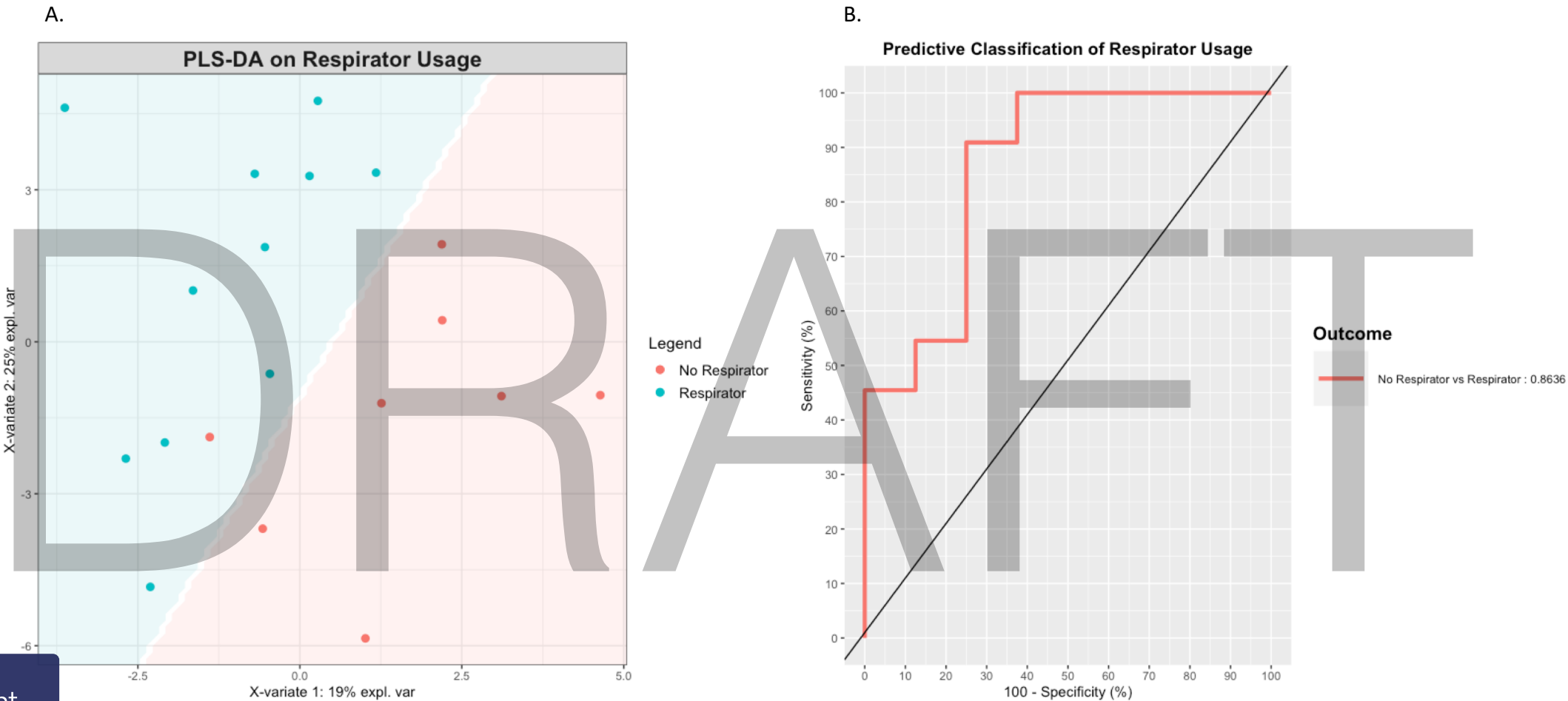


Table 1. Sociodemographic characteristics of welders included in this pilot study (n = 19) stratified by self-reported respirator use.

Characteristic	All participants	Welders using respirator (n = 11)	Welders not using Respirator (n = 8)	<i>p</i> *
Sex; n (%)				
Male	18 (94.7)	10 (90.9)	8 (100)	Ref
Female	1 (5.3)	1 (9.1)	0 (0)	0.99
Smoking; n (%)				
No	6 (31.6)	4 (36.4)	2 (25)	Ref
Former	11 (57.9)	6 (54.5)	5 (62.5)	0.56
Yes	2 (10.5)	1 (9.1)	1 (12.5)	0.50
Race/Ethnicity; n (%)				
White	14 (73.7)	8 (72.7)	6 (75)	Ref
Black	3 (15.8)	2 (18.2)	1 (12.5)	0.71
Hispanic	2 (10.5)	1 (9.1)	1 (12.5)	0.61
Age (y); Mean (SD) [Range]	49.9 (8.6) [35 – 64]	50.5 (10.0) [35 – 64]	49.1 (6.7) [41 – 57]	0.71
BMI; Mean (SD) [Range]	30.2 (3.4) [23 – 35]	30.2 (4) [23 – 35]	30.2 (2.7) [26 – 34]	0.95
Years welding; Mean (SD) [Range]	19.5 (9.7) [5 – 43]	20.6 (10.6) [5 – 43]	18 (8.8) [5 – 34]	0.46

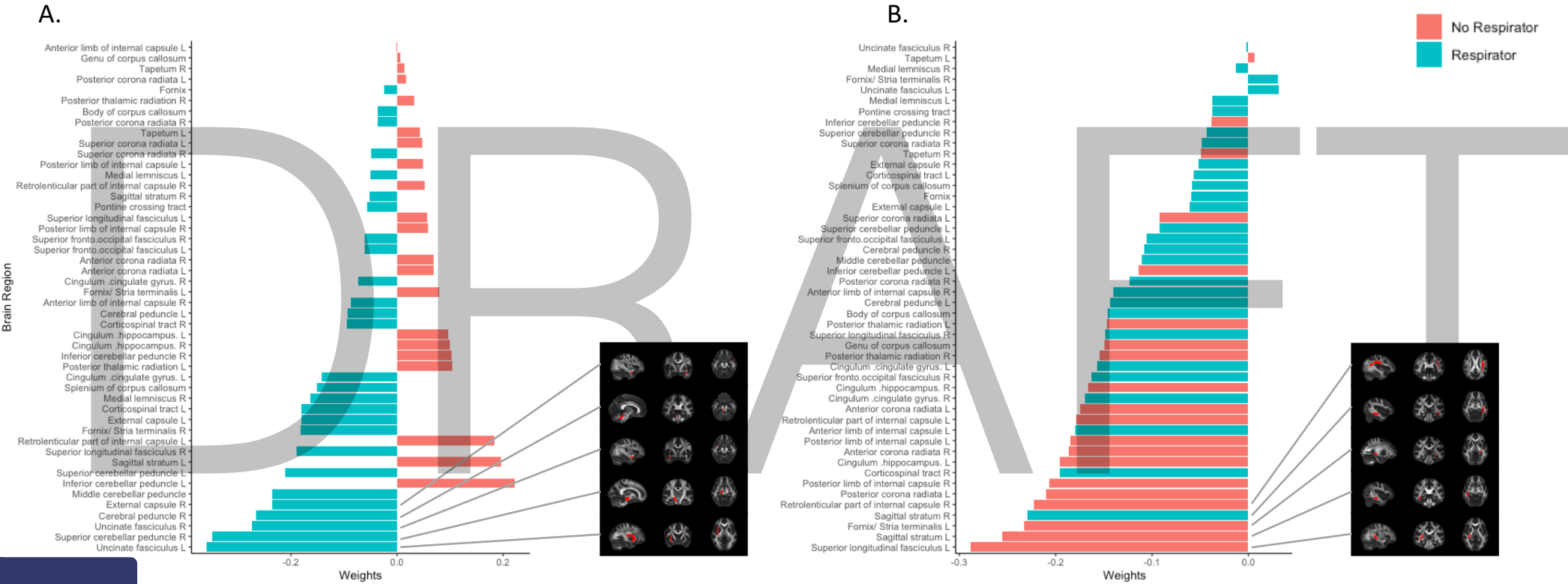
Note. BMI = Body Mass Index. * *p*-values from generalized linear model used to determine differences in sociodemographic characteristics between respirator users and non-users.

Figure 1. Partial least squares discriminant analysis (PLS-DA)



A. Red and blue points show individual participants scores on the first (x-axis) and second (y-axis) discriminate axes derived through PLS-DA. Separation of red and blue background illustrates the prediction area associated with each class, with subjects scoring in the blue space predicted to be respirator users, while those in red space are predicted to not be respirator users. B. Receiver operating characteristic (ROC) curve illustrating the sensitivity and specificity for predicting respirator use from the first discriminant axis with varying classification thresholds, yielding an area-under-the-curve (AUC) of 0.86.

Figure 2. Partial least squares discriminant analysis (PLS-DA) loadings.



Panels A and B show variable loadings on the first and second PLS-DA discriminant axes, respectively. Loadings are color coded to indicate the group with a higher mean score on that variable, with blue lines indicating measures where respirator users had higher scores, and red lines indicating variables where respirator non-users had higher mean scores. White matter tracts identified as having the five highest loadings on the first and second PLS-DA discriminant axes, are displayed in red. Tracts are overlaid on FMRIB58 FA 1mm standard image.