



Merchants Integrity Test 
Senior Living Community Validity Report

**Data from
May 11, 2011 to April 30, 2016**

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EXECUTIVE SUMMARY

A growing body of literature supports the validity of pre-employment integrity testing as a valid predictor of employee counterproductive work behavior (e.g., theft, sabotage), employee performance, and turnover (Berry, Sackett, & Wiemann, 2007; Van Iddekinge, Roth, Raymark, & Odle-Dusseau, 2012). Further, the Merchants Integrity Test (hereafter, MIT) has demonstrated validity in reducing workers' compensation claims (Cooper, Slaughter, & Gilliland, 2014; Oliver, Shafiro, Bullard, & Thomas, 2012).

This report summarizes the results of statistical analyses of the Company's data for MIT test-takers (12,240 in total) from the period of November 20, 2013 to April 30, 2016. We found that the MIT was effective in screening out 26.5% of the total test takers, which means that 26.5% of all test-takers failed at least one section of the test (drugs, theft, hostility, and/or faking). For the individual sections, we found that 8.4% the test-takers failed the theft section; 4.5% failed the drugs section, .2% failed the hostility section, and 15.7% failed the faking section.

We also examined the validity of the MIT screening in reducing workers' compensation claim costs and the lost days of work due to workers' compensation claims. We compared costs and days lost for the 31 months prior to implementation of the MIT (May 2011 – November 2013) with the 30 months following implementation (November 2013 – April 2016). The Company realized a reduction of 15% in the cost of workers' compensation claims following testing. This reduction represents a savings of \$740,000 and an ROI on the cost of testing of 750%. The company also realized a 42% reduction in days lost to workers' compensation claims.

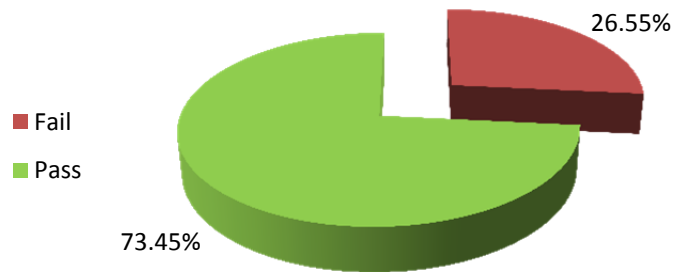
Given that the proportion of the senior living community employees who have been screened with the MIT increases over time as more applicants are screened, we also examined these savings for the most recent 12 months as compared to the 12 months immediately prior to testing. For the most recent 12 months, the Company realized a reduction of 50% in the cost of workers' compensation claims and the ROI on the cost of testing was 2200%. For the most recent 12 months, the Company also realized a 72% reduction in days lost to workers' compensation claims.

OVERVIEW OF MIT DATA

There were 12,240 applicants in our data sample from the period of November 20, 2013 to April 30, 2016. The overall passing rate was 73.5%. The following chart summarizes the risk data.

OVERALL PASSING RATES

Fail	3,250	26.5%
Pass	8,990	73.5%
Total	12,240	100.0%

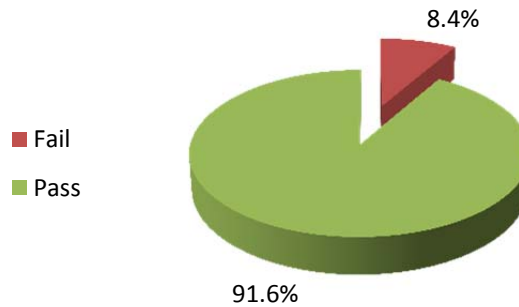


INDIVIDUAL SCALE RESULTS

The following results summarize the passing results for each of the MIT scales.

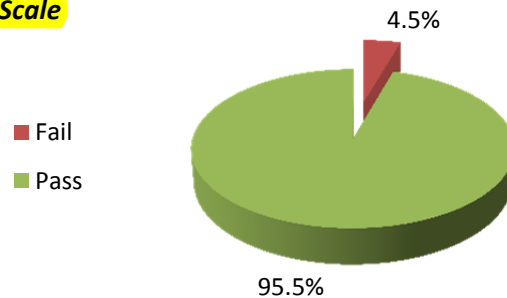
Theft Scale

Fail	1,026	8.4%
Pass	11,214	91.6%
Total	12,240	100.0%



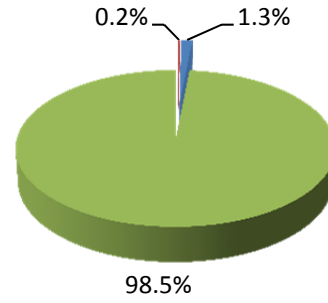
Drugs Scale

Fail	548	4.5%
Pass	11,692	95.5%
Total	12,240	100.0%



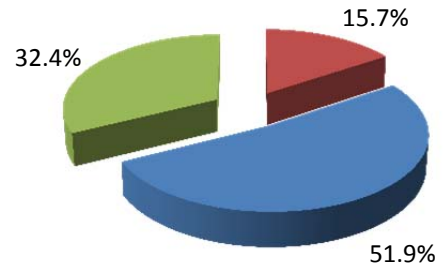
Hostility Scale

Fail	28	0.2%
Caution	160	1.3%
Pass	12,052	98.5%
Total	12,240	100.0%



Faking Scale

Fail	1,921	15.7%
Caution	6,355	51.9%
Pass	3,964	32.4%
Total	12,240	100.0%

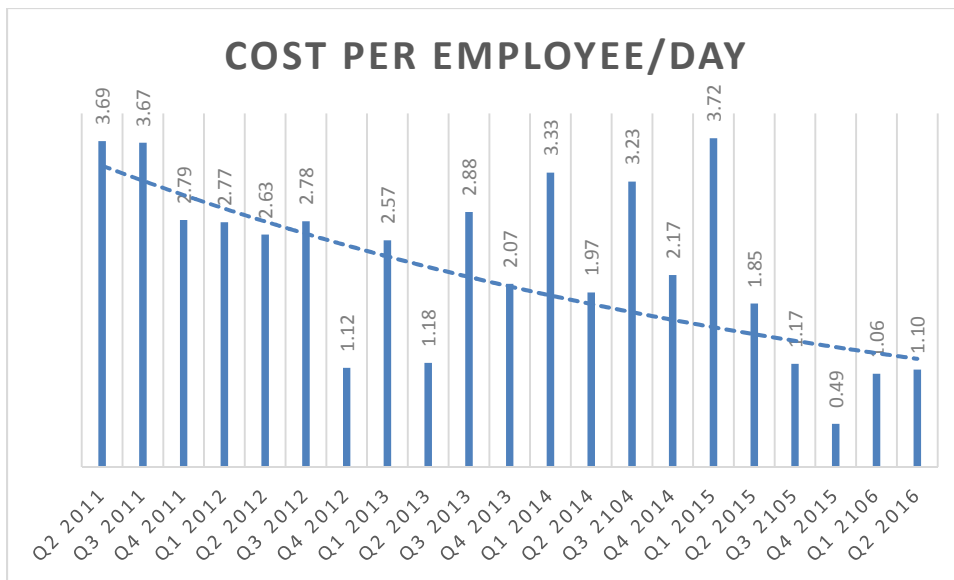


VALIDITY IN PREDICTING WORKERS' COMPENSATION CLAIMS

METHOD

Workers' compensation claim costs were compared for the 30 months prior to implementing MIT screening of applicants with the 30 months after implementing MIT screening. To account for any changes in the total size of the work force or number of work days, we controlled workers' compensation costs per employee per day. We also looked at the impact of MIT screening on the number of days lost to workers' compensation claims.

Cost per employee per day



When plotted across time, the trend clearly demonstrates decreasing workers compensation costs. MIT was implemented in the 4th Quarter 2013. To look more specifically at this trend, we compared workers compensation costs prior to and post implementation of the MIT.

Pre/Post Workers' Compensation Costs

Workers' Compensation Cost per Employee per Day

Test_Implemented	Mean	months
Pre	2.48	31
Post	2.12	30
Total	2.30	61

Before the test was implemented, the company spent \$2.48 per employee, per day on workers' compensation costs. After the test was implemented, the company spent \$2.12 per employee, per day on workers' compensation costs.

This is a reduction of \$.36 per employee, per day, or a 15% reduction in costs.

Stated differently, since the test was implemented, The Company has had an average of 2286 employees working for them (and this number is increasing). This means, that *each day*, The Company saved an average of \$823 on workers' comp costs.

Total savings in context of test costs:

In the study period, there have been 903 days since the test was implemented. At a savings of \$823 each day, this amounts to a savings of **\$743,169**. This compares very favorably to a total test cost of \$85,680. Therefore, the ROI for the impact of integrity testing on workers compensation was more than **750%**.

Analysis of More Recent Months

One would reasonably expect that the effects of the test would improve over time, as the ratio of tested employees to untested employees in The Company's workforce increases. Therefore, we also did analyses of the most recent one year, and compared this to the last one year prior to test implementation.

Most recent 12 months

Workers' Compensation Cost per Employee per Day

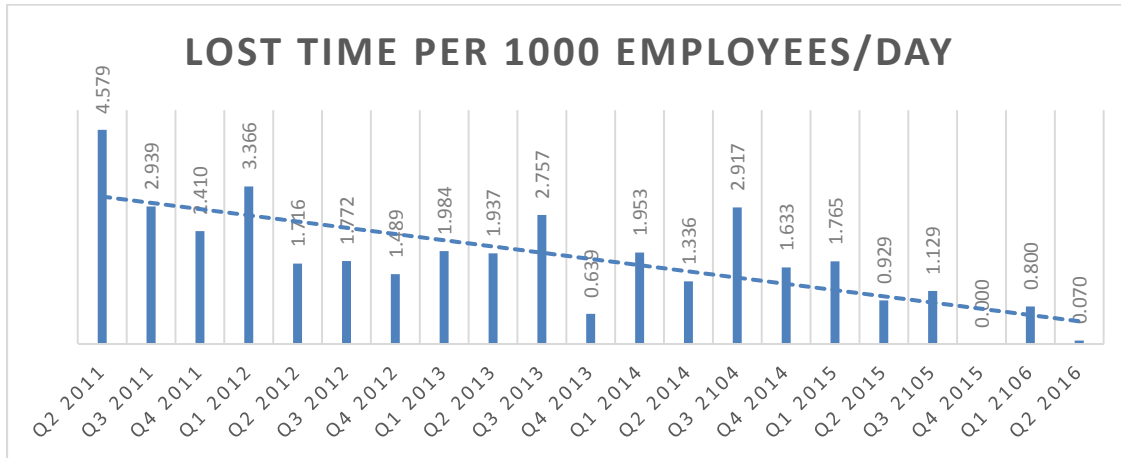
Test_Implemented	Mean	Months
Pre	1.89	12
Post	.95	12
Total	1.42	24

During the 12 months immediately prior to implementation (November 2012 through October 2013), The Company spent \$1.89 per day per employee on workers' compensation costs. In the most recent 12 months (May 2015 through April 2016), The Company spent about \$.95 per day per employee on workers' compensation costs. This is a 50% reduction in workers' compensation costs. That is, when adjusted for the number of employees working at The Company in any given month, the amount spent on WC costs were half of that spent prior to implementation.

The analysis of more recent months suggest that the ROI of 750% may actually be underestimating the true ROI of implementing the MIT. Based on the most recent 12 months and the average of 2341 employees working for The Company during that period, The Company saved approximately **\$800,000** over what they were spending during the 12 months prior to implementation of the MIT (when factoring in the different numbers of employees in these two time periods). During the most recent 12 months, The Company spend \$34,559 to screen 4937 potential applicants. Therefore, based on the most recent 12 months, the ROI for the impact of integrity testing on workers' compensation was **2215%**.

Days Lost Due to Workers' Compensation Claims

Another important indicator of the impact of MIT screening is to consider the number of days lost due to workers' compensation claims. As with claim costs, we controlled for the number of employees working and the number of days as both are likely to impact days lost. As can be seen in the following graph, there is a clear decreasing trend in the number of days lost.



We compared the average days lost prior to MIT implementation with days lost post MIT implementation.

Days Lost per 1000 Employees per Day

Test_Implemented	Mean	Months
Pre	2.27	31
Post	1.32	30
Total	1.80	61

Prior to MIT implementation, 2.27 days were lost per 1000 employees per day. After MIT implementation, 1.32 days were lost per 1000 employees per day. **This is reduction of 42% in lost time due to MIT screening.**

As with the cost of claims, these effects should be even greater as the proportion of employees screened with the MIT increases. To examine this possibility we compared the total days lost (per 1000 employees) in the most recent 12 months with the 12 months immediately prior to testing.

Total Days Lost per 1000 Employees in 12 Months

Test_Implemented	Total	Months
Pre	652	12
Post	180	12
Total	832	24

For the most recent 12 months, there were 472 fewer days lost per 1000 employees than were lost prior to MIT implementation. The reduction in days lost to workers compensation claims was 72%.

CONCLUSIONS

Based on our analysis of The Company applicants and workers' compensation claims prior to and following the implementation of MIT screening, we can draw the following conclusions:

1. The MIT test screened out approximately 26% of The Company applicants as being high risk. Examining individual scales, 8% were identified as high risk based on the theft scale, 4.5% based on the drug use scale, less than 1% based on the hostility scale, and almost 16% based on faking.
2. Comparing the 31 months prior to implementation of the MIT with the 30 months following implementation, The Company experienced a 15% reduction in workers' compensation claim costs. This reduction represents a savings of more than \$740,000. When factoring in the cost of the MIT, this reduction represents an ROI of 750%.
3. Given that the proportion of current The Company employees who have been screened with the MIT increases over time as more people are tested, the impact of MIT testing increases over time. For the most recent 12 months, the reduction in workers' compensation claims was 50% and the ROI on MIT screening was more than 2200%.
4. Similar results are seen when examining reduction in days lost due to workers' compensation claims. Across the 61 months study period, the reduction in days lost was 42%. For the most recent 12 months, the reduction in days lost was 72%.

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