

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION MODULE: WRAAK AND HEALTH & SAFETY RIGHTS AND PROTECTIONS



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1.0 INTRODUCTION

The Occupational Safety & Health Administration (OSHA) was founded in 1971 following the passage of the Occupational Safety and Health Act the year before. The act represented the first time a nationwide program to protect and safeguard the entire workforce had been put into place.¹ OSHA helps to guarantee employees the right to work in conditions that do not pose a risk of serious harm, and allows them to receive information and training about hazards in their workplace. In addition, OSHA provides a number of benefits to employers including free on-site consultation to small businesses and several cooperative programs to help prevent injuries and deaths in the workplace.²

Since its inception, OSHA has helped to dramatically reduce the number of American workers who have been injured or killed in their workplace. Approximately 14,000 workers were killed on the job in 1970, the year before OSHA's founding, but this number fell sharply to 4,340 workers killed in 2009, largely as a result of OSHA's efforts.³ Moreover, reduction in worker deaths occurred during a period when the U.S. workforce doubled to more than 130 million workers.

This module, as a component of the nationwide Worker's Rights, Access, Assertion, and Knowledge (WRAAK) study, consisted of 22 questions focus on assessing respondents' education, access, experience, and reporting habits on OSHA rules and regulations.

2.0 EDUCATION

KEY FINDINGS: Regular education on health and safety rights correlated to higher WRAAK. Workers in priority workplaces were significantly more likely to be educated than those who work in other areas.

2.1 OSHA EDUCATION

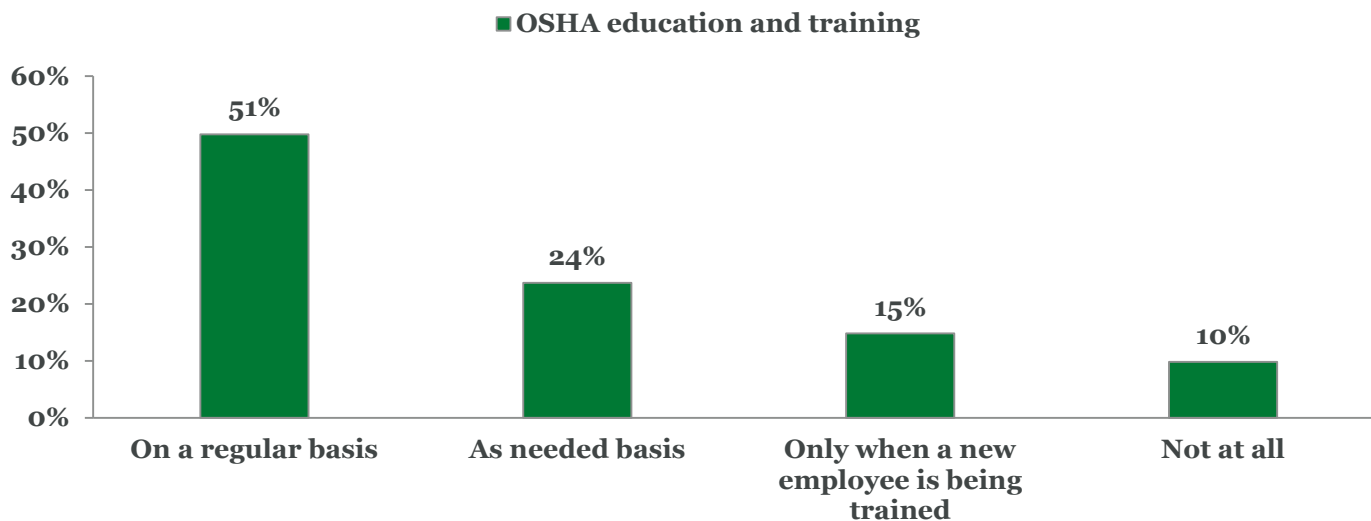
Of the working adults who received the OSHA module, one-half (51%) reported receiving education on health and safety risks on a regular basis. A further 39% received such education less frequently (24% as needed and 15% as part of new employee training) while 10% reported they did not receive any education at all.

¹ <http://www.dol.gov/oasam/programs/history/mono-OSHA13introtoc.htm>

² <https://www.OSHA.gov/about.html>

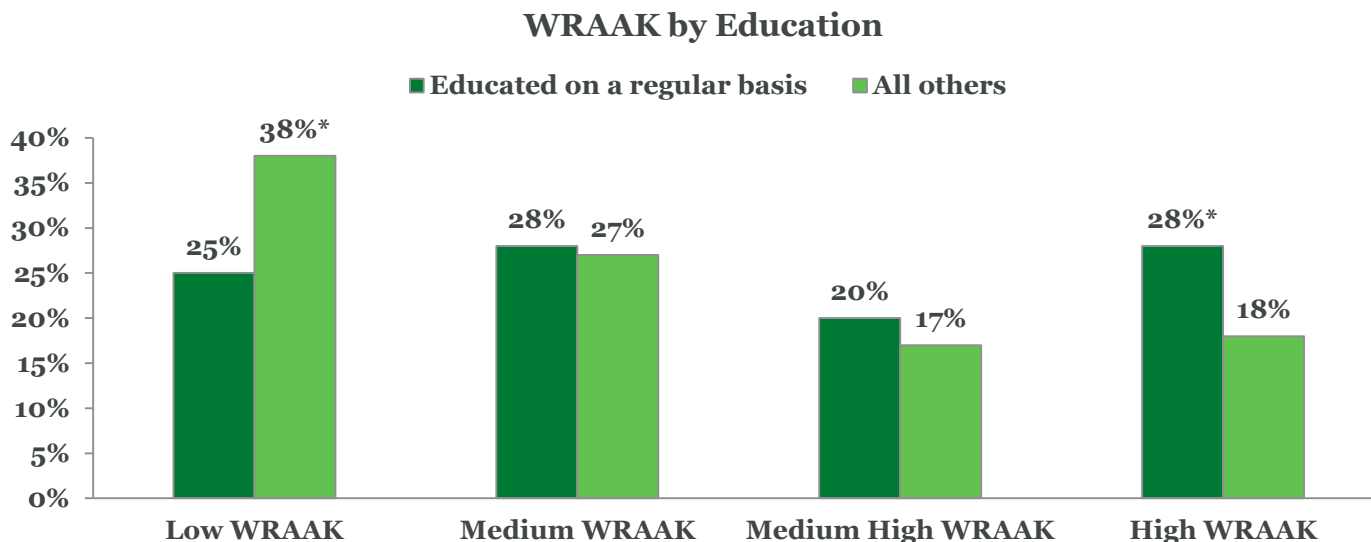
³ <https://www.OSHA.gov/OSHA40/timeline.html>

Figure 1: Employer-Provided Education on Health & Safety Rights and Protections



Regular education by employers about health and safety rights have also had a beneficial impact on WRAAK. When asked about the frequency of employer-provided education, of those who reported being educated on a regular basis, 25% had low WRAAK, versus 38% with low WRAAK who did not receive such education on a regular basis. Likewise, 28% of those who received regular education had high WRAAK, which was significantly higher than the 18% of those not receiving such regular education who had high WRAAK.

Figure 2: WRAAK Levels and Education on Health & Safety Rights and Protections



*Denotes significant difference from Educated on a regular basis category at the 95% confidence interval

2.2 DEMOGRAPHIC PROFILES FOR OSHA EDUCATION

Data from respondents who received the OSHA module were analyzed based on how often the respondents received education about workplace safety. The analysis focused on respondents who reported receiving education on a regular basis compared with those who said they received no education. Table 1 shows a comparison of the key demographic variables for OSHA-module respondents.

Among the respondents who received the OSHA module, some interesting demographic trends emerged. Men were significantly more likely to report that they received education on a regular basis (53%) compared with those who reported they received no education (42%). In contrast, women were significantly more likely to report they had received no education (58% vs. 47% who reported receiving education on a regular basis). Additionally, White respondents were significantly more likely to report they received regular education (69%) compared with those who received no education (57%). The opposite pattern was true for Hispanic respondents, as they were significantly more likely to report receiving no education.

Table 1: Demographic Profile for Education on Health & Safety Rights and Protections

		On a regular basis	As needed	When training new employee	Not at all
		A	B	C	D
Education	College graduate or higher	35%	37%	29%	32%
	Some college or vocational	30%	29%	33%	29%
	High school or less	36%	33%	38%	39%
Race and Ethnicity	White	69%*	70%*	59%	57%
		CD	CD		
	African American	11%	13%	16%	11%
	Asian	6%	3%	6%	4%
		B			
	Hispanic	14%	13%	20%	28%
					AB
Age	18-29	22%	26%	40%*	21%
				ABD	
	30-44	30%	33%	32%	37%
	45-54	26%*	22%*	14%	24%*
		C	C		C
	55+	22%*	19%	14%	18%
		C			
Gender	Male	53%*	51%	52%	42%
		D			
	Female	47%	49%	48%	58%*
				A	

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

EDUCATION BY INDUSTRY

When comparing across type of work, Government workers were significantly more likely to report being educated on a regular basis (19%), while those working in the non-profit sector were more likely to report receiving no education at all (28%). White collar workers were significantly more likely to say they received no education (56%) compared with those who received regular education (40% of white collar workers). The opposite pattern was true for blue collar workers, as 60% reported being educated on a regular basis—significantly more than those who reported they received no education. Income seemed to play a role when comparing the groups as well. Those who reported receiving no education were more likely to make under

\$30,000 while those who received education on a regular basis were more likely to make salaries in the range of \$50,000 to \$99,999.

Table 2: Job Profile for Education on Health & Safety Rights and Protections

		On a regular basis	As needed	When training new employee	Not at all
		A	B	C	D
Work Type	Blue collar	60%*	41%	47%	44%
		BCD			
	White collar	40%	59%*	53%*	56%*
			A	A	A
Union Membership	Union	17%*	12%	8%	12%
		BC			
	Non-union	83%	88%*	92%*	88%
			A	A	
Work	Government	19%*	15%	13%	10%
		D			
	Private company	60%	58%	62%	59%
	Non-profit/Other	19%	25%*	25%	28%*
			A		A
Management	Non-management	58%	61%	59%	55%
	Management	41%	38%	41%	44%
Tenure	Less than 1 year on job	14%	17%	22%*	17%
				A	
	1 year but less than 5 years on the job	27%	32%	42%*	30%
				ABD	
	More than 5 years on the job	59%*	51%*	36%	52%*
		BC	C		C
Pay	Hourly	59%	56%	71%*	52%
				ABD	
	Salary	38%*	38%*	24%	37%
		C	C		C
	By unit of production	2%	5%*	4%	4%
			A		
Daily	0%	1%	1%	6%*	
				ABC	

Table 2: Job Profile for Education on Health & Safety Rights and Protections

		On a regular basis	As needed	When training new employee	Not at all
		A	B	C	D
Income	Under \$20,000	11%	20%	26%*	22%*
			A	A	A
	\$20,000 - \$29,999	13%	13%	17%	20%*
					A
	\$30,000 - \$39,999	12%	12%	10%	12%
	\$40,000 - \$49,999	13%	10%	12%	8%
\$50,000 - \$74,999	23%*	18%*	13%	9%	
	CD	D			
\$75,000 - \$99,999	10%*	12%*	6%	4%	
	D	D			
\$100,000 or more	9%	7%	6%	9%	

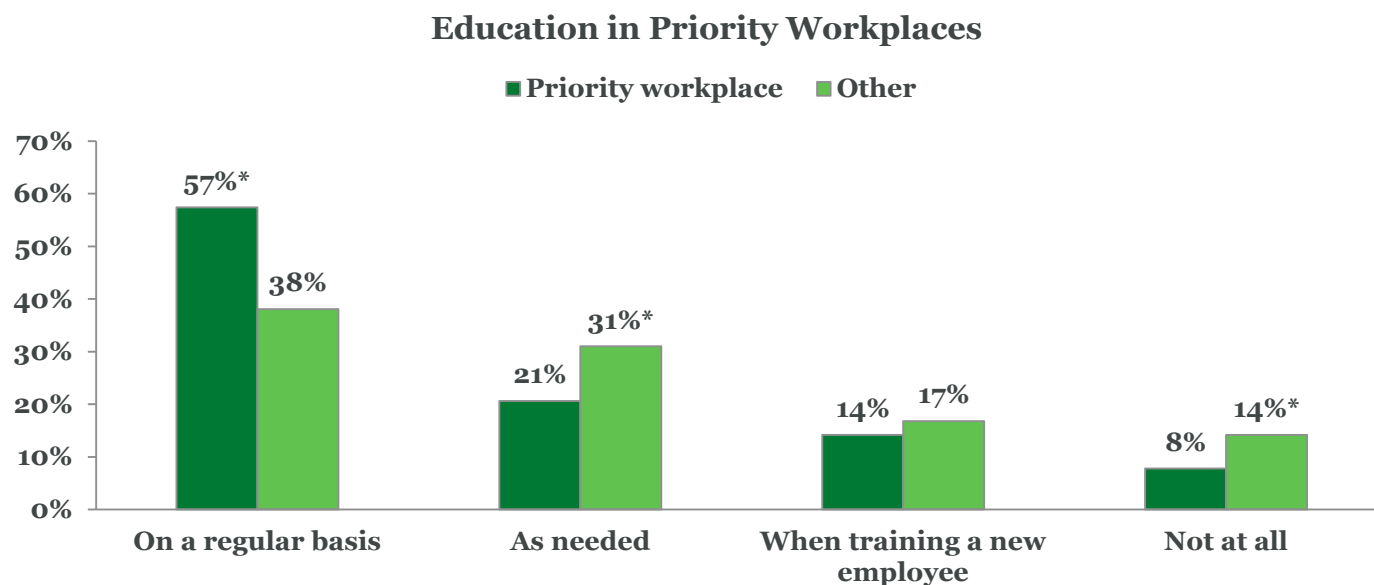
*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

EDUCATION BY PRIORITY WORKPLACE

A number of “priority workplaces” were also examined in the OSHA module, to best assess respondents who work in potentially hazardous environments. These environments were classified as jobsites where workers reported they regularly work from heights or ladders, or work around machines with moving parts. Additionally, worksites that contain chemicals, dust, or hazardous materials were also included.

The data suggest that workers in these areas were educated on a more regular basis than those who work elsewhere. Of those workers who work in priority workspaces, 57% were educated on a regular basis compared with 38% of those working in other areas.

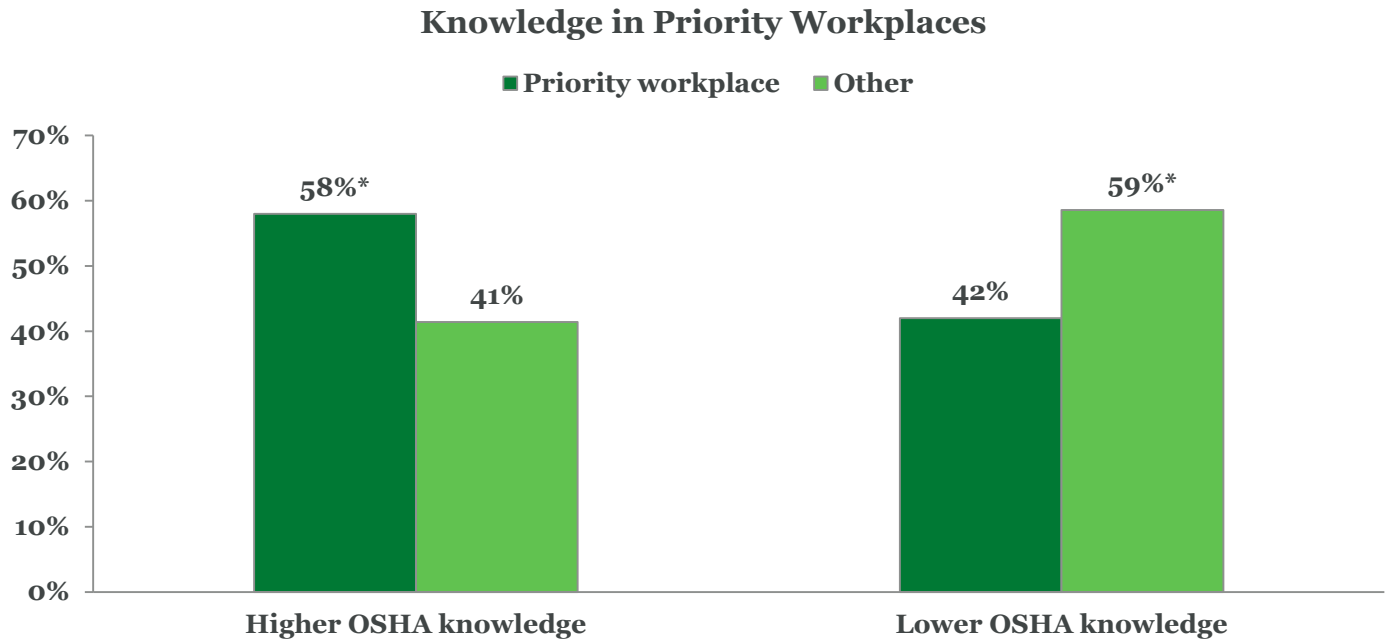
Figure 3: Employer-Provided Education in Priority Workplaces



*Denotes significant difference at the 95% confidence interval

The results of this extra education given to workers in priority workplaces can be seen in their higher levels of knowledge about OSHA regulations when compared with workers in non-priority workspaces. Of those who work in potentially hazardous workplaces, 58% were highly knowledgeable about OSHA rules, significantly higher than the 41% for those who do not work in priority areas.

Figure 4: Knowledge of OSHA-Specific Protections Across Priority Workplaces

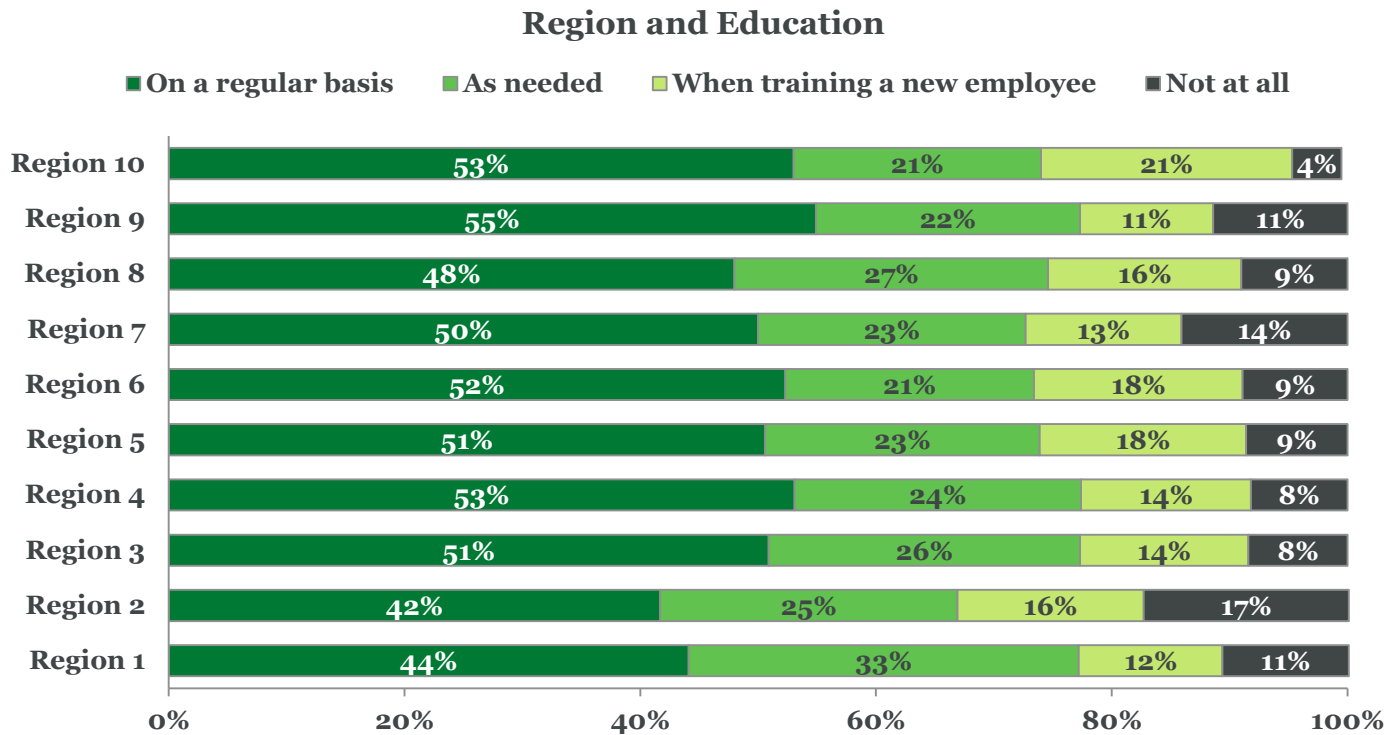


**Denotes significant difference at the 95% confidence interval*

EDUCATION BY REGIONS

Education frequencies are similar across the 10 OSHA regions, indicating that worker education occurs at a fairly consistent level across the U.S. Roughly one-half of all workers reported being educated on a regular basis. The only significant difference occurred in Region 2 (New York and New Jersey) where workers were significantly more likely to report not being educated at all compared with Regions 3, 4, 5, 6, and 10.

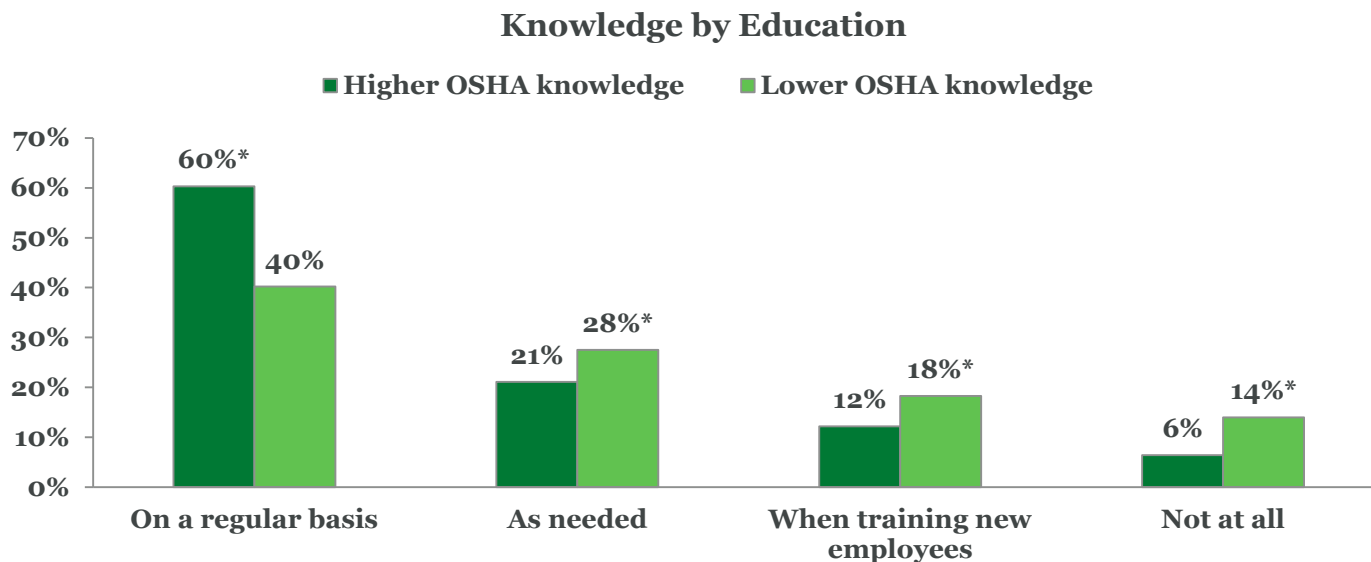
Figure 5: Education on Health & Safety Risks Across OSHA Regions



EDUCATION BY KNOWLEDGE

Knowledge of OSHA-related rights and protections was measured with a binary series of questions testing the respondent's ability to accurately respond. This crude measure provided some insights on the impact of what common knowledge on health and safety rights can have on a worker's WRAAK. Knowledge as measured appears to be closely related to workplace education. Sixty percent of workers who scored high in terms of OSHA knowledge were educated on a regular basis; this is significantly higher than the 40% who scored lower in terms of OSHA knowledge.

Figure 6: Knowledge of OSHA-Specific Protections and Education



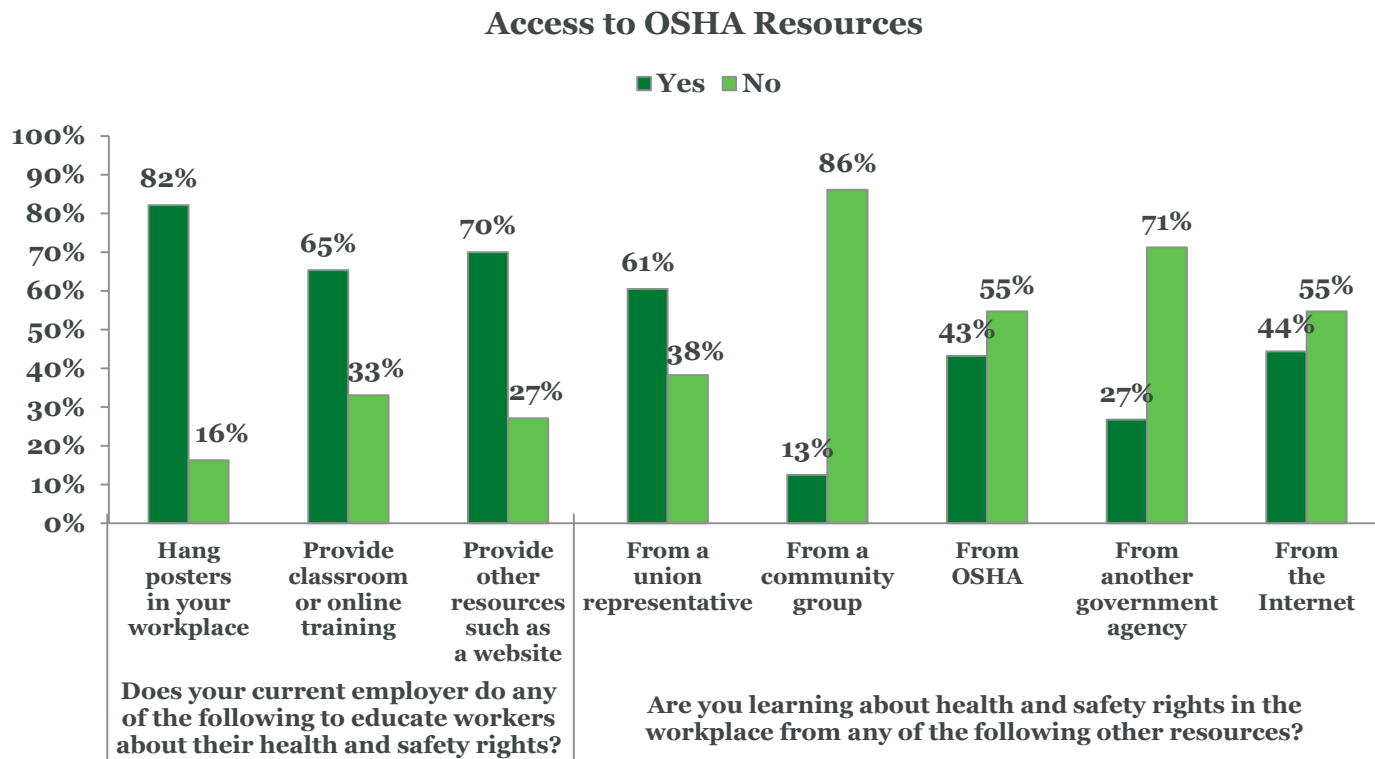
**Denotes significant difference at the 95% confidence interval*

3.0 ACCESS TO INFORMATION ON HEALTH & SAFETY PROTECTIONS

KEY FINDINGS: Working adults who do not have access to information on their health and safety rights and protections were significantly more likely to have lower WRAAK. Additionally, those with access to information were significantly more likely to say they would report a future health or safety violation than those who did not have access.

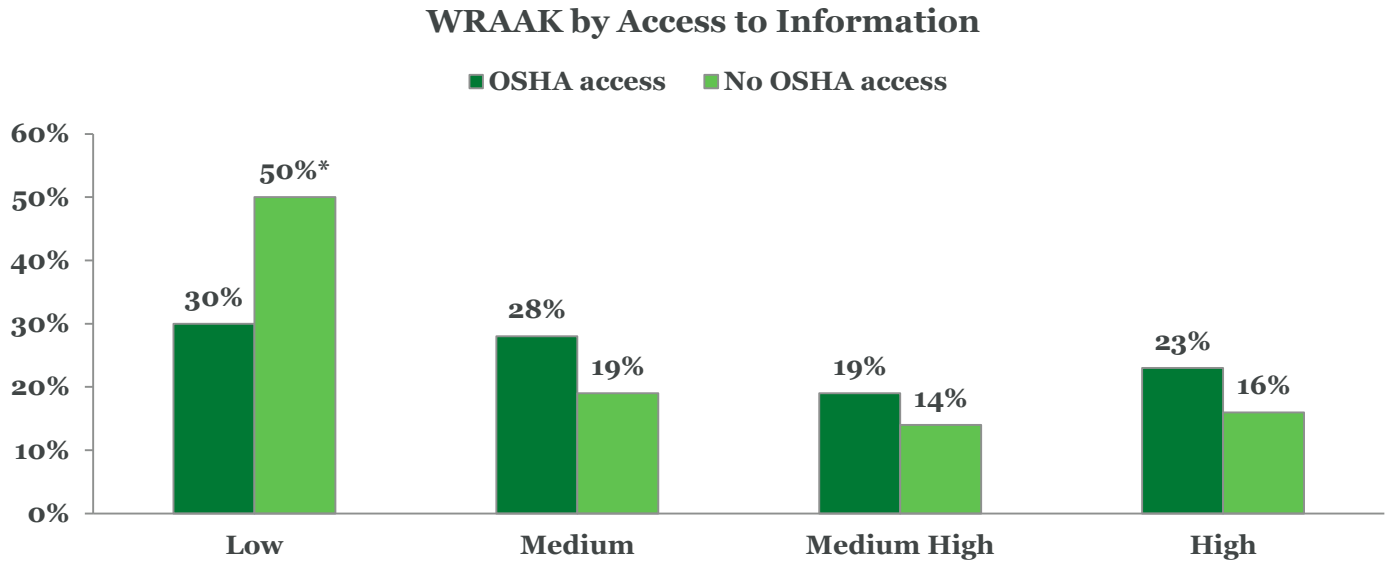
Workers were also questioned on their access to information on health and safety rights, whether they were provided by their employer or by another resource. Overall, most working adults received this information from their employers, with posters hung in workplaces being the most common source (82%). Workers did not obtain information from sources outside of the workplace as often, with community groups being the least utilized (13%). However, among workers who were union members, 61% reported obtaining information on health and safety rights from their union representative.

Figure 7: Sources of Information on Health & Safety Rights and Protections



The number of opportunities workers have to become educated about OSHA regulations, as well as their access to educational materials such as posters can have an impact on their overall WRAAK. Working adults who did not have access to information on their health and safety rights were significantly more likely to have lower WRAAK than those who had access. Of those who reported having no access to information on OSHA protections, 50% had low WRAAK compared with 30% of those who did have access.

Figure 8: WRAAK Levels and Access to Information on Health & Safety Protections



**Denotes significant difference at the 95% confidence interval*

3.1 DEMOGRAPHIC PROFILES FOR OSHA ACCESS

Working adults who completed the OSHA module showed no significant differences among demographics (education, race, age, and gender) when it came to access to information on health and safety rights and protections.

Table 3: Demographic Profile for Access to Information on Health & Safety Rights and Protections

		OSHA access	No OSHA access
		A	B
Education	College graduate or higher	35%	26%
	Some college or vocational	30%	32%
	High school or less	36%	42%
Race and Ethnicity	White	66%	68%
	African American	13%	8%
	Asian	5%	5%
	Hispanic	16%	19%
Age	18-29	25%	29%
	30-44	31%	40%
	45-54	24%	16%
	55+	20%	14%
	Gender	Male	52%
	Female	48%	54%

**Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.*

ACCESS BY INDUSTRY

Access to OSHA materials was fairly consistent across industry breakouts, with the exception of union membership. Fifteen percent of workers with access to information on their health and safety rights were in unions compared with 4% of workers covered by a union who reported not having access to this information.

Table 4: Job Profile for Access to Information on Health & Safety Rights and Protections

		OSHA access	No OSHA access
		A	B
Work Type	Blue collar	52%	54%
	White collar	48%	46%
Union Membership	Union	15%*	4%
	Non-union	85%	96%*
Work	Government	17%	8%
	Private company	60%	60%
	Non-profit/Other	22%	30%
Management	Non-management	59%	56%
	Management	41%	42%
Tenure	Less than 1 year on job	15%	18%
	1 year but less than 5 years on the job	30%	39%
	5 or more years on the job	51%	42%
Pay	Hourly	59%	57%
	Salary	36%	34%
	By unit of production	3%	5%
	Daily	1%	3%
Income	Under \$20,000	15%	31%
	\$20,000 - \$29,999	14%	15%
	\$30,000 - \$39,999	11%	12%
	\$40,000 - \$49,999	12%	7%
	\$50,000 - \$74,999	19%	14%
	\$75,000 - \$99,999	9%*	3%
		B	

Table 4: Job Profile for Access to Information on Health & Safety Rights and Protections

		OSHA access	No OSHA access
		A	B
	\$100,000 or more	8%	4%

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

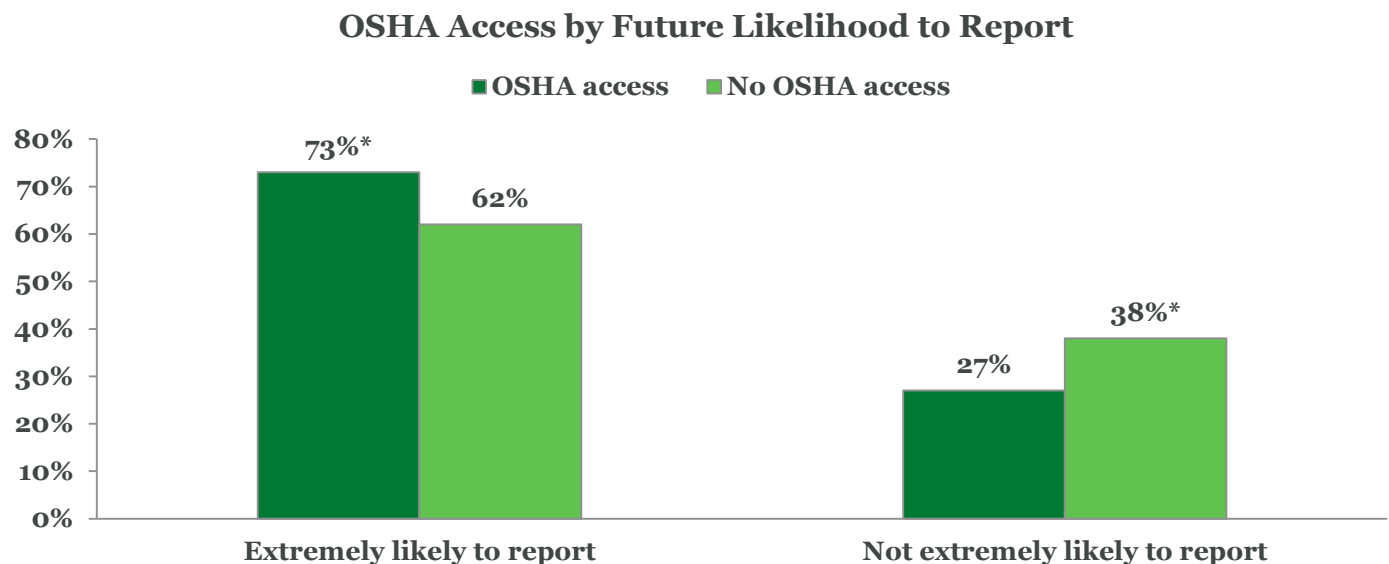
Access to OSHA materials did not have any significant effect on past experience with health and safety violations, or with formally reporting past violations. Of those with access to information on OSHA protections, (62%) had formally reported a violation, which was similar to those without access (58%) who formally reported in the past.

Table 5: Access to Information on Health & Safety Rights and Protections and Experience With Violations

		OSHA access	No OSHA access
Experience with health or safety violations	Experience with an health or safety violation	47%	46%
	No experience with an health or safety violation	53%	54%
Reporting previous health or safety violations	Formally reported health or safety violation	62%	58%
	Did not report health or safety violation	38%	42%

Having access to OSHA materials impacted workers' likelihood to report future violations. Of those who had access to OSHA materials, 73% reported being extremely likely to report a future incident, which was significantly higher than the 62% of those without access to information on OSHA protections who said the same. Similarly, of those without access, 38% were not extremely likely to report a future violation compared with 27% of those with access.

Figure 9: Access to Information and Likelihood to Report a Violation in the Future

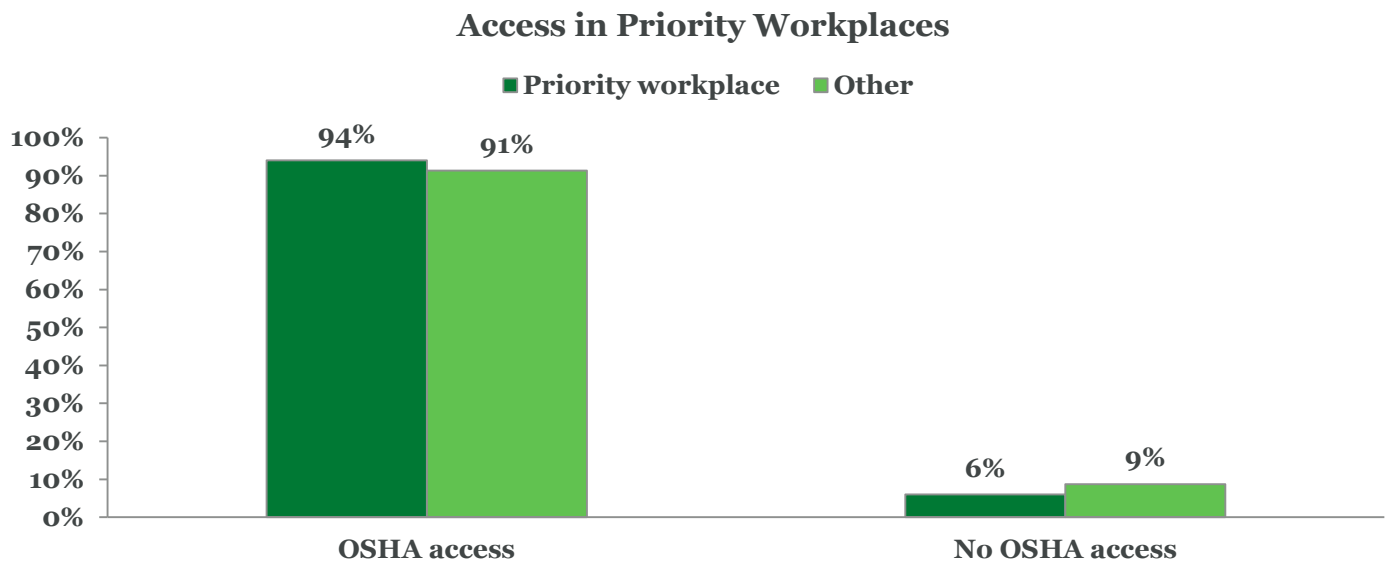


*Denotes significant difference at the 95% confidence interval

ACCESS IN PRIORITY WORKPLACES

Just as workers from priority workplaces have shown higher degrees of education and knowledge about OSHA rules and regulations, they also enjoyed greater access to OSHA materials and information, albeit not significantly. Workers in priority industries have the same access to OSHA materials and information as those in non-priority industries.

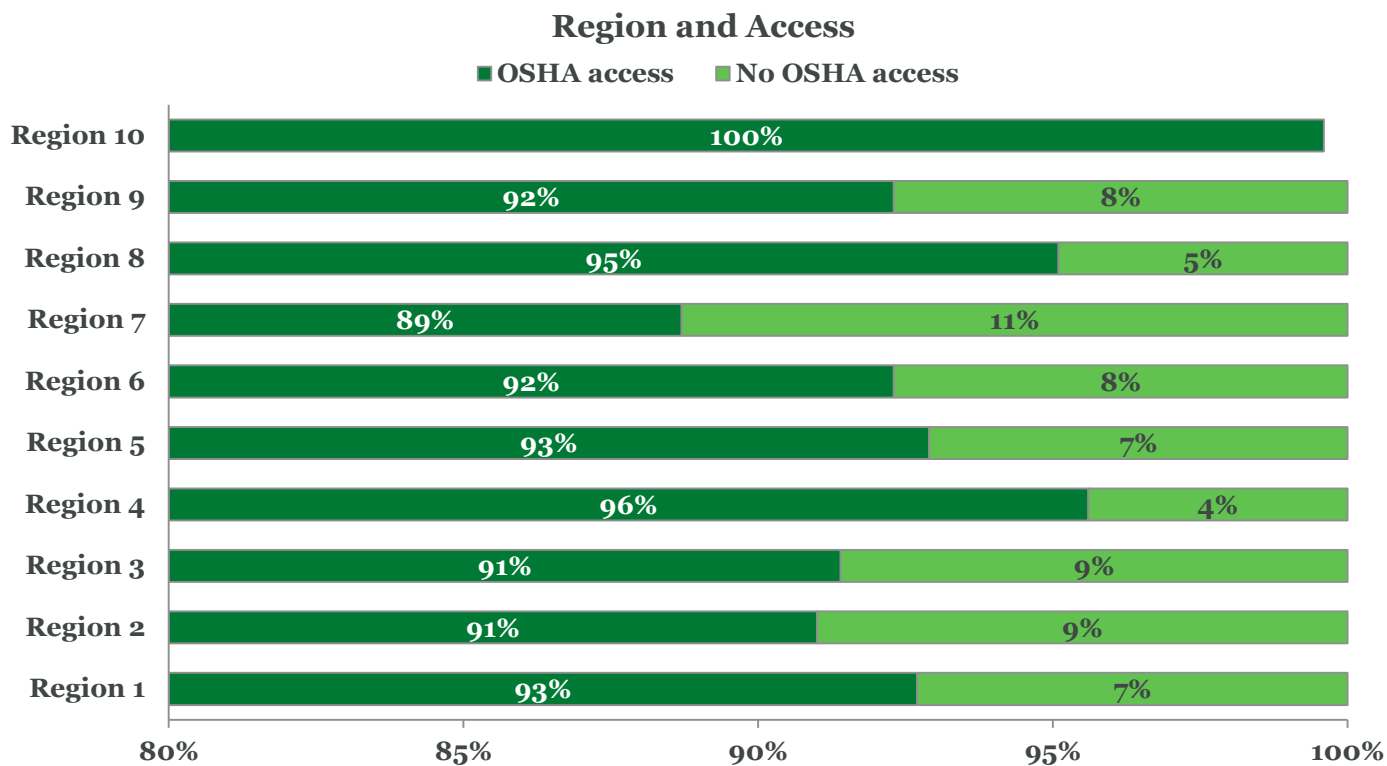
Figure 10: Access to Information on Health & Safety Rights and Protections in Priority Workplaces



ACCESS BY REGIONS

Although some variation occurred in access across the OSHA regions, there were few significant differences. Region 10 (Washington, Oregon, and Idaho) stood out for having the highest reported levels of access (100%), although this was only statistically more significant when compared with Regions 2, 3, and 7.

Figure 11: Access to Information on Health & Safety Rights and Protections Across OSHA Regions



4.0 EXPERIENCE WITH HEALTH & SAFETY VIOLATIONS

KEY FINDINGS: Past experience with health and safety violations correlates to lower WRAAK among workers. Workers who have experience with a violation were also more likely to be covered by a union. Adult workers employed in priority workplaces were significantly more likely to have experience with a past health or safety violation than those employed elsewhere.

Respondents were also questioned about their past experience with health or safety violations. This series of three questions looked at workers having known about a possible risk, workers having been injured or sick due to workplace conditions, and workers who knew someone else who was injured or sick as result of such conditions. This series only looked at workers' past experience with these violations and not their actions (if any) taken as a result.

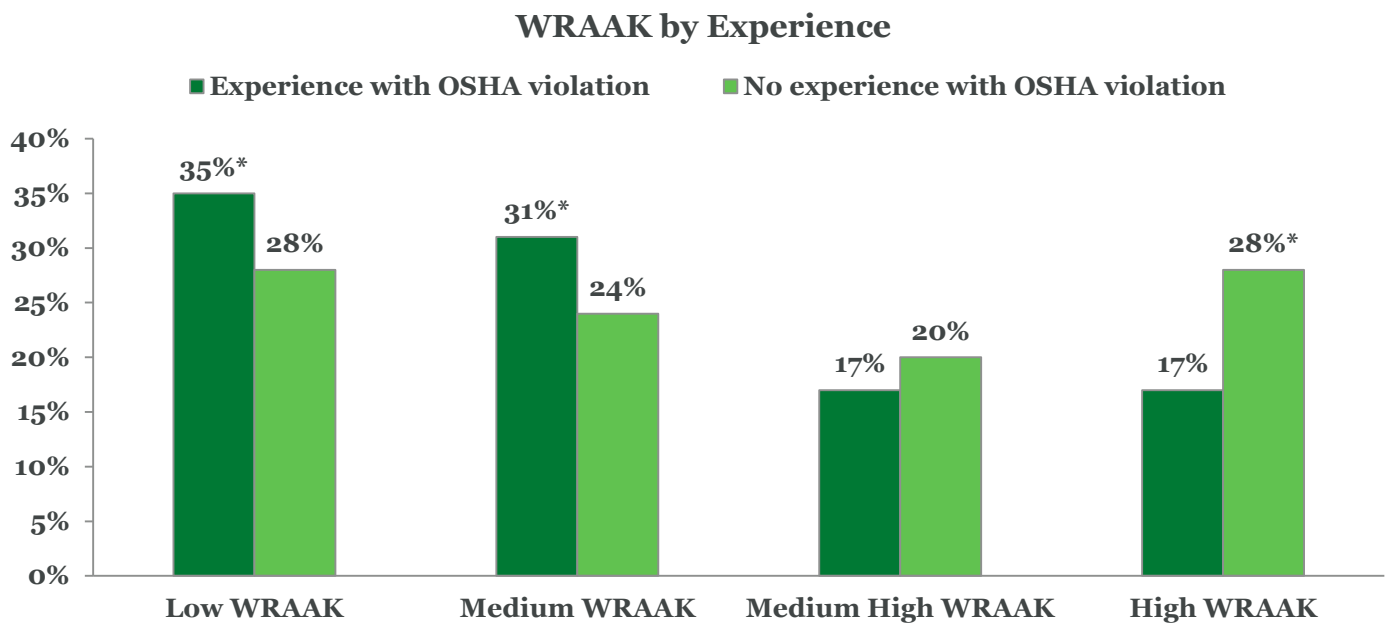
Overall, more than one-third of adult workers surveyed (37%) have known about a possible health or safety violation in their workplaces. Far less (13%) have been personally affected by hazardous conditions at their workplaces, although 31% have known someone who has gotten sick or been injured due to these conditions.

Figure 12: Experience With Specific Health & Safety Violations



For workers, having some type of experience with a health or safety violation in the past can detrimentally affect their WRAAK. Of those workers who reported experience with a past health or safety violation, 35% had low WRAAK, significantly more than the 28% of those who had no experience with a violation and had low WRAAK. The reverse held true for those who have high WRAAK, as those who had no experience with a violation were significantly more likely than those who had an experience with a violation to be in this group (28% vs. 17%, respectively).

Figure 13: WRAAK Levels and Experience With Health & Safety Violations



*Denotes significant difference at the 95% confidence interval

4.1 DEMOGRAPHIC PROFILES FOR EXPERIENCE WITH WORKPLACE VIOLATION

Respondents who reported they had experience with or knew someone who had experience with a health or safety workplace violation were compared with those who had no experience or did not know someone who had experience with a health or safety violation. Table 6 shows a comparison of the key demographic variables.

Respondents who reported they had experience with or knew someone who had experience with a health or safety violation were more likely to have completed some college (35%), while those who had no experience with a violation were more likely to have completed college (37%). With regard to gender, men were more likely to have experience with a violation (57%) compared with those who had no experience with a violation (46%). In contrast, women were significantly more likely to report they had no experience with a violation (54%) compared with the 43% of women who had experience with a violation.

Table 6: Demographic Profile for Experience With Health & Safety Violations

		Experience with violation	No experience with violation
		A	B
Education	College graduate or higher	31%	37%*
	Some college or vocational	35%*	25%
	High school or less	34%	38%
Race and Ethnicity	White	67%	65%
	African American	12%	12%
	Asian	5%	6%
	Hispanic	15%	17%
Age	18-29	24%	27%
	30-44	33%	30%
	45-54	23%	23%
	55+	20%	20%
Gender	Male	57%*	46%
	Female	43%	54%*

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

EXPERIENCE BY INDUSTRY

Workers who had experience with a violation were significantly more likely to be in a union (20%) than those who had no experience with a violation (9%). The opposite was true for those who had no experience with a violation as they were more likely to be non-union (91%) compared with those who had experience with a violation (80%). Similarly, (61%) of respondents who had experience with a violation were blue collar workers,

significantly more than the 43% of blue collar respondents who had no experience with a violation. Those who had no experience with a violation were more likely than those who had experience with a health or safety violation to be white collar workers.

Tenure and pay type also proved to be significant indicators when examining the two groups. Notably, the demographic profile for those who received the OSHA module was similar to that for the overall population. With regard to income, those who had no experience with a violation were significantly more likely than those who had an experience with a violation to be in the lowest income grouping.

Table 7: Job Profile for Experience With Health & Safety Violations

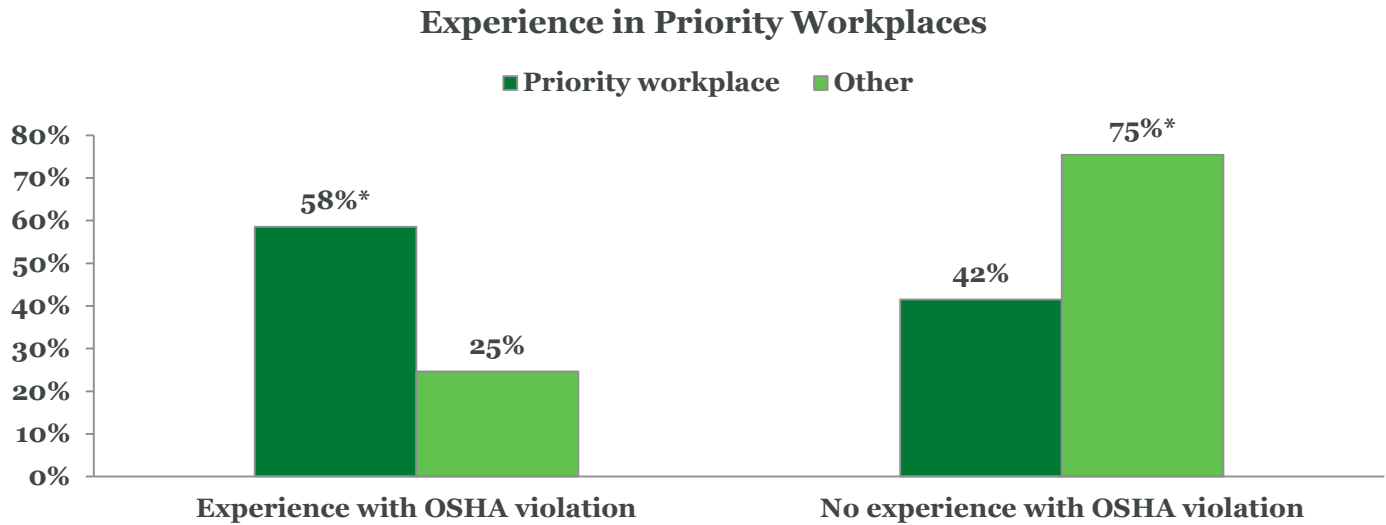
		Experience with violation	No experience with violation
		A	B
Work Type	Blue collar	61%*	43%
		B	
	White collar	39%	57%*
			A
Union Membership	Union	20%*	9%
		B	
	Non-union	80%	91%*
			A
Work	Government	20%*	13%
		B	
	Private company	58%	62%
	Non-profit/Other	21%	23%
Management	Non-management	59%	58%
	Management	41%	41%
Tenure	Less than 1 year on job	14%	18%*
			A
	1 year but less than 5 years on the job	29%	33%
	More than 5 years on the job	57%*	49%
		B	
Pay	Salary	31%	41%*
			A
	Hourly	65%*	53%
		B	
	By unit of production	3%	4%
	Daily	1%	1%
Income	Under \$20,000	14%	19%*
			A
	\$20,000 - \$29,999	14%	14%
	\$30,000 - \$39,999	12%	11%
	\$40,000 - \$49,999	13%	11%
	\$50,000 - \$74,999	22%*	16%
		B	
	\$75,000 - \$99,999	9%	9%
	\$100,000 or more	7%	9%

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

EXPERIENCE IN PRIORITY WORKPLACES

Those workers employed in workplaces that feature potentially hazardous situations or materials were significantly more likely to have experienced a health or safety violation than those who do not work in those types of workplaces. Significantly more workers at priority jobsites (58%) have experience with a past health or safety violation than those who work elsewhere (25%).

Figure 14: Experience With Health & Safety Violations in Priority Workplaces

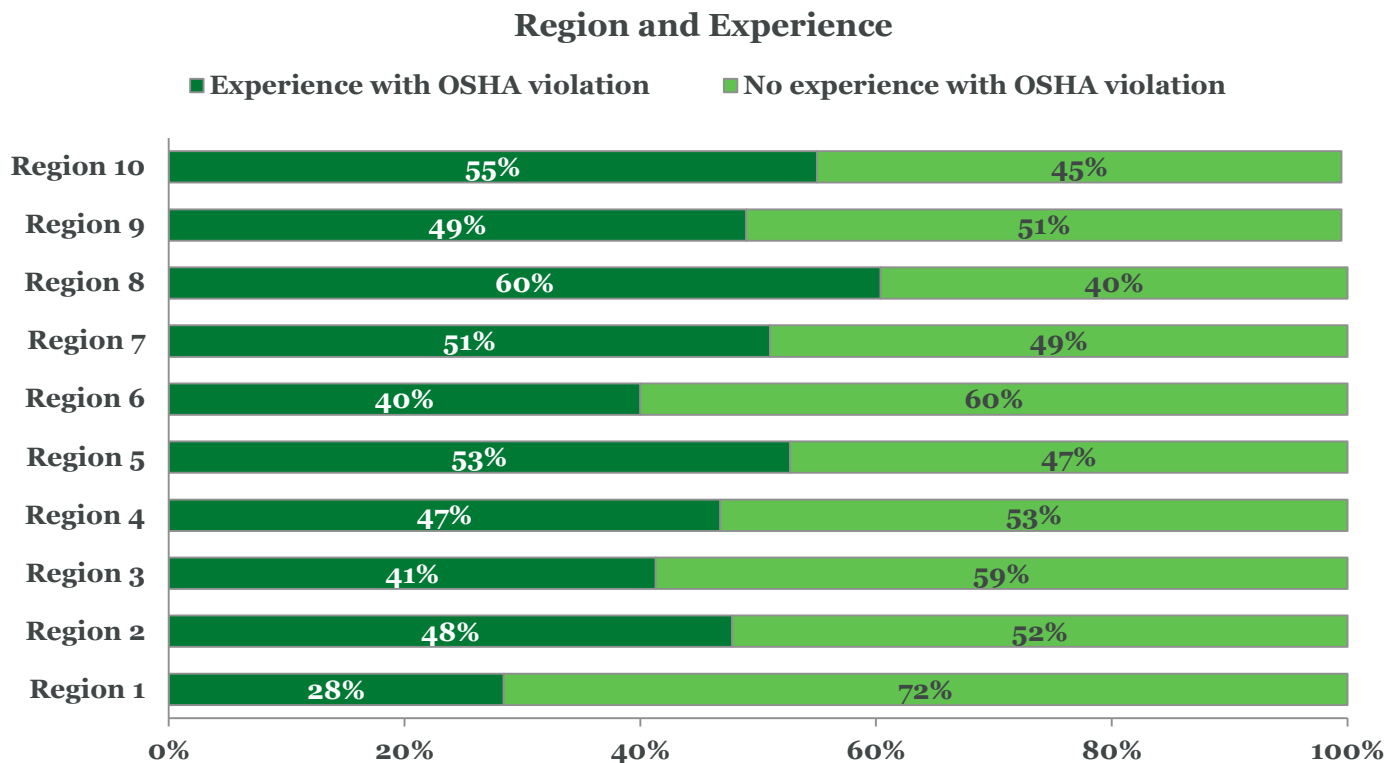


**Denotes significant difference at the 95% confidence interval*

EXPERIENCE BY REGION

Region 1 stands out as having the lowest percentage of workers who have experience with a health or safety violation (28%). This was significantly lower than most other regions with the exception of Regions 3 and 6. The Western states of Region 8 have the highest percentage of reported experience with health and safety violations with 60% of workers in those six states having experience with a past violation.

Figure 15: Experience With Health & Safety Violations Across OSHA Regions



4.2 PREDICTORS OF EXPERIENCE WITH HEALTH & SAFETY VIOLATIONS

Using multivariate logistic regressions, odds ratios were calculated to determine the contribution, all things being equal, that a number of workplace factors and demographic variables were associated with adult workers having an experience with a violation. The ratios described how much a given variable increases or decreases the odds of experiencing a violation while holding all other measured variables constant.

The variables associated with experiencing a workplace health or safety violation were:

- Presence of chemicals, dust, or hazardous materials in the workplace
- Employees regularly working from heights in the workplace
- Employees regularly working around equipment or machinery with moving parts in the workplace;
- Learning about health & safety rights in the workplace from OSHA
- Educated about health & safety rights from posters in the workplace
- Union status
- Work type
- Pay type
- Overall company size
- Education level
- Region

The work environment plays a crucial role in predicting experience with health and safety violations. Individuals who worked in environments that had chemicals, dust, or hazardous materials had 2.58 times the odds of experiencing a violation than those who are not exposed to these risks in their daily work. Similarly, those who regularly worked around machinery or equipment with moving parts had 1.55 times the odds of having an experience with a violation than those not working around machinery. With regard to company size, individuals working in small (25-49 employees), medium (50-499 employees), and large (more than 500 employees) companies had greater odds of having an experience with a violation compared with those working in very small companies (less than 25 employees).

Union membership and working in a blue collar industry also played a role in having experience with a violation. Union members had 1.99 times the odds of having an experience with a health and safety violation as non-union workers. In addition, blue collar workers had 1.61 times the odds of white collar workers to have an experience with a violation.

The demographic variables associated with having an experience with a violation are pay type and education level. Individuals paid hourly had 1.58 times the odds of those paid a salary to have an experience with a workplace violation. It is interesting to note those who have completed some college or vocational training had 1.71 times the odds of having an experience with a health or safety violation than those with a high school education or less. Table 8 lists all of the variables associated with experience with a health or safety violation.

Table 8: Predictors of Experience With Health & Safety Violations

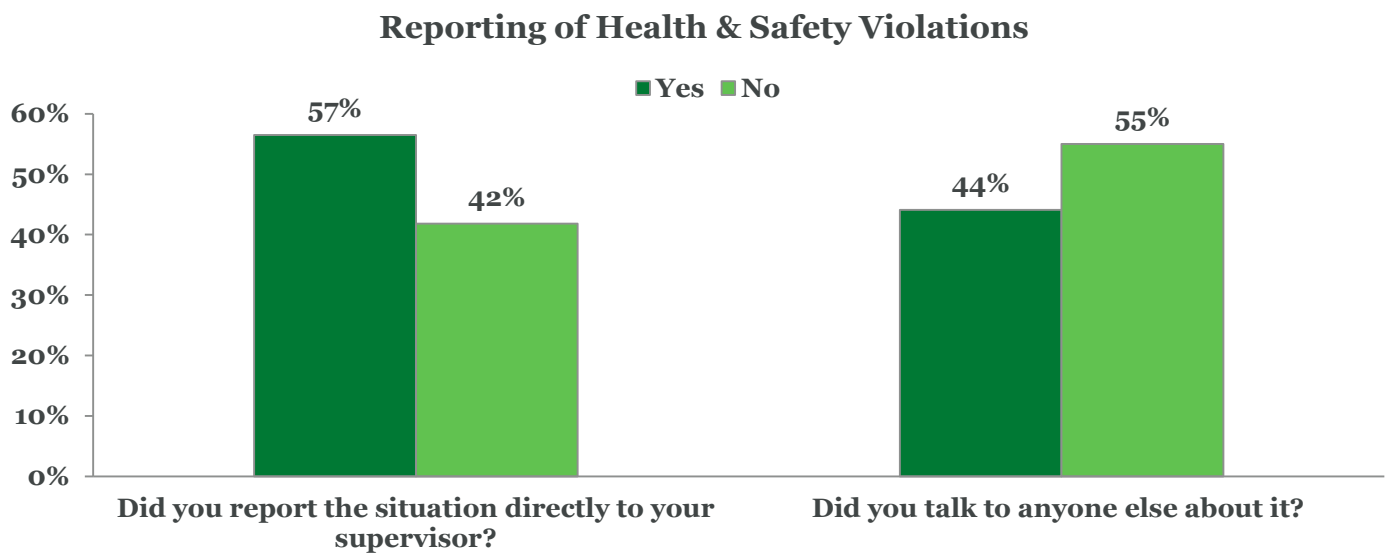
Predictors	Odds Ratio
Chemicals, dust or hazardous materials in the workplace vs. No chemicals, dust or hazardous materials in the workplace	2.58
Regularly working from heights vs. Not regularly working from heights	1.50
Working around machinery with moving parts vs. Not working around machinery with moving parts	1.55
Not educated via posters in workplace vs. Educated via posters in workplace	1.58
Not learning about health and safety rights from OSHA vs. Learn about health & safety rights from OSHA	1.49
Union vs. Non-union	1.99
Blue collar vs. White collar	1.61
Paid hourly vs. Salary	1.58
Large vs. Very small	2.06
Medium vs. Very small	2.02
Small vs. Very small	2.29
Some college or vocational vs. High school or less	1.71
Region 5 vs. Region 1	2.43
Region 8 vs. Region 1	4.35
Region 9 vs. Region 1	2.81
Region 10 vs. Region 1	3.47
Region 8 vs. Region 2	2.15
Region 8 vs. Region 3	2.87
Region 9 vs. Region 3	1.87
Region 8 vs. Region 4	2.25
Region 5 vs. Region 6	1.77
Region 8 vs. Region 6	3.17
Region 9 vs. Region 6	2.05
Region 10 vs. Region 6	2.53

5.0 REPORTING HEALTH & SAFETY VIOLATIONS

KEY FINDINGS: Workers who formally reported a health or safety violation were more likely to have lower WRAAK. Blue collar workers were significantly more likely to have formally reported a violation than white collar workers.

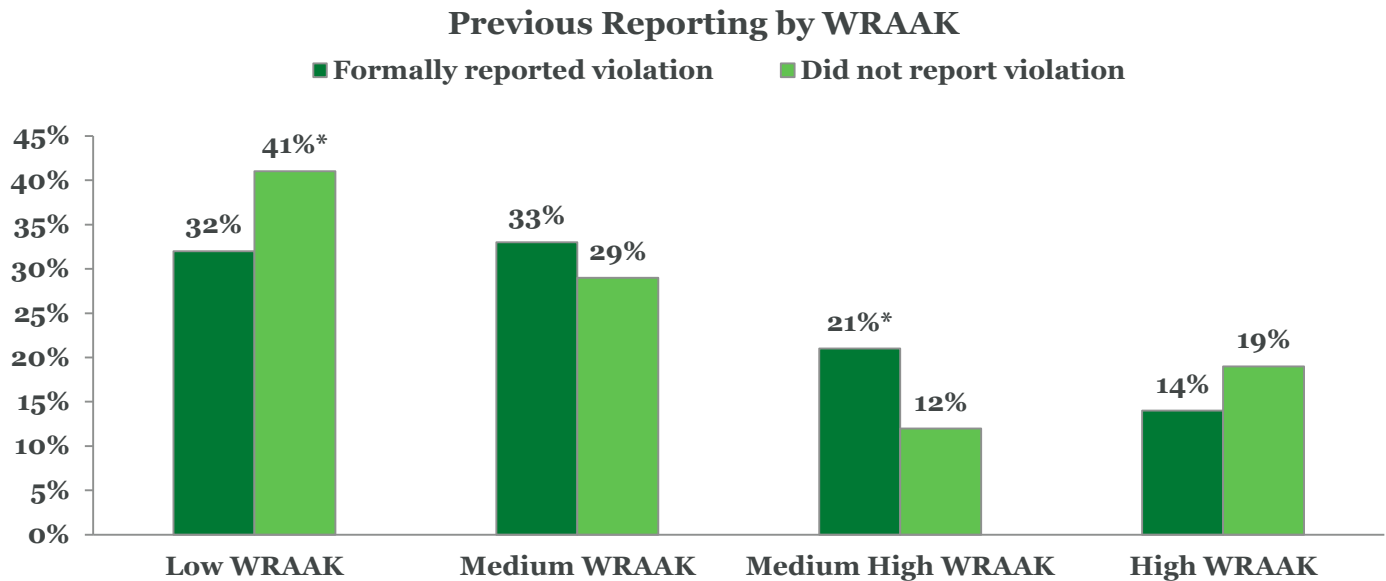
Respondents who reported experience with a health or safety violation were also asked if they reported the violation, either to a supervisor or to someone else. Of those who had experience with a violation, a majority of respondents (57%) reported the situation to their supervisor. However, a minority (44%) reported talking to someone else about it.

Figure 16: Reporting Experience With Health & Safety Violations



Looking at the effect of previous reporting on WRAAK, a slight trend showed that working adults who had not formally reported a violation that occurred within the past 5 years were significantly more likely to have lower WRAAK, while those who had formally reported a violation were significantly more likely to have medium high WRAAK. Of those who had not formally reported, 41% had low WRAAK, versus 32% of those who had formally reported. Furthermore, of those who had formally reported in the past 5 years, 21% had medium high WRAAK, while 12% who had not formally reported had a similar WRAAK level.

Figure 17: WRAAK Levels and Formal Reporting of Health & Safety Violations



*Denotes significant difference at the 95% confidence interval

5.1. DEMOGRAPHIC PROFILES FOR FORMAL REPORTING OF AN EXPERIENCE WITH HEALTH & SAFETY VIOLATIONS

Reporting an experience with a health or safety violation was fairly consistent across demographics, with no significant differences occurring among respondents by education, race, or gender. However, turning to age, of those who formally reported, 29% were aged 18-29. This was significantly higher than the 20% of that age group who did not report.

Table 9: Demographic Profile for Formal Reporting of Experience With Health & Safety Violations

		Formally reported	Did not report
		A	B
Education	College graduate or higher	27%	34%
	Some college or vocational	38%	33%
	High school or less	35%	33%
Race and Ethnicity	White	63%	74%
	African American	13%	9%
	Asian	6%	3%
	Hispanic	17%	13%
Age	18-29	29%	20%
	30-44	34%	33%
	45-54	20%	24%
	55+	17%	23%
Gender	Male	60%	52%
	Female	40%	48%

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

PREVIOUS REPORTING BY INDUSTRY

Working adults who received the OSHA module differed in their past reporting behavior by a number of industry-related factors including work type and management status. Blue collar workers were significantly more likely to have formally reported a violation than not (65% of blue collar workers reported a health or safety violation versus 55% who had not reported). The same significance was seen among those who have not reported, with 45% of white collar workers not having formally reported a violation in the past 5 years, versus 35% of white collar workers who had. A significant difference was also seen in management status with 69% of those not reporting being non-managers as well, compared with 54% who did formally report.

Table 10: Job Profile for Formal Reporting of an Experience With Health & Safety Violations

		Formally reported	Did not report
		A	B
Work Type	Blue collar	65%*	55%
	White collar	35%	45%*

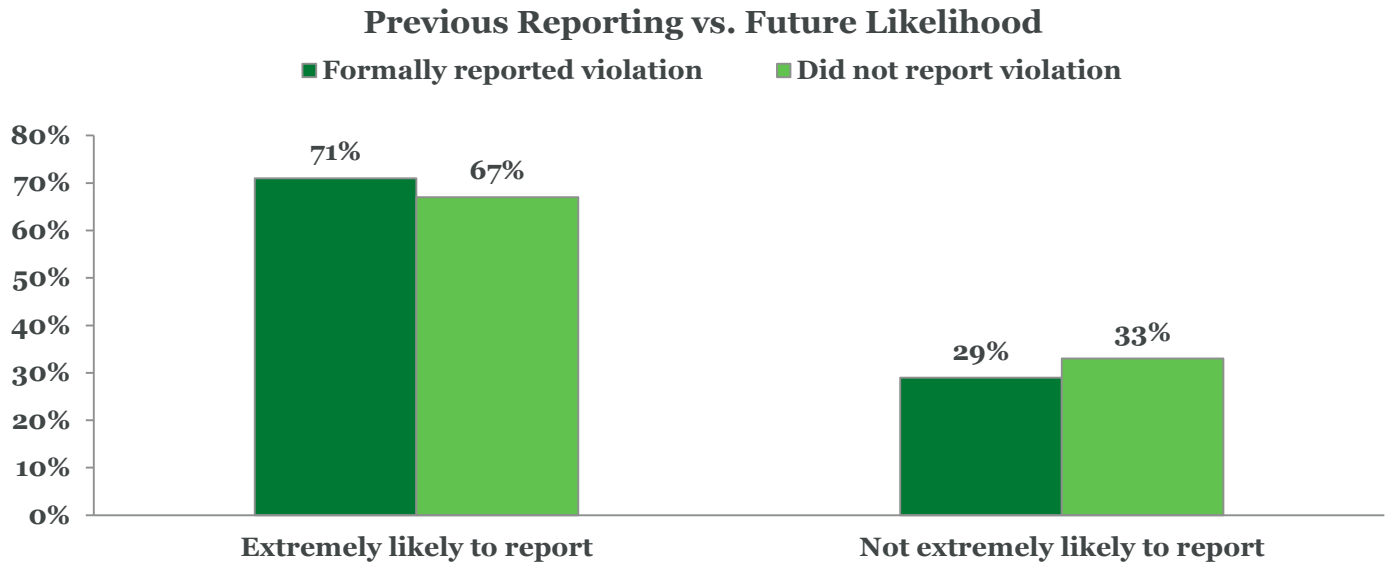
Table 10: Job Profile for Formal Reporting of Experience With Health & Safety Violations

		Formally reported	Did not report
		A	B
			A
Union Membership	Union	19%	20%
	Non-union	81%	80%
Work	Government	19%	20%
	Private company	57%	58%
	Non-profit/Other	23%	19%
Management	Non-management	54%	69%*
	Management	45%	31%
Tenure	Less than 1 year on job	14%	13%
	1 year but less than 5 years on the job	31%	29%
	5 or more years on the job	51%	58%
Pay	Hourly	69%	62%
	Salary	28%	31%
	By unit of production	2%	4%
	Daily	1%	3%
Income	Under \$20,000	15%	14%
	\$20,000 - \$29,999	14%	15%
	\$30,000 - \$39,999	12%	14%
	\$40,000 - \$49,999	13%	15%
	\$50,000 - \$74,999	22%	19%
	\$75,000 - \$99,999	9%	10%
	\$100,000 or more	7%	5%

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

Just as with experience, formally reporting a violation did not have an impact on a respondent's likelihood to report a future violation. Of those who had formally reported a past violation (within 5 years), 71% would be extremely likely to report a future incident. This is similar to the 67% of those who had not formally reported a past incident.

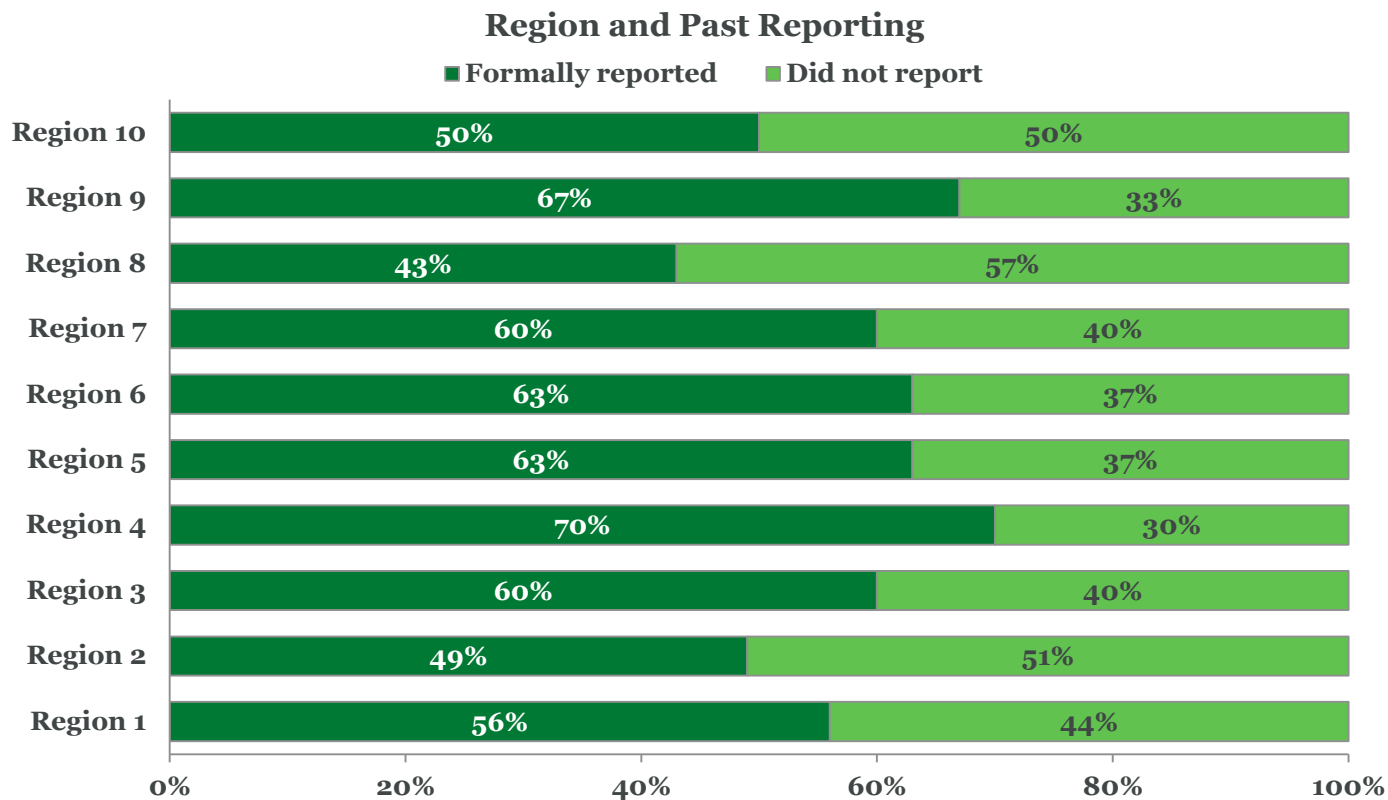
Figure 18: Formal Reporting and Likelihood to Report a Violation in the Future



FORMAL REPORTING BY REGION

No clear patterns or trends manifested for past reporting of health or safety violations among the regions, and few significant differences appeared between individual regions. Region 4, the Southeast, stood out as the area of greatest past reporting with 70% having reported a health or safety violation. This was significantly higher than Region 2 (New York and New Jersey), which had the second lowest incidence rate of reporting at 49%.

Figure 19: Formally Reporting an Experience With Health & Safety Violations Across OSHA Regions



5.2 DEMOGRAPHIC PROFILES FOR FUTURE LIKELIHOOD TO REPORT

Education had a positive influence on workers' likelihood to report a future health or safety violation. Thirty-six percent of those extremely likely to report were college graduates, while 30% would not be extremely likely to report. Furthermore, of those not likely to report, 43% have a high school education or less, versus 33% who would be likely. Race played a role in future likelihood as well, with 71% of likely future reporters being White, which was significantly higher than the 54% who would not report. Finally, male workers were less likely to report a health or safety violation as 58% of those not likely to report were men.

Table 11: Demographic Profile for Future Likelihood to Report Health & Safety Violations

		Extremely likely to report	Not extremely likely to report
		A	B
Education	College graduate or higher	36%	30%
		B	
	Some college or vocational	31%	27%
	High school or less	33%	43%
			A
Race and Ethnicity	White	71%	54%
		B	
	African American	12%	12%
	Asian	5%	7%
	Hispanic	12%	27%
			A
Age	18-29	25%	26%
	30-44	31%	34%
	45-54	23%	23%
	55+	21%	18%
Gender	Male	49%	58%
			A
	Female	51%	42%
		B	

**Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.*

FUTURE LIKELIHOOD TO REPORT BY INDUSTRY

Looking at future likelihood to report by industry variables, OSHA module respondents did not exhibit many major differences. Workers did not differ widely in regards to work type, union status, or management status. However, workers did differ significantly in terms of pay type and their propensity to report a future violation. Of those workers who indicated that they were not extremely likely to report a future violation, 66% were paid hourly; this was significantly higher than the 56% who were extremely likely to report a health or safety violation.

Table 12: Job Profile for Future Likelihood to Report Health & Safety Violations

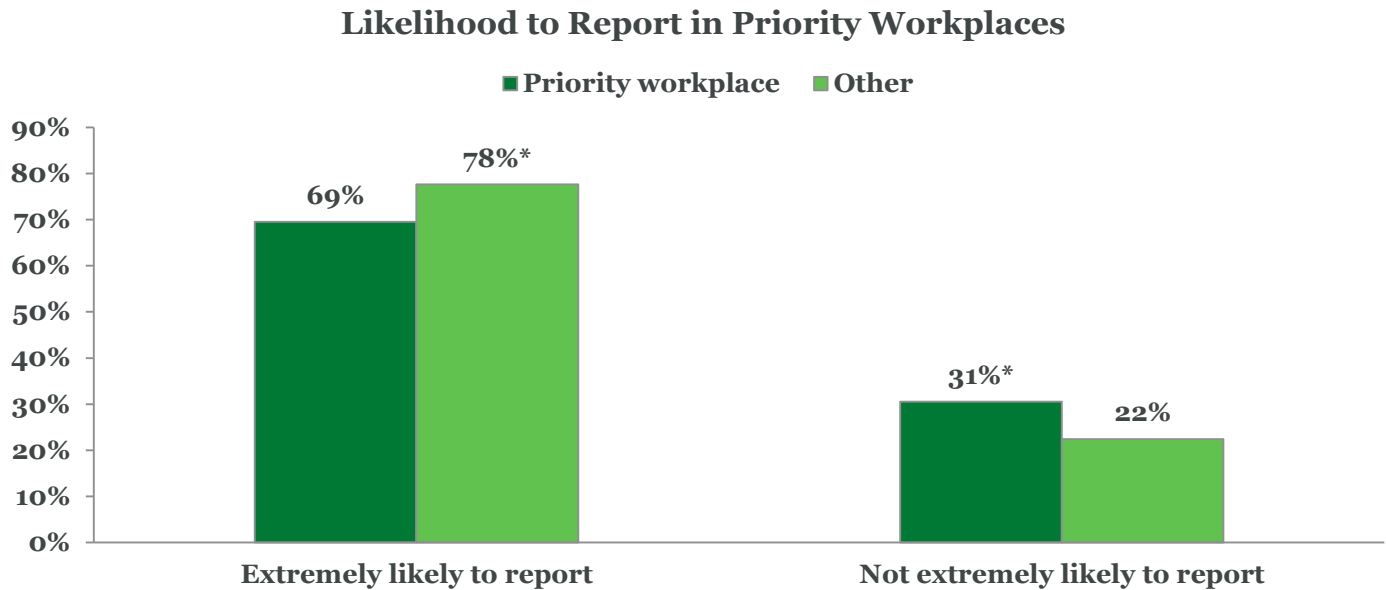
		Extremely likely to report	Not extremely likely to report
		A	B
Work Type	Blue collar	52%	52%
	White collar	48%	48%
Union Membership	Union	14%	13%
	Non-union	86%	87%
Work	Government	17%	16%
	Private company	61%	56%
	Non-profit/Other	21%	25%
Management	Non-management	56%	64%
	Management	43%	35%
Tenure	Less than 1 year on job	16%	16%
	1 year but less than 5 years on the job	29%	35%
	5 or more years on the job	52%	45%
Pay	Hourly	56%	66%
	Salary	39%	28%
	By unit of production	3%	3%
	Daily	1%	2%
Income	Under \$20,000	15%	19%
	\$20,000 - \$29,999	13%	17%
	\$30,000 - \$39,999	11%	11%
	\$40,000 - \$49,999	12%	10%
	\$50,000 - \$74,999	20%	15%
	\$75,000 - \$99,999	9%	8%
	\$100,000 or more	9%	6%

*Letters denote statistically significant difference across noted columns. Differences are statistically significant at the 95% confidence interval.

PRIORITY WORKPLACES AND FUTURE LIKELIHOOD TO REPORT

Interestingly, those who do not work in priority workplaces were significantly more likely to report a health or safety violation than those who work in priority workplaces. Of those who work in non-priority workplaces, 78% were extremely likely to report a violation compared with 69% among those who work in priority workplaces.

Figure 20: Future Likelihood to Report Health & Safety Violations in Priority Workplaces

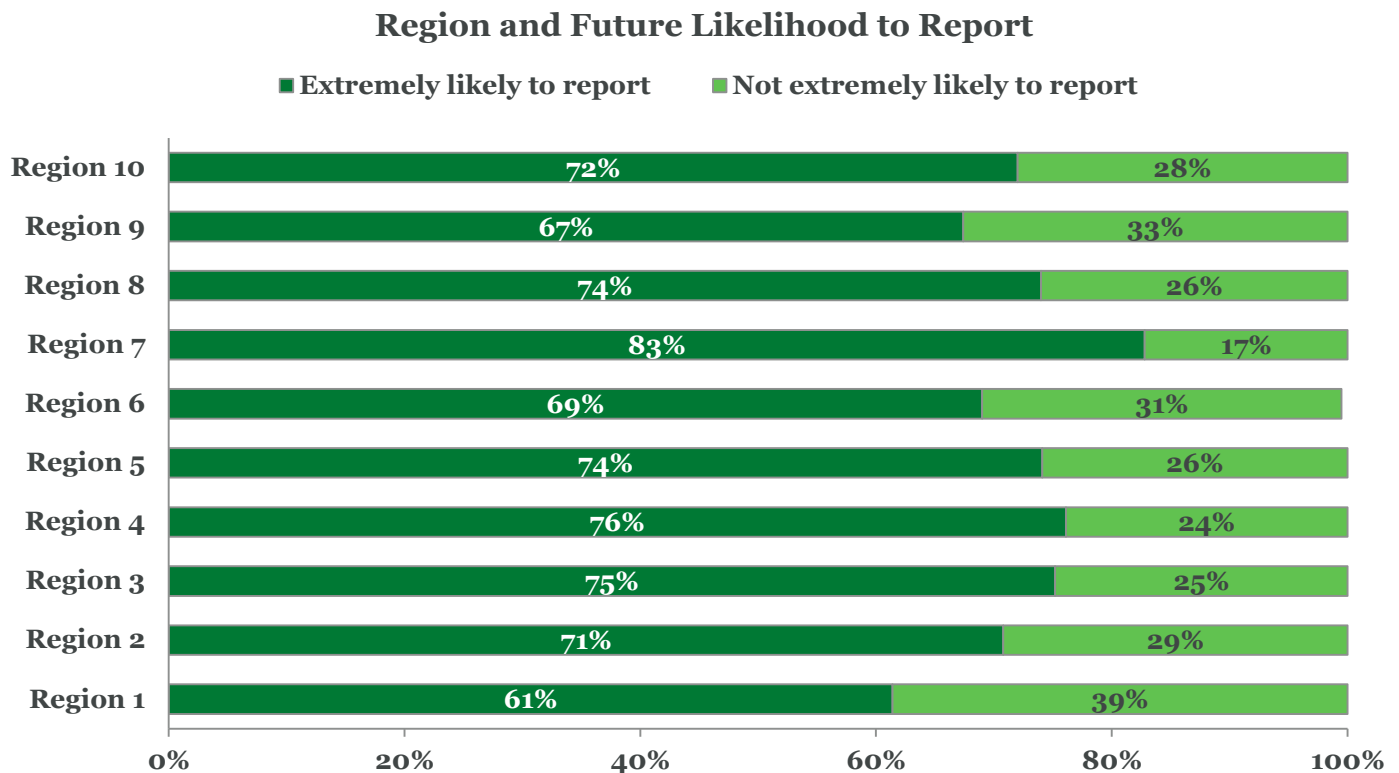


**Denotes significant difference at the 95% confidence interval*

FUTURE LIKELIHOOD BY REGION

Nationwide, workers in all regions were likely to report a future violation, with a majority in every region stating that they would be extremely likely to report very serious or repeated health and safety risks, or if they were sick or injured on the job. The Central Plains states of Region 7 stood out with the highest percentage of workers who indicated being extremely likely to report at 83%. This was significantly higher than the lowest proportion in Region 1, where 61% of workers would be extremely likely to report a future violation.

Figure 21: Future Likelihood to Report Health & Safety Violations Across OSHA Regions



5.3 PREDICTORS OF LIKELIHOOD TO REPORT FUTURE HEALTH & SAFETY VIOLATIONS

Using multivariate logistic regressions, odds ratios were calculated to determine the contribution, all things being equal, that a number of workplace factors and demographic variables were associated with a worker’s willingness to voice future violations. The ratios described how much a given variable increases or decreases the odds of ones likelihood to voice future violations while holding all other measured variables constant.

The variables associated with likelihood to voice future violations were:

- Experience with a health or safety violation
- Educating workers on health & safety rights via website or other materials
- Gender
- Education
- Income

Past experience with a health or safety violation was associated with future likelihood to voice a violation. Individuals who had no experience with a violation had 1.56 times the odds of those who had an experience with a violation to say they would report future violations. Receiving employer education on a regular basis was also indicative of future reporting. Individuals who received regular education had 1.60 and 1.76 times the odds, respectively, of reporting future violations as those who received education as needed or who were educated when training new employees. Similarly, workers who reported having access to information about

health and safety rights via a website or other material had 2.18 times the odds as those who did not have access to these options to say they would report future health and safety violations.

Women had 1.82 times the odds as men to say they would report future health and safety violations. Table 13 lists all of the variables associated with experience with a health or safety violation.

Table 13: Predictors of Likelihood to Voice OSHA

Predictors	Odds Ratio
No experience with violation vs. Experienced with violation	1.56
Educated via website or other materials vs. Not educated via website or other materials	2.18
Female vs. Male	1.82
Educated on a regular basis vs. Educated as needed	1.60
Educated on a regular basis vs. Educated when training new employees	1.76
Income \$100,000 plus vs. Income \$20,000 - \$29,999	1.97

6.0 PREDICTORS OF HIGH WRAAK OSHA

The variables associated with having high WRAAK among OSHA respondents were:

- Experience with a workplace health or safety violation
- Employer education
- Pay type
- Income
- Overall company size
- Education level
- Region
- Employer educating workers on health and safety rights via website or other materials

The odds of being classified as high WRAAK if a worker did not have experience with a workplace health and safety violation were 1.57 times the odds of being classified as high WRAAK if a worker had experience with a violation. The frequency of employer-provided education also has an impact on predicting high WRAAK. Individuals educated on a regular basis had 2.74 times the odds of being classified as high WRAAK as those who received education when training new employees. Additionally, individuals educated on a regular basis were 1.55 times the odds of being classified as high WRAAK as those who received education as needed. With regard to access, it is interesting to note that those who received education from their employer via websites or other sources had 2.07 times the odds of being classified as high WRAAK than those who said they were not educated via these sources.

Working for a very small or small company also played a role in predicting high WRAAK. Individuals who worked for a very small company (fewer than 25 employees) had 3.58 times the odds of being classified as high WRAAK than those who worked for a large company (more than 500 employees). Similarly, those who worked

for a small company (25-49 employees) had 2.40 times the odds of being classified as high WRAAK as those who worked for a large company.

The demographic variables associated with high WRAAK among OSHA respondents were pay type, income, and education level. Individuals making less than \$20,000 had on average 2.3 times the odds of being classified as high WRAAK than those making between \$30,000 - \$99,999. With regard to education level, those with a high school education or less had 1.58 times the odds of being classified as high WRAAK as those who have a college education or higher. Table 14 lists all of the variables associated with having high WRAAK among OSHA respondents.

Table 14: Predictors of High WRAAK OSHA

Predictors for Having High WRAAK	Odds Ratio
Experience with violation vs. No experience with violation	1.57
Educated on a regular basis vs. Educated as needed	1.55
Educated on a regular basis vs. Educated when training new employee	2.74
Paid salary vs. Paid hourly	1.85
Income less than \$20,000 vs. Income \$30,000 - \$39,999	2.34
Income less than \$20,000 vs. Income \$40,000 - \$49,999	2.54
Income less than \$20,000 vs. Income \$50,000 - \$74,999	2.12
Income less than \$20,000 vs. Income \$75,000 - \$99,999	2.19
Company size very small vs. Company size large	3.58
Company size very small vs. Company size medium	3.49
Company size small vs. Company size large	2.40
Company size small vs. Company size medium	2.34
High school or less vs. College graduate or higher	1.58
Region 3 vs. Region 1	2.32
Region 4 vs. Region 1	2.55
Region 5 vs. Region 1	3.17
Region 6 vs. Region 1	2.4
Region 7 vs. Region 1	4.62
Region 8 vs. Region 1	3.35
Region 10 vs. Region 1	3.42
Educated via website or other materials vs. Not educated via website or other materials	2.07