

The Development and Validation of the Safety Express Scale

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Express Assessments were created to provide quick yet accurate assessments of job applicant attitudes in key areas. The Safety Express scale was designed to best approximate the content and validity of the Personnel Selection Inventory (PSI®) and Reid Report® Safety scales in a brief, ten-item format. Specifically, the Safety Express scale is designed to provide a quick measure of compliance with safety procedures, belief that safe behavior prevents accidents, and positive attitudes toward workplace safety.

Results Summary

The ten-item Safety Express produced the following statistics:

- Predictive validity averaging $r = .31$ with supervisor evaluations in three samples ($n=246$) and $r = .16$ with Department of Motor Vehicle criteria in one sample ($n=288$).
- The scale consists of three factors, Responsibility for control of accidents, Fatalism about accidents, and Disregard for rules.
- Given the three factor structure, the internal consistency of the scale is acceptable, $\alpha = .57$.
- Dichotomous classification accuracy averages 76% across four samples.
- A recommended cut score of 26/27 (4 pt. response format) produces a 16.4 % High Risk rate among job applicants.
- No indication of adverse impact as a function of gender or race.
- Percentiles are established on 3,559 job applicants.

DEVELOPMENT AND VALIDATION OF THE SAFETY EXPRESS SCALE

The Safety Express scale was developed using four sets of job incumbents, one from a utility organization, two from food retailers, and the fourth and final set of job applicants from a transportation organization.

Existing Safety scale attitude items were selected on the basis of their correlations with averaged supervisor evaluations across a variety of safety dimensions. Several different combinations of Safety items were examined for their predictive validity and interpretability.

A set of ten items proved to be consistently correlated with employee performance. The set of 10 chosen items included 3 with pro-safety and 7 with anti-safety content. The ten-item Safety Express scale correlated $r = .31$ with supervisor evaluations of the employee’s adherence to safety rules, and $r = .16$ with job applicants’ driving offenses, based on a combination of Department of Motor Vehicle records and admissions (see Table 1).

Table 1. Correlations between the Sales Express Scale Scores and Safety Issues in Four Samples

Samples	Criterion measure(s)	Correlation	Sample Size
Food retailer	Supervisor ratings	-.25	88
Utility company	Supervisor ratings	-.38	84
Food retailer	Supervisor ratings	-.31	74
Transportation company	DMV offenses	-.16	288

The Safety Express scale is composed of three underlying factors. The first factor is the employee's sense of Responsibility for safety, and belief that accidents are preventable. The second factor, Fatalism, involves the belief that employers, rather than employees, are responsible for accidents, and that accidents cannot be prevented. The third factor, Disregard, involves the willingness to ignore rules about both driving carefully and proper safety procedures, and annoyance at those who follow such rules.

Internal consistency analyses were conducted using job applicant data from a transportation and logistics firm. In that sample, internal consistency was moderate, $\alpha = .57$. Given that the correlations between the Responsibility, Fatalism and Disregard factors were modest (average $r = .124$), that alpha seemed reasonable.

Additional analyses were conducted to explore the classification accuracy and freedom from adverse impact of the Safety Express scale. With a cut score set at 16% in the validation samples, the scale achieved a classification accuracy of 76% against the validation criteria.

Evaluating the validation sample in terms of EEOC criteria, female pass rates were comparable to male pass rates in the norms sample. The pass rate of African-Americans and other protected groups did not diverge from that of whites in the norms sample.

The results described above indicate that Low Risk employees on the Safety Express scale are likely to demonstrate higher levels of personal responsibility for their own safety, greater regard for safety rules, and less risky behaviors than High Risk job applicants. The combination of high validity, acceptable reliability, and freedom from adverse impact indicates that the Safety Express scale will serve as a valuable applicant screening tool.