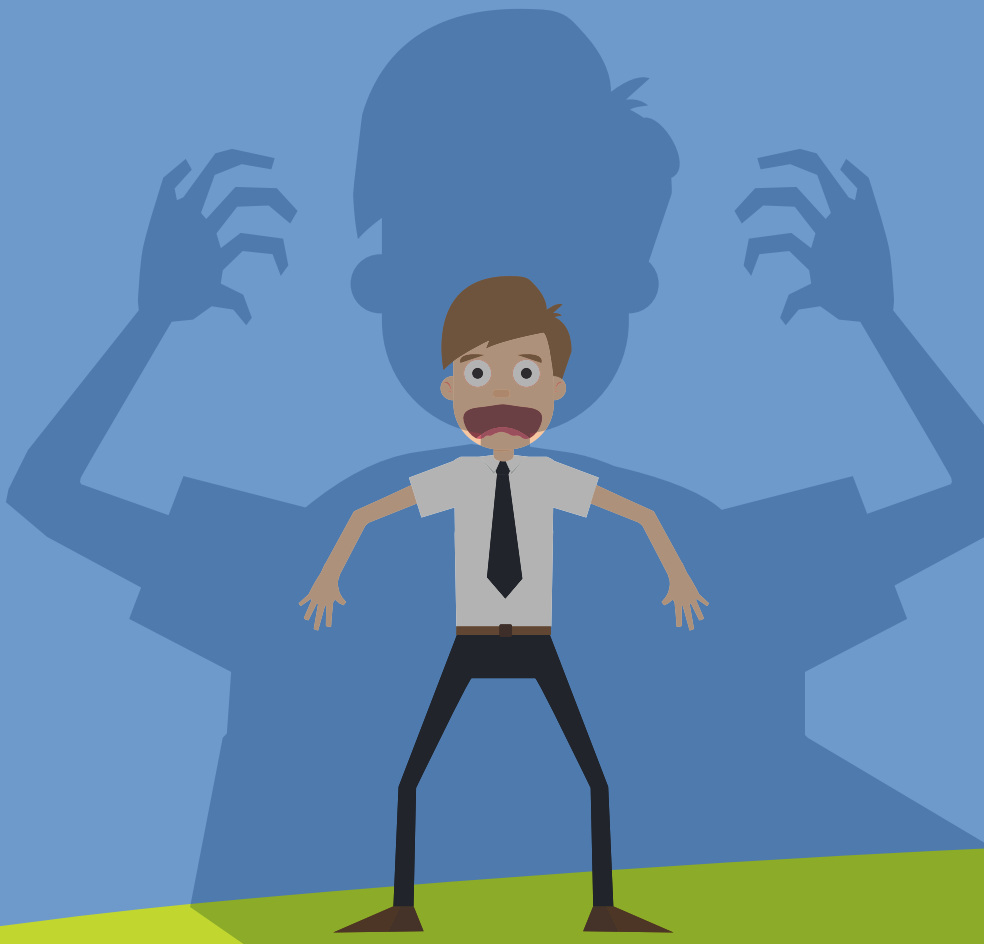
Cornerstone
ONDEMAND *Empowering People*

Toxic Employees in the Workplace

Hidden Costs and How to Spot Them



CONTENTS

CAN ONE BAD APPLE CAN REALLY SPOIL THE WHOLE BUNCH?

In this original Cornerstone OnDemand research, we take on the question of whether one bad apple can really spoil the whole bunch when it comes to “toxic employees” in the workplace.

Leveraging econometric analysis of a dataset of approximately 63,000 hired employees spanning approximately 250,000 observations, this report looks not only at the measurable costs of toxic behavior such as sexual harassment, theft and fraud, but also other, equally damaging and harder-to-measure costs. The report examines these indirect costs closely, looking particularly at the toll toxic employees take on co-workers, and concludes that these costs create an even larger financial burden on businesses than the direct impact of an employee’s misbehavior. Key report findings include:

- Good employees are 54 percent more likely to quit when they work with a toxic employee, if the proportion of toxic employees on their team grows by as little as one on a team of 20.
- As toxic employees make their co-workers significantly more likely to leave, replacement costs rise greatly; hiring a single toxic employee into a team of 20 workers costs approximately $12,800, whereas hiring a non-toxic employee costs an employer an average of $4,000.
- Toxic employees have a fairly negligible effect on the performance of their co-workers, which suggests that they have a stronger influence on stress and burnout than on day-to-day task completion.

CAN EMPLOYERS IDENTIFY TOXIC EMPLOYEES BEFORE IT'S TOO LATE?

The question is simple enough: can employers identify toxic employees before they've joined the organization to avoid their negative impact before it's too late? The ability to identify and avoid candidates that indicate a high likelihood of toxic behavior before they cause havoc in the workplace is tremendously valuable, and the report highlights warning signs, including a link between toxic behaviors and an applicant's dependability and customer service orientation.

Read Cornerstone's latest research report to better understand the true cost that a toxic employee imposes on the organization, as well as the ways in which it may be possible to mitigate the effects of this behavior before it even occurs.

"TOXIC EMPLOYEES" TAKE A HUGE TOLL ON COMPANIES THAT MAKE THE MISTAKE OF HIRING THEM.

Not only are there hard costs associated with sexual harassment lawsuits, workplace violence, theft, and fraud, but the even more caustic effects of their disruptive behavior— for example, workplace bullying—destroy the social fabric of the organization and have a negative impact on the performance of co-workers[1]. It's easy to spot these people once they've joined an organization, but what's much more difficult —and much more useful—is to identify them before they've been extended an offer. Is it possible to screen for these individuals before they accept that offer and put the organization at risk?

Previous research on this subject has primarily consisted of several theoretical papers and one unpublished empirical study. The study employed an experimental design to follow what happens when a problematic worker joins a team.

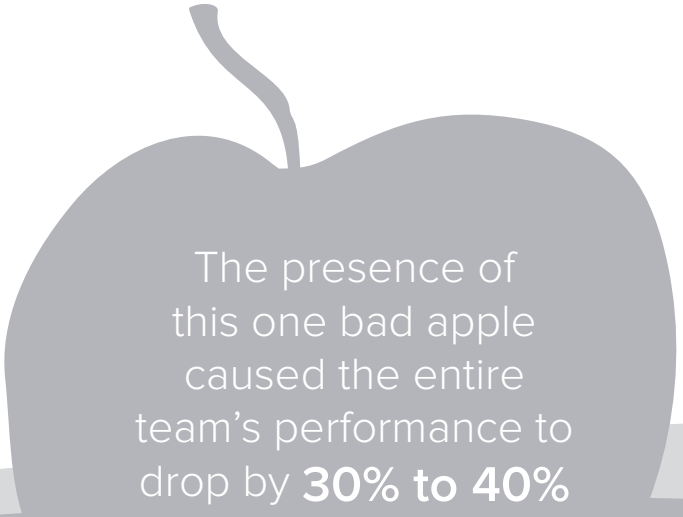
The researcher divided people into small groups and gave them a task while one member of the group—a hired actor—would act like a jerk, a slacker, or a depressive. He found that the presence of this one bad apple caused the entire team's performance to drop by 30% to 40% and, in fact, caused the rest of the team to start behaving in a similar manner. While highly interesting and relevant, the study was conducted as an experiment in a fairly controlled setting and does not necessarily lend insight into the caustic effects of toxic behavior that truly do occur in the workplace.

HOW DO YOU IDENTIFY TOXIC EMPLOYEES BEFORE THEY'VE BEEN EXTENDED AN OFFER?

In order to fill this gap, we leveraged our massive data network in order to answer two fundamental questions:

1. Can we identify the factors that make someone likely to engage in toxic behavior?
2. Can we quantify the impact that toxic employees have on their co-workers?

The answers to these two questions can help employers understand the true cost that a toxic employee imposes on the organization as well as the ways in which it may be possible to mitigate the effects of this behavior before it even occurs.

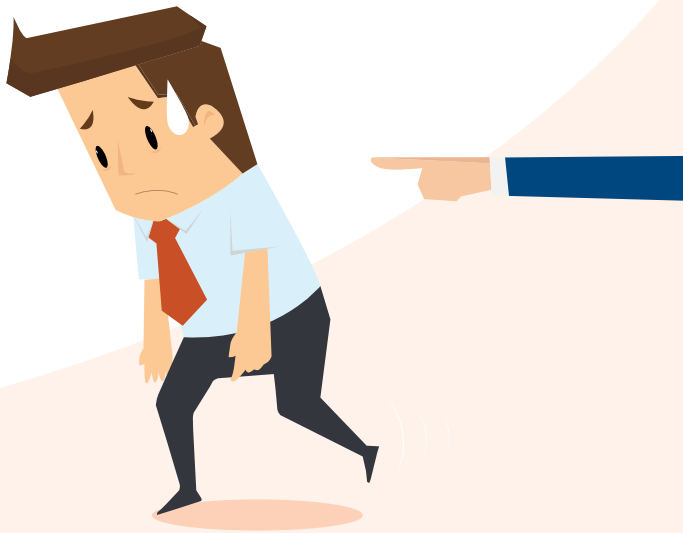


METHODOLOGY

In order to answer these two questions, we used a dataset of approximately 63,000 hired employees spanning approximately 250,000 observations, and identified those who were terminated for reasons related to toxic behavior. We defined “toxic behavior” as involuntary termination due to policy violations such as workplace violence, drug or alcohol abuse, sexual harassment, falsification of documents, and fraud. In other words, we defined toxic behavior to be the most egregious examples of employee misconduct and did not consider the impacts of the behaviors, which are likely to be far more prevalent. Across the entire sample, we found that about 3 to 5% of all employees met the criteria for being terminated as a toxic employee.

We then ran econometric models to actually measure the impact that toxic employees have on their co-workers. We assumed that employees working on the same team and managed by the same supervisor would have the closest exposure to each other and would experience the biggest impact from being on a team with a toxic employee. We then ran models intended to gauge the effect that toxic employees have on the following:

1. The likelihood of a team member being dismissed for toxic behavior.
2. The likelihood of a team member leaving voluntarily.
3. The workplace performance of team members.



Questions (1) and (2) deal with the timing until a discrete event, whereas question (3) concerns a metric that can change over time. As such, we utilized best-in-class econometric techniques to properly model each question[2]:

1. Employee departure: In order to model the time until employee departure, we utilized survival techniques to model the timing until a discrete event (in this case, employee departure for voluntary reasons or for toxic behavior)[3].

2. Employee performance: In order to model employee performance, we utilized panel data techniques to model daily outcomes data with multiple observations per employee[4].

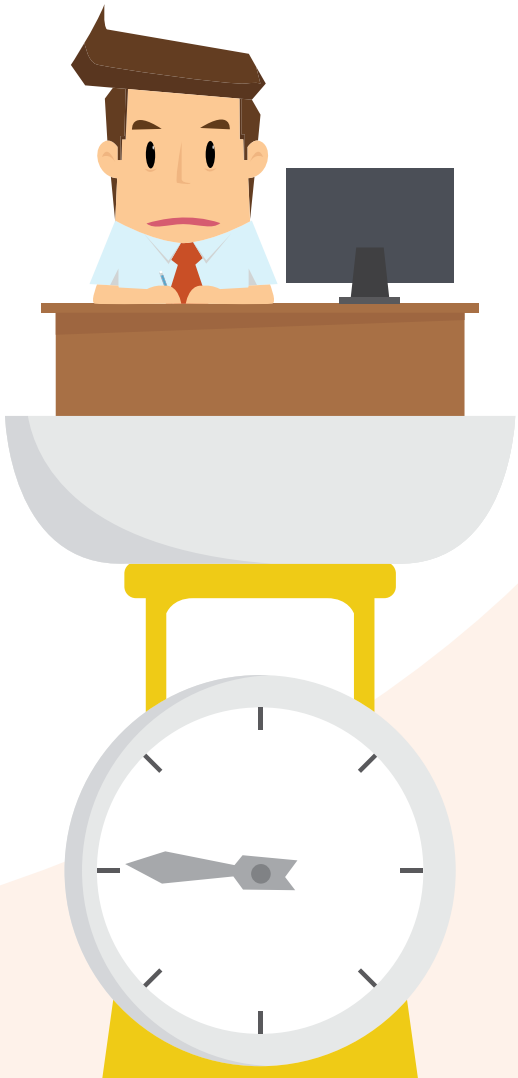
3-5% OF ALL EMPLOYEES MEET THE CRITERIA FOR BEING TERMNATED AS A TOXIC EMPLOYEE

We used several different measures of employee performance in order to look at the impact of toxic employees on different workplace outcomes. The two direct measures of employee performance that we used were:

1. Customer Satisfaction (CSAT): Score indicating how satisfied customers are with the service they receive.

2. Average Transaction Time (ATT): Average time an employee spends on a given customer transaction.

These two performance factors were chosen in particular to understand how the relationship between the quality and quantity of employees' work was impacted by the presence of toxic coworkers[5].



RESULTS

Self-proclaimed "rule followers" are 33% more likely to be toxic employees

Appendix 1 presents the results of our models predicting whether someone engages in toxic behavior. We found that the individuals who claimed to be rule followers were, in fact, more likely to break the rules. Those who endorsed the first option in this pair of statements had a 33% higher likelihood of being terminated for a policy violation:

1. I believe that rules are made to be followed.
2. Sometimes it's necessary to break the rules to accomplish something.

When we utilized a more sophisticated approach by comparing applicants' self-reported technical proficiencies to their actual computer skills, we found that individuals who were notably over-confident about their technical proficiencies were 43% more likely to engage in toxic behavior. These findings illustrate why it's important to administer assessment questions that are relatively "opaque"—where the right answer isn't immediately obvious.

Science-based hiring assessments can help screen out toxic employees

The opacity of assessment questions was also critical when we administered a science-based, online assessment that assigned applicants a color-coded score based on their responses: Green (highly qualified); Yellow (marginally qualified); and Red (less qualified).

The results suggest that applicants receiving a Green assessment score were 19% less likely to be terminated for a policy violation than those with a Red score. Likewise, applicants with a Yellow score were 15% less likely to be terminated for a policy violation. In other words, applicants who are more qualified for the job in the eyes of a science-based assessment are also less likely to engage in toxic behavior.

LOW SCORES ON ATTENDANCE & DEPENDABILITY AND SERVICE ORIENTATION ARE MOST PREDICTIVE OF TOXIC BEHAVIOR

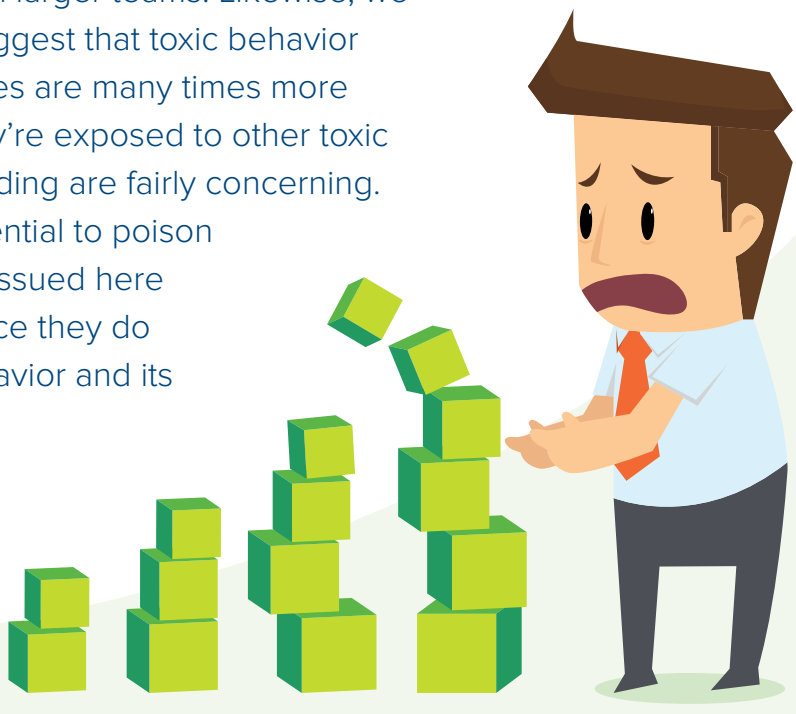
With the results of the hiring assessments in hand, we dug in a bit deeper to try to understand exactly which components of the assessment scores were most predictive of someone's likelihood of being a toxic employee. We found that toxic employees scored low on the following two competencies in the assessment:

1. Attendance and Dependability: A construct measuring the applicant's reliability and ability to show up to work on time.
2. Service Orientation: A construct measuring the applicant's orientation towards helping customers and solving their problems.

Based on these results, it would appear that toxic employees are not reliable individuals, and they are not inclined to help others. Although this is perhaps not surprising, these findings permit us to dependably identify characteristics we should be screening for at the point of application.

TOXIC BEHAVIOR IS CONTAGIOUS.

Independent of the individual attributes we identified, we found that toxic behavior is more likely to occur on larger teams. Likewise, we found extremely strong evidence to suggest that toxic behavior is contagious; in other words, employees are many times more likely to engage in toxic behavior if they're exposed to other toxic employees. The ramifications of this finding are fairly concerning. Namely, toxic employees have the potential to poison the entire well, and the cost estimates issued here should be considered conservative since they do not account for the spread of toxic behavior and its second-hand effects.



GOOD EMPLOYEES ARE 54% MORE LIKELY TO QUIT WHEN THEY WORK WITH A TOXIC EMPLOYEE

Moving from predicting toxic behavior to the consequences of this behavior, Appendix 2 presents the results of our survival models that predict the likelihood of a positive and productive employee leaving the organization voluntarily as a function of many different factors. Unlike with toxic departures, good employees are significantly more likely to depart voluntarily when they're a part of a smaller team. What's most interesting—although perhaps not entirely surprising—is that employees are approximately 54% more likely to depart an organization voluntarily if the proportion of toxic employees on their team grows by as little as one worker for every team of twenty good workers[6].

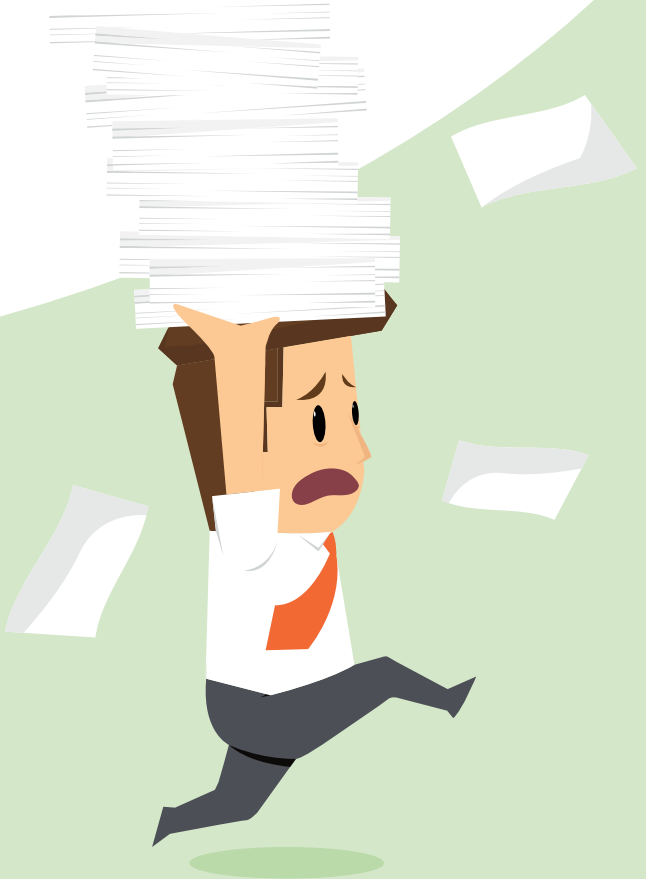
To understand the magnitude of this effect, let's consider a hypothetical example in which a toxic employee joins a team of twenty employees. If we conceptualize turnover as the attrition rate of total team membership, a 54% increase in this attrition rate results in an additional 10.9% of the team lost due to voluntary turnover over the average employment duration[7]. Given that the average replacement cost of recruiting, hiring, and training an hourly employee is $4,000, the cost of a single toxic employee stemming purely from increased voluntary turnover is approximately $8,800. Thus, the toxic employee costs over three times that of a non-toxic employee as a result of the replacement costs from turnover of co-workers and the toxic employee. Of course, this figure only measures a toxic worker's direct effect on the cost of maintaining a workforce and does not capture potential additional costs and risk borne from having a toxic worker engaged in noncompliant activities, some of which are illegal.

The cost of a single toxic employee stemming purely from increased voluntary turnover is approximately **$8,800**

We also explored the performance outcomes of toxic employees, first by looking at their performance data. Then, we explored whether the productivity of their teammates or the quality of their work product suffers due to the presence of someone who is toxic. Appendix 3 presents the results of our models that predict toxic departures as a function of employee performance, and they suggest that toxic employees are actually significantly more productive than their non-toxic counterparts and that they're able to complete tasks more quickly. However, there is a significant trade-off: the quality of their work product (as measured by customer satisfaction scores) is significantly poorer.

The results provide some evidence to suggest that toxic employees are more focused on the quantity of the work they produce than the quality of that work product.

Appendix 4 presents the results of our performance models. Interestingly, they suggest that the performance of those individuals working on the same team as a toxic employee does not suffer significantly. While somewhat surprising, this result does suggest that toxic employees have a far stronger impact on voluntary attrition than they do on day-to-day workplace performance. Perhaps toxic employees do not interfere with day-to-day activities but do create a caustic environment that has more long-term effects on employee stress, burnout, and peace of mind, as well as their propensity to ultimately engage in toxic behavior themselves.



CONCLUSION

This paper is the first non-experimental study that examines the effects of toxic behavior in the workplace. We initially set out to answer two questions:

1. Can we identify the factors that make someone likely to engage in toxic behavior?
2. Can we quantify the impact that toxic employees have on their co-workers?

We found that the answer to both questions was a resounding “yes”. To the first question, we found that toxic behavior is more prevalent in relatively large teams, perhaps because larger teams are more difficult to manage or monitor. We also found that everyone on a team is more likely to engage in toxic behavior if they work directly with a toxic co-worker. In other words, toxic behavior is contagious and can spread from co-worker to co-worker.

To the second question, we found that the indirect costs of toxic employees—as measured by the toll they take on co-workers—caused their employers even more financial burden than the direct costs of their misbehavior. Toxic employees make their co-workers significantly more likely to leave; hiring a single toxic employee into a team of twenty workers costs approximately $12,800, whereas hiring a non-toxic employee costs an employer an average of $4000. Interestingly, we also found that toxic employees have a fairly negligible effect on the performance of their co-workers, which suggests that they have a stronger influence on stress and burnout than on day-to-day task completion.

These findings are probably the tip of the iceberg for two reasons. First, we have chosen to focus this paper on the most egregious forms of toxic behavior—like sexual harassment, drug / alcohol abuse, and workplace violence—that are severe enough to be cause for termination. We do not look at lesser forms of toxic behavior—like employees that behave rudely, bully others, or undermine co-workers—that are far more prevalent in the workplace. Second, these figures do not take into account the fact that toxic behavior tends to be contagious and makes co-workers more susceptible to misconduct. For these reasons, our figures most likely represent fairly conservative estimates.

Our study is the first of its kind that uses actual workplace data to explore the impact of toxic employees. We find that in spite of their relatively low incidence (3-5% of all workers), their impact on co-workers and office culture is much more noticeable and much more costly than is immediately apparent. To that end, it is absolutely critical that employers focus their attention on avoiding toxic employees in the first place and, alternatively, do their best to identify and eradicate cancerous employee behavior quickly, before it has ripple effects on the bad behavior and voluntary departure of co-workers.

Cornerstone OnDemand is a leader in cloud-based applications for talent management. The company's solutions help organizations recruit, train, manage and engage their employees, empowering their people and increasing workforce productivity. Based in Santa Monica, California, the company's solutions are used by over 2,100 clients worldwide, spanning more than 18.1 million users across 191 countries and 42 languages.

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Appendix 1: Cox Model of Terminations for Toxic Reasons

Failure: Terminated Toxic Worker					
Variable	(1)	(2)	(3)	(4)	(5)
Green Score	-0.2176*** (-3.14)	-0.2026*** (-2.83)	-0.2295** (-2.15)	-0.2262** (-2.13)	-0.2263** (-2.13)
Yellow Score	-0.1635** (-2.27)	-0.1573** (-2.12)	-0.1912* (-1.75)	-0.1904* (-1.74)	-0.1886* (-1.73)
Rule Breaker Q1		-0.2180*** (-3.39)	-0.3082*** (-3.31)	-0.3145*** (-3.36)	-0.3173*** (-3.39)
Rule Breaker Q2		-0.0481 (-1.18)	-0.0673 (-1.17)	-0.0451 (-0.78)	-0.0437 (-0.76)
Confidence Score			0.3636*** (3.24)	0.3300*** (2.95)	0.3314*** (2.95)
Toxic Worker Density (%)				2.6439*** (8.06)	2.6238*** (7.99)
Work Group Size (N)				0.0001*** (4.48)	0.0001*** (4.38)
Position Controls N	No 260730	No 247658	No 126925	No 126925	Yes 126773

Note: Z scores reported in parentheses based on robust standard errors stratified at the sub-firm level.
* p<0.10, ** p<0.05, *** p<.01

Appendix 2: Cox Model of Voluntary Terminations

Failure: Voluntary Termination					
Variable	(1)	(2)	(3)	(4) (	5)
Green Score	-0.1791*** (-6.77)	-0.1627*** (-5.94)	-0.1785*** (-4.55)	-0.1742*** (-4.43)	-0.1750*** (-4.45)
Yellow Score	-0.1757*** (-6.37)	-0.1562*** (-5.49)	-0.1516*** (-3.74)	-0.1484*** (-3.66)	-0.1484*** (-3.66)
Rule Breaker Q1		0.0005 (0.02)	0.0572* (1.78)	0.0567* (1.77)	0.0594* (1.85)
Rule Breaker Q2		-0.0987*** (-5.71)	-0.1438*** (-6.06)	-0.1412*** (-5.95)	-0.1393*** (-5.85)
Confidence Score			0.1307*** (3.02)	0.1286*** (2.97)	0.1255*** (2.90)
Toxic Worker Density (%)				2.5537*** (8.27)	2.6357*** (8.57)
Work Group Size (N)				0.0000*** (3.41)	0.0000*** (3.64)
Position Controls N	No 213223	No 202814	No 102455	No 102455	Yes 102310

Note: Z scores reported in parentheses based on robust standard errors stratified at the sub-firm level.
* p<0.10, ** p<0.05, *** p<.01

Appendix 3: Cox Models of Terminations for Toxic Reasons (Including Performance)

Failure: Terminated Toxic Worker			
Worker and Environment	(1)	(2)	(3)
Customer Satisfaction	-1.5215* (-1.82)		-1.7027* (-1.76)
Average Transaction Time		-0.0034*** (-4.42)	-0.0038*** (-3.83)
Green Score	0.0141 (0.02)	-0.2078 (-0.76)	0.0566 (0.08)
Yellow Score	-0.2389 (-0.31)	-0.3706 (-1.32)	-0.2377 (-0.31)
Rule Breaker Q1	-0.1801 (-0.59)	-0.1105 (-0.59)	-0.1366 (-0.44)
Rule Breaker Q2	-0.3071* (-1.85)	-0.1814 (-1.60)	-0.2891* (-1.72)
Confidence Score	0.7287*** (2.70)	0.6642*** (3.32)	0.7292*** (2.69)
Toxic Workers Density (%)	0.1225 (1.64)	0.1048 (1.41)	0.1239 (1.63)
Work Group Size (N)	0.0022 (1.03)	0.0000 (1.09)	0.0022 (1.05)
N	5427	21033	5307

Note: Z scores reported in parentheses based on robust standard errors stratified at the sub-firm level and includes position controls. Performance fixed effects are estimated with controls for time, location, sub-firm, position, and a cubic function of experience.
* p<0.10, ** p<0.05, *** p<.01

Appendix 4: Predictors of Individual Performance

Dependent Variable: Individual level performance fixed effect			
	Performance Measure		
	CSAT	ATTA	TT
Worker and Environment(	1) (	2)	(3)
CSAT Performance			-0.3190 (-0.05)
Terminated for Misconduct (1,0)	0.0071 (1.09)	-16.7138*** (-6.72)	-14.8662*** (-6.02)
Toxic Workers Density (%)	0.0230*** (2.85)	3.9173 (1.39)	1.8802 (0.71)
Work Group Size (N)	-0.0006*** (-4.53)	-0.0062 (-1.09)	0.1514*** (4.02)
R-squared N	0.186 4641	0.964 5296	0.972 4532

Note: T statistics reported in parentheses based on robust standard errors. Estimates include supervisor fixed effects and position controls. Performance fixed effects are estimated with controls for time, location, sub-firm, position, and a cubic function of experience.
* p<0.10, ** p<0.05, *** p<.01

1. Havoc in the Workplace: Coping with 'Hurricane' Employees. Knowledge@Wharton (2013, November 18). Retrieved from http://knowledge.wharton.upenn.edu/article/corporate-disaster-zones-coping-hurricane-employees/

2. When modeling employee departure and performance, we included a number of controls for: location, job type, supervisor, program, and their hiring assessment scores. Within our survival models, we also included a confidence measure – by comparing their self-assessed technical proficiency to their actual technical proficiency – as well as responses to several assessment questions that were designed to measure their propensity to follow rules. We also re-ran the analysis with supervisor specific and location controls and obtained qualitatively similar results for toxic terminations.

3. Survival models are the class of econometric models to be used when the outcome of interest is a discrete event (e.g., termination). These models allow us to answer the question of how various factors can increase or reduce the chances of a particular event of interest happening. To represent survival visually, we generated Kaplan-Meier survival curves and then used Cox proportional hazard models to engage in multivariate analysis.

4. To analyze these panel datasets that contained multiple observations per employee, we used a fixed-effects regression.

5. In order to study how toxic employees influence the behavior and disposition of those working around them, we developed a measure of exposure to toxic employees: average exposure by month of employment. Average exposure represented the fraction of other workers that were eventually terminated for toxic misconduct within one's group on average. An employee's group was defined by coworkers under the same manager.

6 We projected these figures onto a team of twenty employees for the sake of simplicity. For our measure of toxic employee density, the average value is 0.045 and the standard deviation is 0.043. So increasing the number of toxic employees on a twenty person team from one to two represents an increase of approximately a single standard deviation.

7 We used a decay model to estimate the constant probability of departing voluntarily on each day of employment and then increased this figure by 54% to calculate the additional proportion of employees that voluntarily depart the company before the mean employee tenure: 182 days.

8 This figure assumes an average replacement cost of $4000 for new employees as well as an average team size of 20 employees. We ran a similar analysis with an accelerated failure time model – assuming that the baseline hazard function resembled a gamma distribution – and found even larger cost estimates.