually more likely to recidivate[15]. Offenders with a score of 0 on the current age item (> 35 years old) had more recidivism (41.3%) than those with a score of 1 (27.4%; 25-35 years old) or 2 (25.6%; 0-24 years old). This relationship contradicts the proxy assessment theory that gives a higher risk score to younger persons. Having more prior arrests was also statistically significantly[16] related to a greater likelihood of recidivism. There

---

[14] $\chi^2 = 4.34$, p = .630
[15] $\chi^2 = 10.997$, p < .01
[16] $\chi^2 = 20.329$, p < .01

was not a significant[17] relationship between age at first arrest and likelihood of recidivating. Additional tests confirmed these findings. Recidivists were 34.6 years old on average compared to 30.4 years old for non-recidivists[18]. Recidivists reported 11.3 prior arrests on average compared to 6.9 on average for non-recidivists[19].

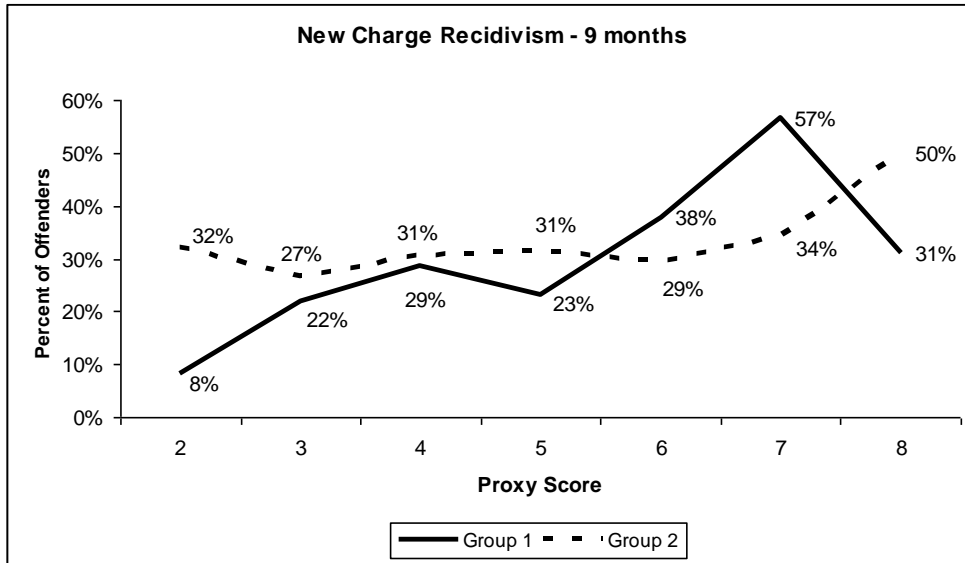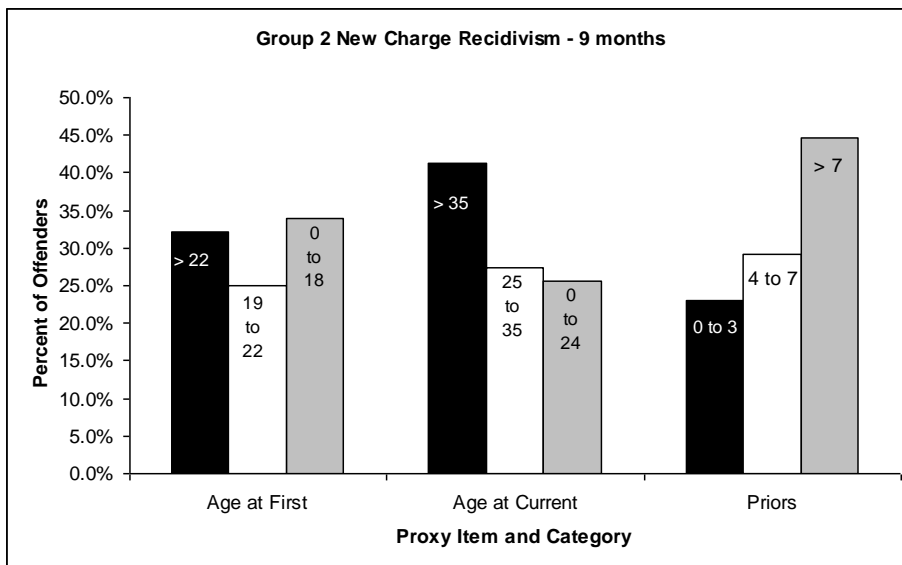**Figure 10** Group 1 and 2 Recidivism by Proxy Score Distribution

Figure 11 Group 2 Recidivism by Proxy Item Category

---

[17] χ^2= 3.21, p = .20
[18] t= -4.103, df= 503, p < .01
[19] t= -2.467, df= 503, p < .05

14

A combined predictive model was run as the final confirmatory analysis. It included all eight independent variables from the proxy and JEMS models: the three proxy items, total bookings in the two years prior to the proxy assessment, gender, minority status, presence of drug offense at proxy booking, and presence of public order offense at proxy booking. The model removed non-significant predictors. In the final step (shown in Table 8), three significant predictors of recidivism remained. Each new booking in the two years prior to the proxy assessment was associated with a 20% increase in recidivism, while having a drug offense at the proxy booking increased likelihood of re-arrest by 96%. For each year older a person was at the proxy booking the likelihood of recidivating increased by 3%.

Table 8 Group 2 Combined Model Predicting Recidivism

	B	Wald's	Sig.	Odd's Ratio
Total Bookings 2 Years Pre-Proxy	0.184	17.59	0.000	1.20
Drug Offense at Proxy	0.672	5.59	0.018	1.96
Current Age	0.029	9.57	0.002	1.03

Two of the significant variables from the Group 2 model are shared with the final Group 1 predictive model: total bookings in the two years prior to the proxy assessment and having a drug offense at the proxy booking. The age-related variables (age at first arrest in the Group 1 model and current age in the Group 2 model) were not as consistently linked to recidivism. Similarly, having a public order offense at the proxy booking was only related to recidivism in the Group 1 sample.

Discussion and Conclusion

The proxy assessment was not consistently related to recidivism in the two randomly selected Salt Lake County ADC samples. In the Group 1 norming sample, total proxy score was significantly related to recidivism, with more offenders with high total proxy scores having a new charge booking than those with lower total proxy scores. In the Group 2 confirmatory sample, higher total proxy scores were not related to higher recidivism.

Individual proxy items were not consistently linked to recidivism across tests or groups. More self-reported prior arrests were consistently related to increased recidivism, but age at first arrest and current age had a more varied and complex relationship with recidivism. It may be that age at first arrest and current age are only important in predicting recidivism if the individuals being assessed also have a high number of prior arrests.

In the hold-out sample (Group 2) older offenders were *more* likely to recidivate. The proxy assessment is scored on the theory that older offenders are *less* likely to recidivate. The relationship between younger age and recidivism has long been documented in the literature (Kazemian, LeBlanc, Farrington & Pease, 2007; Steffensmeier, Allan, Harer & Streifel, 1989; Hirschi & Gottfredson, 1983). The contradictory finding in the hold-out sample may suggest that the proxy assessment is less reliable in certain populations, specifically life course persistent offenders.

Offender data from JEMS was consistently linked to recidivism. In both randomly selected samples, each additional booking in the two years prior to the assessment increased the risk of recidivism by approximately 20-34%. Having a new drug charge at the time of the proxy booking increased the likelihood of recidivism by 2-2.5 times. Although self-reported prior arrests from the proxy assessment were consistently related to recidivism, the official criminal history measure was as consistently related to recidivism and may even have a stronger association with recidivism (57% variance explained vs. 42%).

The following conclusions can be drawn from the proxy norming and validation analyses.

1. Total proxy score is not a consistent predictor of recidivism for offenders booked into the Salt Lake County ADC.

2. The contrary to expected relationship between current age and recidivism in the confirmatory sample (Group 2) suggests that the proxy assessment may be less appropriate for certain offenders booked into the jail, specifically older offenders who have a high frequency of bookings. As shown in the descriptive analyses on Group 1 Class C offenders, there is a small, but substantial group of offenders who are older and booked into the jail quite frequently. They are often booked on public order offenses. These offenders constitute a significant drain on the criminal justice system, but may not comprise the same risk to public safety as other types of offenders.

3. The Salt Lake County ADC books several types of offenders including frequent low-level criminals and more severe but less frequent offenders. The proxy score does not differentiate between these groups, yet different release and programming criteria should be applied to them, which suggests that additional information should be used for decision-making.

4. Data available to CJS and ADC staff at the time of an offender's booking in the JEMS database can be at least equally helpful as the proxy assessment in determining release and programming. For example, jail bookings in the two years prior to the assessment date explained more variance in recidivism than self-reported prior arrests. Furthermore, type of new charges present at the proxy arrest (drug in both samples and public order in Group 1) was significantly related to recidivism. This information can be used to determine programming and services (treatment, housing, etc.), as well as gauge risk of re-offense.

Support for the use of the proxy is mixed. Although higher proxy scores were generally related to higher recidivism in the first randomly selected sample, this relationship did not remain true in the second randomly selected sample. Furthermore, official records available to policy makers and professionals working in the criminal justice system may be more appropriate to use when making decisions about jail releases and offender programming. The use of a risk assessment or official records for determining release and programming criteria requires further consideration.

Bibliography

Bogue, B., Woodward, W., & Joplin, L. (2006). Using a Proxy Score to Pre-screen Offenders for Risk to Reoffend. Boulder, Co: Center for the Study and Prevention of Violence

Hirschi, T., & Gottfredson, M. (1983). Age and the Explanation of Crime. *American Journal of Sociology*, *89*, 552-84.

Kazemian, L., LeBlanc, M., Farrington, D., & Pease, K. (2007). Patterns of Residual Criminal Careers among a Sample of Adjudicated French-Canadian Males. *Canadian Journal of Criminology and Criminal Justice*, *49*, 307-340.

Steffensmeier, D., Allan, E., Harer, M., & Streifel, C. (1989). Age and the Distribution of Crime. *American Journal of Sociology*, *94*, 803–831.