

Self-reported exposure to hazards and mitigation strategies among oil and gas extraction workers in three U.S. states – Supplemental Material

Supplementary Table 1. Race and ethnicity among oil and gas extraction workers (n=466^A)

	Non-Hispanic, White n (%) ^B	Hispanic or Latino n (%) ^B	Non-Hispanic, non-White n (%) ^B	p-value
All workers	266 (57.1)	166 (35.6)	34 (7.3)	---
Age (median years)	35.0	34.0	33.5	0.476 ^C
Age group				0.146 ^D
Less than 35 years	130 (49.1)	90 (54.5)	18 (52.9)	
35 to 45 years	69 (26.0)	44 (26.7)	13 (38.2)	
More than 45 years	66 (24.9)	31 (18.8)	3 (8.8)	
Missing	Too few records to report			
Years of oilfield experience				0.339 ^D
Less than 5 years	77 (28.9)	47 (28.7)	12 (36.4)	
5 to 10 years	79 (29.7)	62 (37.8)	10 (30.3)	
More than 10 years	110 (41.4)	55 (33.5)	11 (33.3)	
Missing	Too few records to report			

^A Six of the 472 respondents included in this analysis were marked as missing from the race and ethnicity composite variable and therefore excluded from these results.

^B Missing responses were removed from the denominator for percent calculations.

^C Kruskal-Wallis test

^D Chi-square test

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Supplementary Table 2. Self-reported contact with hazardous substances and environments among oil and gas extraction workers, by race and ethnicity (n=472)

	Non-Hispanic, White n (%) ^A	Hispanic or Latino			Non-Hispanic, non-White		
		n (%) ^A	Odds ratio ^B (95% confidence interval)	p-value ^C	n (%) ^A	Odds ratio ^B (95% confidence interval)	p-value ^C
Contact with hazardous substances							
Pipe dope	191 (77.3)	122 (87.8)	2.03 (0.93-4.68) ^D	0.076	27 (90.0)	2.02 (0.59-9.58) ^D	0.298
Diesel exhaust	180 (75.0)	101 (80.2)	N/A		25 (86.2)	N/A	
Crude oil	141 (59.2)	66 (55.9)			21 (75.0)		
Drilling mud	95 (44.4)	67 (58.3)	1.40 (0.70-2.80) ^D	0.334	14 (58.3)	1.86 (0.60-5.70) ^D	0.271
Flowback fluids	101 (45.5)	48 (43.2)	N/A		18 (60.0)	N/A	
Fracking fluid	54 (25.5)	33 (31.7)			10 (40.0)		
Hazardous work environments							
Open tank hatches or work around open tanks at least twice a week	94 (35.5)	52 (34.9)	N/A		18 (52.9)	N/A	
Sand used at worksite	57 (21.7)	22 (14.7)	0.72 (0.35-1.42) ^E	0.351	10 (30.3)	1.88 (0.73-4.71) ^E	0.177

N/A: Variable not included in final model, so odds ratios are unavailable.

^A Missing responses were removed from the denominator for percent calculations. Logistic regression models excluded records missing data on age (n=2) or race/ethnicity (n=6) when one or both variables were included in the model.

^B Reference category: operators. Random effect: survey location.

^C Multiple logistic regression

^D Adjusted for age and company type

^E Adjusted for company type