

Reinstatement Review Inventory: Assessment for Reinstatement of Drivers' Licenses

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Abstract

The validity of the Reinstatement Review Inventory (RRI) was investigated in a sample of 757 applicants. The RRI has six scales for measuring applicant risk of substance (alcohol and drugs) abuse, aggressive driver problems, applicant attitudinal and behavioral change, as well as applicants meeting requirements for reinstatement of their driver's license. Reliability analyses showed that all RRI scales have reliability coefficient alphas of between .85 and .95. RRI scales successfully discriminate between two groups: applicants with 2 or more DUI/DWI arrests scored significantly higher than applicants who had 1 or no such arrests. The Alcohol and Drugs scales identified applicants who admitted to drinking or drug problems, 99% and 100%, respectively. The Road Rage Scale correctly identified 100% of the applicants who admitted road rage problems. RRI classification of offender risk was shown to be within 2% of predicted risk range percentile scores for all RRI scales.

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Many drivers have their driver's licenses suspended or revoked for driving-related offenses, not just DUI/DWI offenses. In recent years there has been an increase in the number of instances of driver aggressiveness and even road rage. Assessment tests are often used to measure substance (alcohol and other drugs) abuse in offender populations. However, these tests would not identify aggressive drivers. There is a need for a test designed to measure both substance abuse and aggressive driver problems of applicants applying for reinstatement of their driver's license. The Reinstatement Review Inventory was designed especially for this purpose.

The present study validates the Reinstatement Review Inventory (RRI). The development of the RRI began at the request of the Arizona Department of Transportation, Motor Vehicle Division, Driver Improvement Unit. Its staff wanted an objective assessment instrument or test that would help in deciding whether or not an applicant's driver's license should be reinstated after it was suspended or revoked. There was staff consensus that the existing procedure of record review, character reference letters and interview would benefit from inclusion of an objective, automated (computer scored) and standardized self-report assessment instrument or test.

Behavior Data Systems, Ltd. psychologists individually interviewed Driver Improvement Unit staff. Staff interviews resulted in identification of areas of inquiry, that would later become measures or scales. Then three doctorate level psychologists that were familiar with each scales definition and purpose independently developed many (hundreds) potential scale items. Subsequently these psychologists sorted potential items into scale groups. Mutual agreement items were retained and subsequent items were reviewed. Items with the best statistical properties were retained and included in the Reinstatement Review Inventory (RRI).

The desire to shorten the original RRI test and include the Road Rage Scale resulted in the revised RRI. RRI scales measure alcohol and drug abuse severity (Alcohol & Drugs Scales), aggressive driver problems (Road Rage Scale), attitude and behavioral change (Comparative Change Scale) and compliance to requirements for driver's license reinstatement (Intervention Checklist). In addition, the Truthfulness Scale measures applicant truthfulness, denial and problem minimization while completing the test. Truthfulness Scale scores are used for truth-correcting other scale scores.

The participants were applicants who were assessed for reinstatement of their driver's license after it was suspended or revoked. The data for this study was obtained from the agencies that used the RRI. Two validation methods were used in this study. The first method (discriminant validity) compared scale scores between two participant groups. Group 1 consisted of applicants who had one or no DUI/DWI arrest. Group 2 consisted of applicants who had two or more DUI/DWI arrests. It was hypothesized that multiple offenders (Group 2) would score significantly higher than participants who had 0 or 1 arrest (Group 1). Multiple offenders would be expected to score higher because having a second arrest is indicative of a serious problem.

The second validation method (predictive validity) examined the accuracy at which the RRI identified problem drinkers, drug abusers and seriously aggressive drivers. In the RRI, alcohol, drug and aggressive driver (road rage) problem information is obtained from the participants' responses to test items. Participants who admitted to drinking, drug or road rage problems would be expected to score in the corresponding scale's problem range. For criteria the

following test items were used, “I have a drinking problem.” “I have a drug problem.” “I have threatened or physically hurt another driver.”

For predictive validity analyses, applicants were separated into two groups, those who admitted to a problem and those who did not admit to a problem. Then, applicant scores on the relevant RRI scales were compared. It was predicted that applicants with an alcohol, drug or road rage problem would score in the problem risk range (70th percentile and above) on the Alcohol, Drugs or Road Rage Scales. Non-problem was defined in terms of low risk scores (39th percentile and below). The percentage of applicants who admitted to a problem and also scored in the 70th percentile range and above was a correct identification of problems. High percentages of applicants with problems and elevated problem risk scores would indicate the scales are valid.

Method

Subjects

The participants in this study were 757 applicants for reinstatement of their drivers' licenses. Both court service providers and professional community service agencies provided data for this study. Test data was collected during the year 2002. There were 676 (89.3%) males and 81 (10.7%) females. The ages of most of the participants ranged from 20 through 50 as follows: 20-29 (8.9%); 30-39 (46.6%); 40-49 (31.2%); 50-59 (8.9%), 60 & Over (4.5%). Demographic composition of the participants was the following. Race/ethnicity: Caucasian 66.2%, Black 30.6%, Hispanic 1.9%, Other 1.4%. Education: 8th grade or less 3.4%, Some high school 19.6%, High school graduate 47.9%, Some college 16.5%, College graduate 6.9%, missing information (5.8%). Marital Status: Single 45.2%, Married 31.3%, Divorced 17.0%, Separated 4.2%, Widowed 2.3%.

The applicants' court histories were obtained from their RRI answer sheets. Participants reported this information and staff verified the information provided. One percent of the applicants had no DUI/DWI arrest, 14.2% had one arrest, 27.7% had two arrests, 40.5% had three arrests and 16.7% had four or more DUI/DWI arrests. The applicants who had one or no arrests were designated as Group 1. Participants who had two or more arrests (multiple offenders) were designated as Group 2. There were 120 (15.1%) participants in Group 1 and 637 (84.9%) participants in Group 2.

Seventy-five percent of the participants had one or more alcohol arrest and 28.9 percent had one or more drug arrest. Twenty percent of the participants had their driver's license suspended one or more times and 12.2% had two or more suspensions. Eighteen percent of the participants had their driver's license revoked one or more times and 1.4% had two or more revocations.

Procedure

Applicants completed the RRI as part of their evaluation for reinstatement of their driver's license. The RRI contains six measures or scales. These scales are briefly described as follows. The Truthfulness Scale measures truthfulness, denial and minimization of the applicant's problems while completing the RRI. The Alcohol Scale measures severity of alcohol use or abuse. The Drugs Scale measures severity of drug use or abuse. The Road Rage Scale measures severity of aggressive driver problems. The Comparative Change Scale identifies applicants who have experienced positive attitudinal and behavioral change since their driver's license was suspended or revoked. The Intervention Checklist clarifies the applicant's status in terms of meeting requirements for reinstatement of their driver's license.

Results and Discussion

The inter-item reliability coefficients (alpha) for the six RRI scales are presented in Table 1. All scales were highly reliable. Reliability coefficient alphas for all RRI scales were at or above 0.85. These results demonstrate that the RRI is a reliable test for applicants applying for their driver's license reinstatement. All coefficient alphas exceed the professionally accepted standard of .75 and all are significant at the $p < .001$ level.

Table 1. Reliability of the RRI

RRI Scale	Coefficient Alpha	Significance Level
Truthfulness Scale	.89	$p < .001$
Alcohol Scale	.91	$p < .001$
Drugs Scale	.91	$p < .001$
Road Rage Scale	.85	$p < .001$
Intervention Checklist	.90	$p < .001$
Comparative Change	.95	$p < .001$

Discriminant validity results are presented in Table 2. Group 1 (one or no DUI/DWI arrest) consisted of 120 applicants and Group 2 (multiple offenders) consisted of 637 applicants. In the comparisons of RRI scale scores, Group 2 applicants scored significantly higher than Group 1 applicants on the Alcohol Scale and Drugs Scale. Higher scores on these RRI scales are associated with more severe problems. The Truthfulness Scale showed that Group 1 scored significantly higher than Group 2. This means that Group 1 applicants minimized their problems more than did applicants in Group 2. The Road Rage Scale scores showed that there was no significant difference between the two groups. This may be due to the large number of DUI/DWI offenders in this sample. The Intervention Checklist and Comparative Change Scales were not included in this analysis because these scales are not measurement scales.

Table 2. Comparisons between Group 1 (1 or no DUI/DWI arrest) and Group 2 (2 or more DUI/DWI arrests).

RRI Scale	Group 1			Group 2			T-value
	Mean	SD	Max	Mean	SD	Max	
Truthfulness Scale	11.23	5.45	21	9.84	5.41	21	$t = 2.57^*$
Alcohol Scale	9.27	11.48	44	18.63	12.61	45	$t = 8.07^{**}$
Drugs Scale ^	5.09	8.77	44	14.16	13.12	44	$t = 6.13^{**}$
Road Rage	4.25	5.01	24	4.39	5.81	40	$t = 0.25$

^ Offender status defined by drug arrests. Significance levels: * $p < .01$, ** $p < .001$.

The Truthfulness Scale showed that Group 1 scored significantly higher than Group 2. Truthfulness Scale results indicate that both groups tended to minimize their problems but that first offenders did so more often than multiple offenders. The results of the Road Rage Scale indicate that applicants did not differ in their severity of road rage problems. This result may only be due to the composition of the applicant sample, which were mostly DUI/DWI offenders.

As expected, multiple offenders scored significantly higher on the Alcohol Scale and Drugs Scale than did applicants with one or no DUI/DWI arrest. The Alcohol and Drugs Scales results support the discriminant validity of the RRI Alcohol and Drugs Scales. The applicants who were believed to have more severe problems (multiple offenders) scored significantly higher on these scales than applicants with one or no arrest.

Predictive validity results for the correct identification of problems (drinking and drug abuse) are presented in Table 3. Table 3 shows the percentage of applicants who admitted to having problems. They also scored in the problem risk range on the Alcohol and Drugs scales. “Problem behavior” meant the applicant admitted to having a drinking or drug problem. Other RRI scales are not included in this analysis because of a lack of criterion items.

For the Alcohol Scale comparisons between problem risk and low risk participants, there were 200 applicants who admitted to drinking problems. These applicants were considered problem drinkers. Indeed, 199 of these 200 participants, or 99.5 percent, had Alcohol Scale scores at or above the 70th percentile. The Alcohol Scale correctly identified nearly all (99.5%) of the applicants classified as problem drinkers. These results support the validity of the Alcohol Scale.

Table 3. Predictive Validity of the RRI

<u>RRI Scale</u>	<u>Correct Identification of Problem Behavior</u>
Alcohol	99.5%
Drugs	100%
Road Rage	100%

The Drugs Scale accurately identified applicants having drug problems. There were 127 applicants who admitted to drug problems. All 127 of these applicants, or 100 percent, had Drugs Scale scores at or above the 70th percentile. This result support the validity of the Drugs Scale. The Road Rage Scale correctly identified all of the applicants who admitted having road rage problems. There were 42 applicants who admitted threatening or hurting another driver. All 42 applicants scored in the problem range on the Road Rage Scale. This result supports the validity of the Road Rage Scale.

For ease in interpreting applicant risk, RRI scale scores were divided into four risk ranges: low risk (zero to 39th percentile), medium risk (40 to 69th percentile), problem risk (70 to 89th percentile), and severe problem risk (90 to 100th percentile). By definition the expected percentages of applicants scoring in each risk range (for each scale) is: low risk (39%), medium risk (30%), problem risk (20%), and severe problem risk (11%). Scores at or above the 70th percentile would identify applicants as having problems.

The above predictive validity results lend support for using these particular percentages. The 70th percentile cut off for problem identification correctly classified 95 percent or more of problem applicants. The low risk level of 39 percent avoids putting a large percentage of applicants into a “moderate” range.

Risk range percentile scores were derived by adding points for test items and court history an then converting them to percentages. These results are presented in Table 4. Risk range percentile scores represent “degree of severity.” Analysis of the RRI risk range percentile scores involved comparing the applicant’s obtained risk range percentile scores to predicted risk

range percentages as defined above. These percentages are shown in parentheses in the top row of Table 4. The actual percentage of applicants scoring in each of the four risk ranges was compared to these predicted percentages. The differences between predicted and obtained are shown in parentheses.

Table 4. Accuracy of RRI Risk Range Percentile Scores

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness Scale	41.1	(2.1)	29.4	(0.6)	19.5	(0.5)	10.0	(1.0)
Alcohol Scale	38.4	(0.6)	31.0	(1.0)	19.8	(0.2)	10.8	(0.2)
Drugs Scale	38.0	(1.0)	31.2	(1.2)	20.8	(0.8)	10.0	(1.0)
Road Rage Scale	40.7	(1.7)	28.8	(1.2)	20.1	(0.1)	10.4	(0.6)
Intervention Checklist	40.2	(1.2)	29.1	(0.9)	19.5	(0.5)	11.2	(0.2)
Comparative Change	39.8	(0.8)	29.8	(0.2)	19.4	(0.6)	11.0	(0.0)

As shown in Table 4, the objectively obtained percentages of participants falling in each risk range were very close to the expected percentages for each risk category. All of the obtained risk range percentages were within 2.1 percentage points of the expected percentages and many (19 of 24 possible) were within one percentage point. Only one obtained percentage was two percent or more from the expected percentages and that was the Truthfulness Scale low risk (2.1%). These results demonstrate that risk range percentile scores are very accurate.

Conclusions

This study demonstrated that the RRI is a reliable and valid assessment instrument or test for applicants trying to get their driver’s licenses reinstated. Reliability results showed that all six RRI scales are highly reliable. Reliability is necessary for accurate measurement of applicant risk. This study supports the reliability, validity and accuracy of the RRI.

Discriminant validity analyses demonstrated that multiple offenders (had two or more DUI/DWI arrests) scored significantly higher than participants with one or no arrest. Predictive validity analyses demonstrated that the RRI identified applicants having substance abuse and road rage problems. The Alcohol, Drugs and Road Rage Scales correctly identified applicants who admitted to drinking, drug or road rage problems. Furthermore, obtained risk range percentages on all RRI scales very closely approximated predicted percentages. These results further support the validity of the RRI.

The RRI provides objective assessment for applicant risk of substance (alcohol and other drugs) abuse, aggressive driver problems and readiness for reinstatement of their driver’s license. The Intervention Checklist Scale gives information regarding applicant compliance to reinstatement requirements. Applicants completing requirements are in compliance. The Comparative Change Scale is an efficient way of assessing applicant attitude and behavior change. Evaluators often want to know if applicants have changed their bad habits and if they will refrain from problem behavior in the future. The RRI provides a wealth of information toward answering these questions.