Identifying Driver Safety Risk Factors by Assessing Attitude, Values & Personality

Background: *TalentClick and 4 transportation companies collected a research data sample to determine the relationship between attitude, values and personality and high-risk driving behaviors in order to predict and decrease road incidents.*

The Companies' objectives were to:

1. To establish which personality characteristics in operators are linked to safety outcomes such as injuries, collisions, moving violations, company rule violations.

2. To help create a business intelligence tool which can be used to:
   - help hire safer drivers
   - help train & coach existing drivers
   - help create a predictive analytics tool which insurance companies may possibly use to reduce insurance premiums for safer drivers and/or companies.

Data Analyzed:

- 4 companies participated with a total of 176 driver participants.
- TalentClick collected job performance data and driver safety-incident data involving any of the 176 drivers.
- TalentClick analyzed safety incidents, job performance ratings and telematics data in relation to assessment scores on 19 behavioral traits.

About the AVP

TalentClick specializes in workforce analytics and online behavioral assessments. Our assessments provide business intelligence to help organizations make better decisions in hiring, training, and performance management. The solution utilized in this research study is called the AVP (Attitude, Values, Personality) which creates actionable hiring and coaching insights from a number of different reports, all derived from one 10-15 minute questionnaire.

1. DSQ (Driver Safety Quotient)
2. SQ (Safety Quotient)
3. WPP (Workstyle & Performance Profile)
4. WVA (Work Values & Attitude)

FINDINGS

'IMPULSIVE' DRIVERS have a

68%

higher
At-Fault Crash Rate

'SPONTANEOUS' DRIVERS have

7.7 X

more
Traffic Violations

'DISTRACTIBLE' DRIVERS HAVE A

80%

higher rate of
Vehicle Damage

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Highlights of Findings

The data analysis involved examining the relationships between the TalentClick assessment data and the driver safety incident data.

1. Drivers with certain personality traits have elevated levels of risk for:

- Violations/tickets, crashes, equipment damage.
- Problematic telematics data (lane handling, acceleration, speeding, cornering).

2. Job Performance Ratings do not appear to be a valid measure of driver performance.

- They did not correlate with driving or personality data.
- Most drivers were given a 4/5 or 5/5 rating regardless of incident history.

3. An 'Ideal Profile' based on this analysis can be used for driver hiring and training

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Top Personality-based RISK factors:

1. Rule-following
2. Focus/distraction
3. Caution in decision-making

4. Achievement-focus/effort
5. Stress Tolerance
6. Care for others/empathy

Incident Type #1 – At-Fault Crashes

- Drivers who scored high on the 'Rule-Resistant' dimension had a crash rate that was 1.5 times higher than others (53% higher crash rate).
- Drivers who scored high on 'Impulsive' had a history of crashes that was 1.7 times higher than others (68% higher crash rate).

Incident Type #2 – Violations (Traffic Tickets)

- Drivers who scored high on the 'Spontaneous' dimension had violation rate that was 7.7 times higher than others (667% higher violation rate).
- Drivers who scored high on 'Distractibility' had a 3.9 times higher rate of past violations (295% higher violation rate).

Incident Type #3 - Damage to Equipment and Machinery

- Drivers who scored high on 'Distractibility' had a history of equipment damage that was 1.8 times higher than average (80% higher equipment damage rate).
- Drivers who scored high on 'Impulsive' had a history of equipment damage that was 1.7 times higher than average (70% higher equipment damage rate).

Highlights of Findings - Telematics Data

The data analysis involved examining the relationships between the TalentClick assessment data and historical driver safety incident data provided by the companies.

Lane Handling

- Drivers who scored high on 'Distractibility' had a telematics history of improper lane handling that was 5.8 times higher than average (480% higher telematics improper lane handling score).

Speeding

- Drivers who scored high on 'Impulsive' had a telematics history of speeding that was 2.2 times higher than average (120% higher telematics speeding score).
- Drivers who scored high on 'Impatient' had a telematics history of speeding that was 1.4 times higher than average (39% higher telematics speeding score).

Acceleration

- Drivers who scored high on 'Impulsive' had a telematics history of excessive acceleration that was 2.9 times higher than average (190% higher telematics acceleration score).

Patterns in Analysis
Using Workforce Insights To Create an "Ideal Profile"

Through analysis, the Companies learned that by hiring more "ideal profile" employees who are less **Impulsive, Distractible, Spontaneous, Irritable and Rule-Resistant**, they could improve the safety of their workforce, saving time, money and lives. The Companies gained:

A clear view of which personality traits were most strongly linked to driving incidents, near misses and property damage. Knowing these risk factors helps ensure the most effective hiring, training, coaching and development programs are available.

A better understanding of how to develop workers by identifying potential challenge areas with the DSQ™ and providing tailored coaching and development skills to compensate for performance "gaps."

An understanding of the overall level of personality safety risk and which drivers or teams require the most attention to optimize performance.

Recommendations for Moving Forward
Using Workforce Insights To Make Better Hiring & Training Decisions

1. Use Dimensions to Make Personnel Decisions

Consider training, coaching and self-coaching initiatives that emphasize key dimensions.

2. Develop "Ideal Profiles" of High Performing Employees

Consider setting "Ideal Profile" ranges for specific job types to screen job applicants.

3. Optimize Job Performance Ratings

Investigate the guidelines for the Job Performance Ratings to ensure that they are as fair and objective as possible and fit the data-driven "ideal job profile."

4. Analyze Long-Term Patterns

We strongly recommend further data analysis to identify long-term trends. This would produce a more complete data set that can be used to guide holistic human resource policies and safety programs.

Recommendations for Hiring:

1. Assess ALL driver candidates.

2. Exercise caution with candidates who have scores outside the Ideal Profile.

3. Use personalized interview questions to probe potential problem areas.

Recommendations for Training and Coaching:

1. Use the assessment as a training and post-incident tool.
2. Use the assessment results to guide extra training and coaching.
3. Provide Participant copies of results to drivers for self-awareness.