

Reinstatement Review Inventory - II: Applicants for Drivers' Licenses Reinstatement

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Abstract

The validity of the Reinstatement Review Inventory - II (RRI-II) was investigated in a sample of 249 applicants. The RRI-II has six scales for measuring applicant risk of substance (alcohol and drugs) abuse, emotional and mental health 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-II scales have reliability coefficient alphas of between .85 and .89. RRI-II 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, 98% and 100%, respectively. RRI-II classification of offender risk was shown to be within 2% of predicted risk range percentile scores for all RRI-II scales.

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The present study validates the Reinstatement Review Inventory - II (RRI-II). The RRI-II is the revised version of 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 Stress Coping Abilities Scale resulted in the revised RRI or RRI-II. RRI-II scales measure alcohol and drug abuse severity (Alcohol & Drugs Scales), emotional or mental health problems (Stress Coping Abilities 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-II. 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-II identified problem drinkers and problem drug abusers. In the RRI-II, alcohol and drug problem information is obtained from the participants' responses to test items. Participants who admitted to drinking or drug 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."

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-II scales were compared. It was predicted that applicants with an alcohol and/or drug problem would score in the problem risk range (70th percentile and above) on the Alcohol and/or Drugs 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

There were 249 applicants tested with the RRI-II. Data for this study was provided by both court service providers and professional community service agencies that use the RRI-II. Test data was collected during the year 2002. There were 201 males (80.7%) and 48 females (19.3%). The ages of most of the participants ranged from 20 through 50 as follows: 19 & Under (1.2%); 20-29 (18.1%); 30-39 (34.5%); 40-49 (32.9%); 50-59 (10.8%), 60 & Over (2.4%). Demographic composition of the participants was as follows. Race/Ethnicity: Caucasian (83.9%); Black (1.6%), Hispanic (13.3%) and Other (1.2%). Education: Eighth grade or less (4.0%); Some high school (12.4%); High school graduate/GED (53.4%); Some college (16.5%) and College graduate (4.4%). Marital Status: Single (45.5%); Married (33.6%); Divorced (19.3%) and Widowed (1.6%).

The applicants' court histories were obtained from their RRI-II answer sheets. Participants reported this information and staff verified the information provided. Nearly one-fourth of the applicants had one or no DUI/DWI arrests, 20.6% had one arrest, 49.8% had two arrests, 22.6% had three arrests and 5.4% 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 60 (24.1%) participants in Group 1 and 189 (75.9%) participants in Group 2.

Eighty-five percent of the participants had one or more alcohol arrest and 16.4 percent had one or more drug arrest. One-third (67.7%) of the participants had their driver's license suspended one or more times and 52.1% had two or more suspensions. Over half (58.7%) of the participants had their driver's license revoked one or more times and 33% had two or more revocations.

Procedure

Applicants completed the RRI-II as part of their evaluation for reinstatement of their driver's license. The RRI-II 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-II. The Alcohol Scale measures severity of alcohol use or abuse. The Drugs Scale measures severity of drug use or abuse. The Stress Coping Abilities Scale measures how well the applicant handles stress, pressure and anxiety. 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-II scales are presented in Table 1. All scales were highly reliable. Reliability coefficient alphas for all RRI-II scales were at or above 0.85. These results demonstrate that the RRI-II 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-II

RRI-II Scale	Coefficient Alpha	Significance Level
Truthfulness Scale	.89	p<.001
Alcohol Scale	.86	p<.001
Drugs Scale	.86	p<.001
Intervention Checklist	.88	p<.001
Comparative Change	.85	p<.001
Stress Coping Abilities	.89	p<.001

Discriminant validity results are presented in Table 2. Group 1 (one or no DUI/DWI arrest) consisted of 60 applicants and Group 2 (multiple offenders) consisted of 189 applicants. In the comparisons of RRI-II scale scores, Group 2 applicants scored significantly higher than Group 1 applicants on the Alcohol Scale and Drugs Scale. Higher scores on these RRI-II scales are associated with more severe problems. The Truthfulness Scale and Stress Coping Abilities Scale showed that there were no significant differences between Group 1 and Group 2. This means that both groups (1 & 2) were equally honest when tested. And both groups found the application process equally stressful. 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-II Scale	Group 1			Group 2			T-value
	Mean	SD	Max	Mean	SD	Max	
Truthfulness Scale	9.95	5.30	18	9.60	8.31	18	t = 0.30
Alcohol Scale	12.35	8.54	37	19.12	10.33	40	t = 5.07**
Drugs Scale *	4.81	6.76	30	10.83	7.66	36	t = 2.99**
Stress Coping Abilities	154.73	44.86	240	150.02	46.54	240	t = 0.69

* Offender status defined by drug arrests. ** Significant at the p < .001 level.

Note: The Stress Coping Abilities Scale is reversed in that the higher the score the better one copes with stress.

The Truthfulness Scale and Stress Coping Abilities Scale showed that Group 1 and Group 2 were not significantly different in their scale scores. Truthfulness Scale results indicate that both groups tended to minimize their problems. Perhaps the applicants were aware that their driving records would be checked. The results of the Stress Coping Abilities Scale indicate that applicants, whether first offender or multiple offender, demonstrate similar stress reactions. Stress exacerbates emotional and mental health symptomatology. Both groups tended to handle stress at similar levels.

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-II 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-II 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 69 applicants who admitted to drinking problems. These applicants were considered problem drinkers. Indeed, 68 of these 69 participants, or 98.6 percent, had Alcohol Scale scores at or above the 70th percentile. The Alcohol Scale correctly identified nearly all (98.6%) of the applicants classified as problem drinkers. These results support the validity of the Alcohol Scale.

Table 3. Predictive Validity of the RRI-II

<u>RRI-II Scale</u>	<u>Correct Identification of Problem Behavior</u>
Alcohol	98.6%
Drugs	100%

The Drugs Scale accurately identified applicants having drug problems. There were 16 applicants who admitted to drug problems. All 16 of these applicants, or 100 percent, had Drugs Scale scores at or above the 70th percentile. These results support the validity of the Drugs Scale.

For ease in interpreting applicant risk, RRI-II 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 and then converting them to percentages. These results are presented in Table 4. Risk range percentile scores represent “degree of severity.” Analysis of the RRI-II 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-II Risk Range Percentile Scores

Scale	Low Risk (39%)		Medium Risk (30%)		Problem Risk (20%)		Severe Problem (11%)	
Truthfulness Scale	39.0	(0.0)	28.1	(1.9)	22.1	(2.1)	10.8	(0.2)
Alcohol Scale	37.8	(1.2)	30.1	(0.1)	20.1	(0.1)	12.0	(1.0)
Drugs Scale	38.7	(0.3)	30.5	(0.5)	20.4	(0.4)	10.4	(0.6)
Intervention Checklist	40.2	(1.2)	29.1	(0.9)	19.5	(0.5)	11.2	(0.2)
Comparative Change	38.7	(0.3)	32.0	(2.0)	18.1	(1.9)	11.2	(0.2)
Stress Coping Abilities	39.0	(0.0)	30.9	(0.9)	19.3	(0.7)	10.8	(0.2)

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 (18 of 24 possible) were within one percentage point. Only two obtained percentages were two percent or more from the expected percentages and they were the Truthfulness Scale problem risk (2.1%) and the Comparative Change Scale medium risk classification (2.0%). These results demonstrate that risk range percentile scores are very accurate.

Conclusions

This study demonstrated that the RRI-II 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-II scales are highly reliable. Reliability is necessary for accurate measurement of applicant risk. This study supports the reliability, validity and accuracy of the RRI-II.

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-II identified applicants having substance abuse problems. The Alcohol and Drugs Scales correctly identified applicants who admitted to drinking or drug problems. Furthermore, obtained risk range percentages on all RRI-II scales very closely approximated predicted percentages. These results further support the validity of the RRI-II.

The RRI-II provides objective assessment for applicant risk of substance (alcohol and other drugs) abuse, emotional or mental health 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-II provides a wealth of information toward answering these questions.