APPENDICES AVAILABLE ON THE HEI WEB SITE

Research Report 185

Analysis of Personal and Home Characteristics Associated with the Elemental Composition of $PM_{2.5}$ in Indoor, Outdoor, and Personal Air in the RIOPA Study

Patrick H. Ryan et al.

Appendix A. Descriptive Statistics for Elemental PM Concentrations by Study Site

Appendix B. Principal Component Loading Factors

Note: Appendices available only on the Web have been reviewed solely for spelling, grammar, and cross-references to the main text. They have not been formatted or fully edited by HEI.

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APPENDIX A. Descriptive Statistics for Elemental PM Concentrations by Study Site

Figure A.1. Spearman correlation coefficients between elemental concentrations in indoor–personal $PM_{2.5}$ and outdoor–personal $PM_{2.5}$ at California study site.

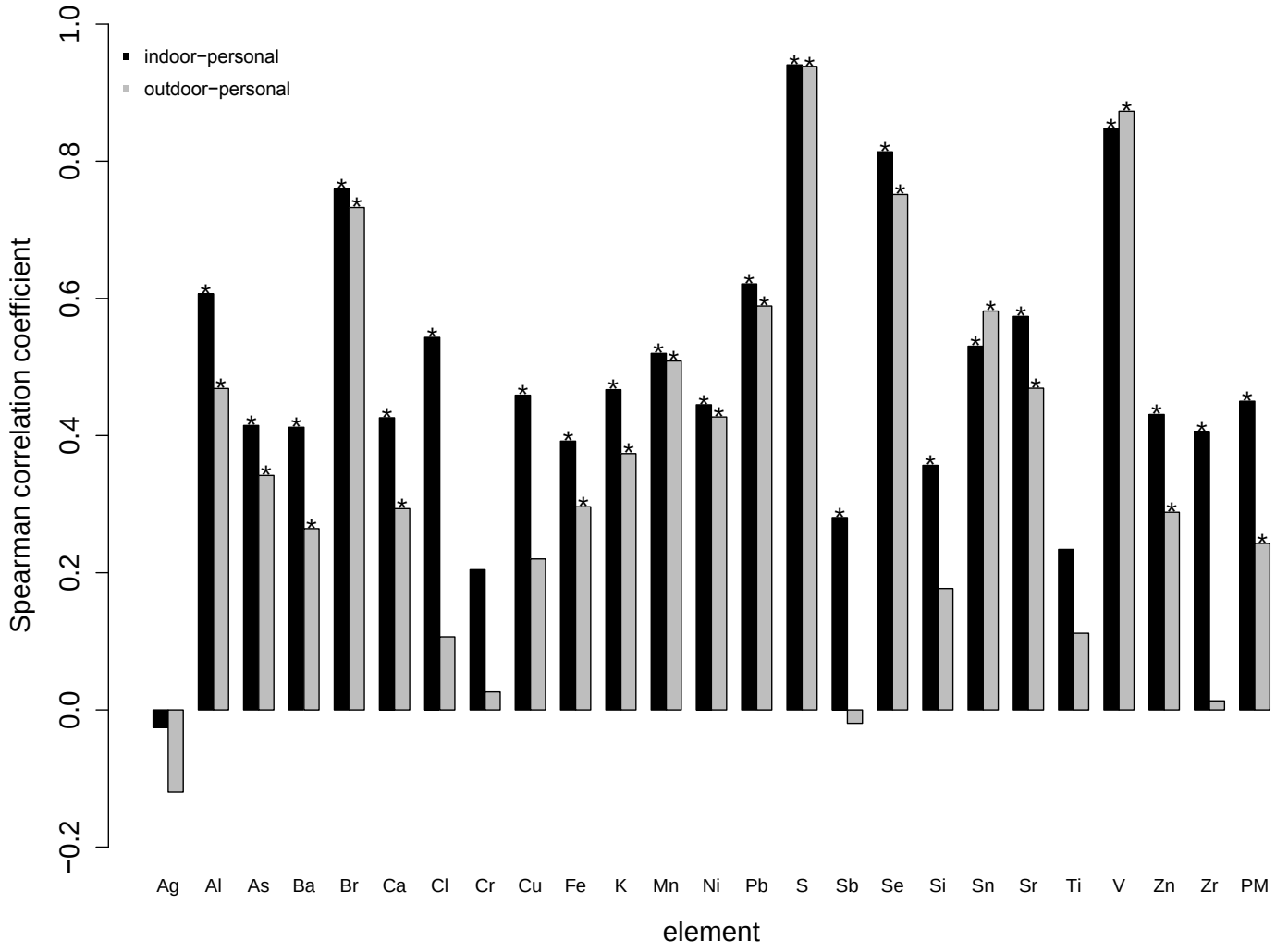


Figure A.2. Spearman correlation coefficients between elemental concentrations in in indoor–personal $PM_{2.5}$ and outdoor–personal $PM_{2.5}$ at Texas study site.

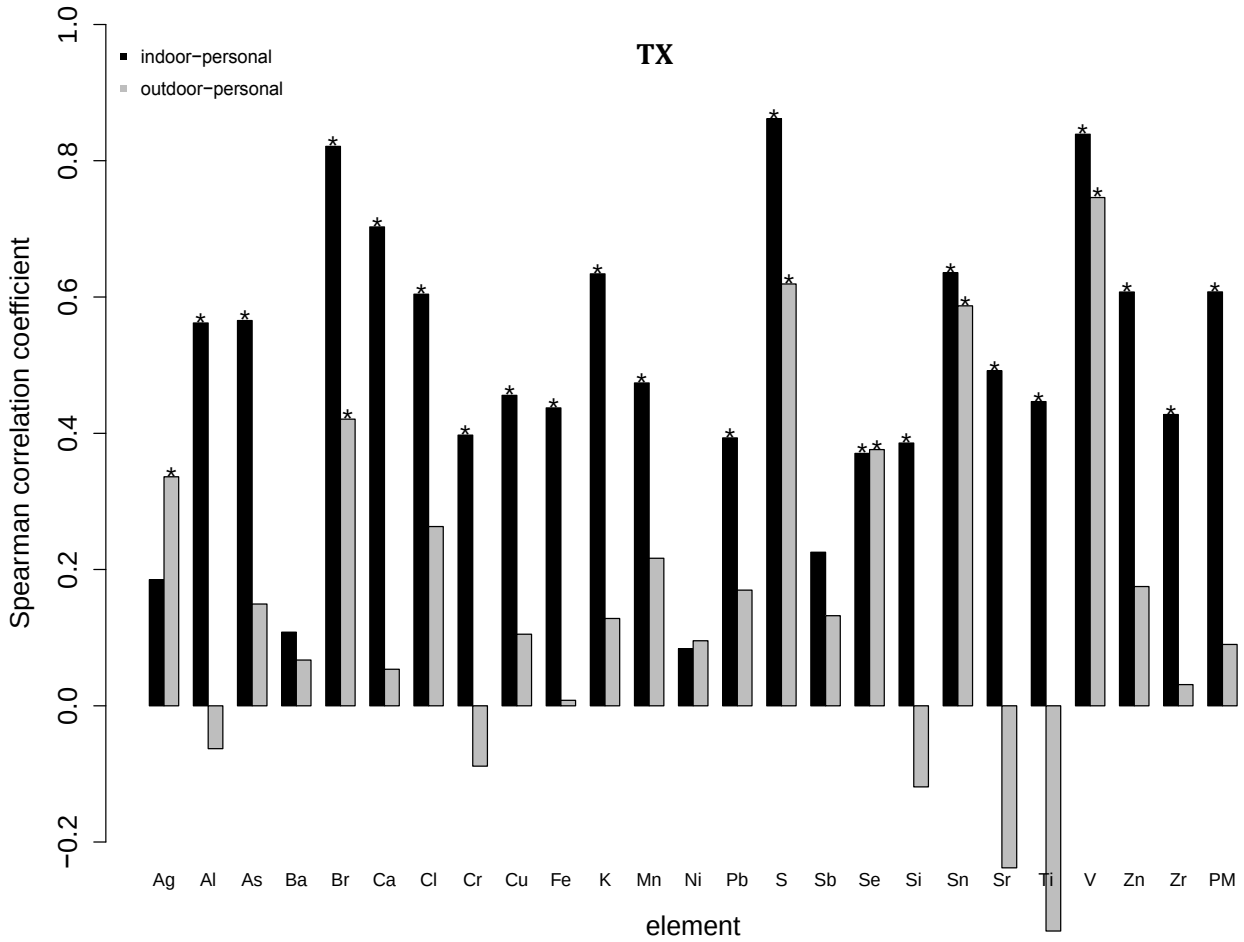


Figure A.3. Spearman correlation coefficients between elemental concentrations in indoor–personal $PM_{2.5}$ and outdoor–personal $PM_{2.5}$ at New Jersey study site.

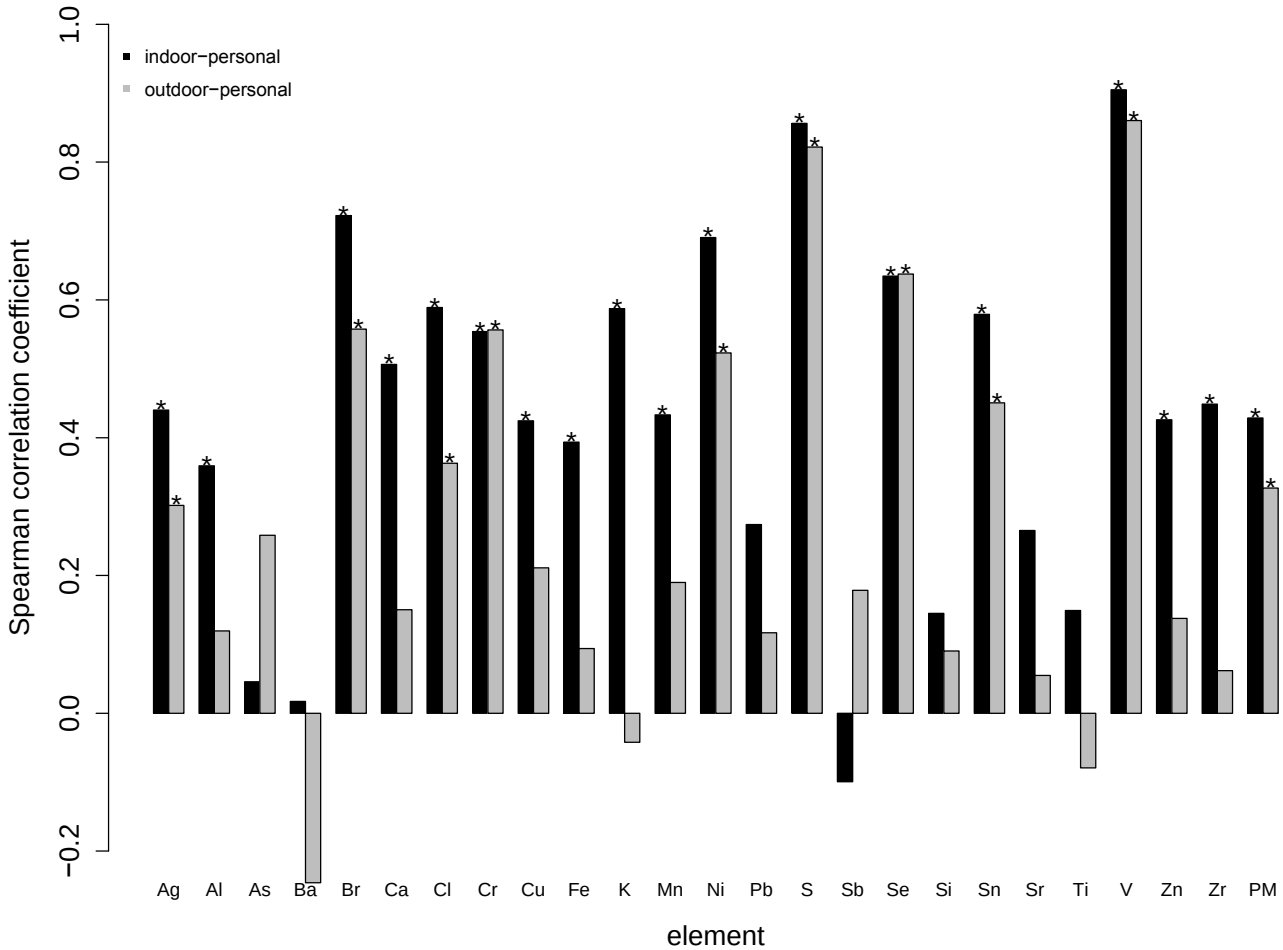


Figure A.4. Distribution of indoor/personal and outdoor/personal ratios (California dataset).

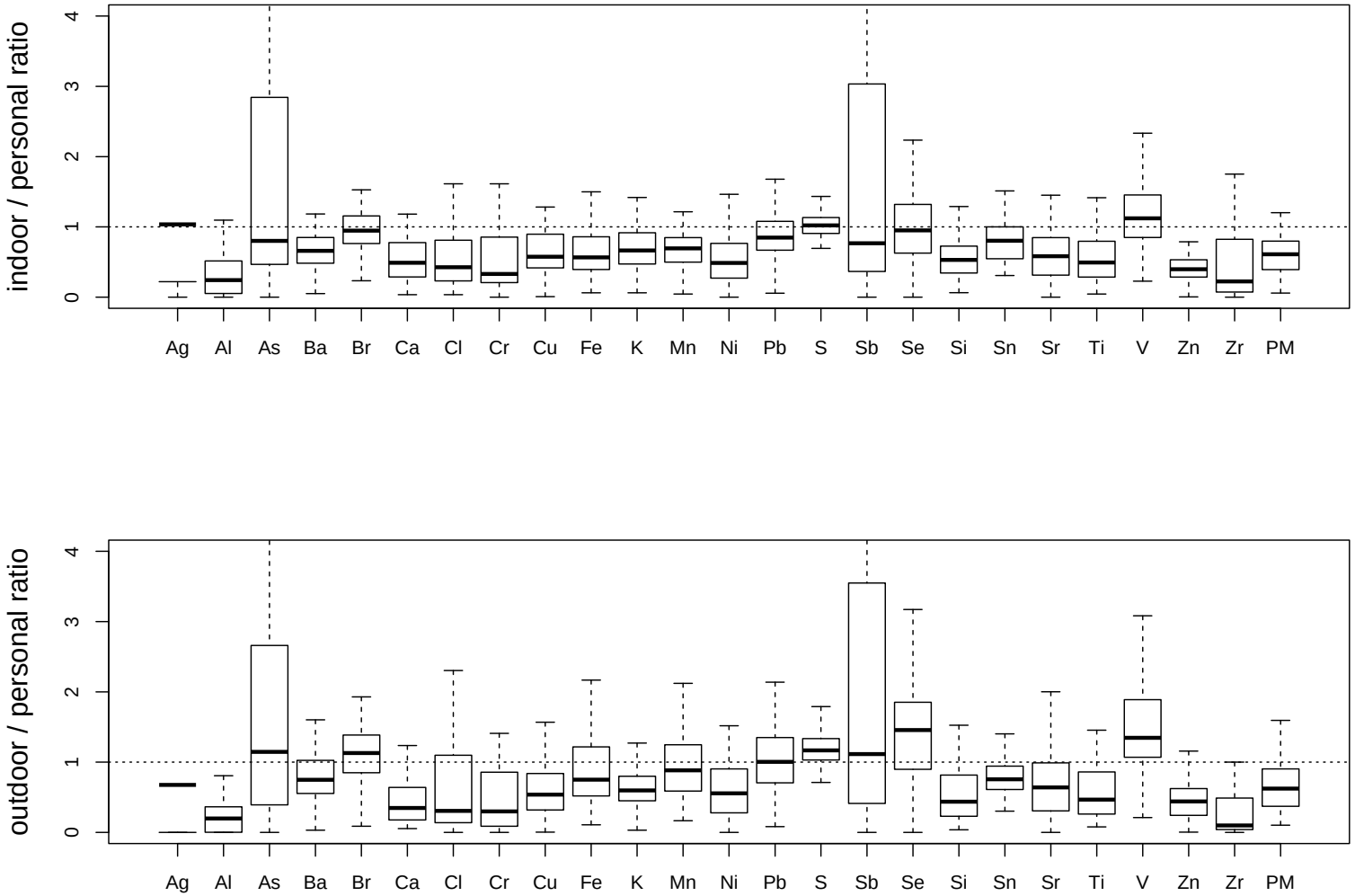


Figure A.5. Distribution of indoor/personal and outdoor/personal ratios (TX dataset).

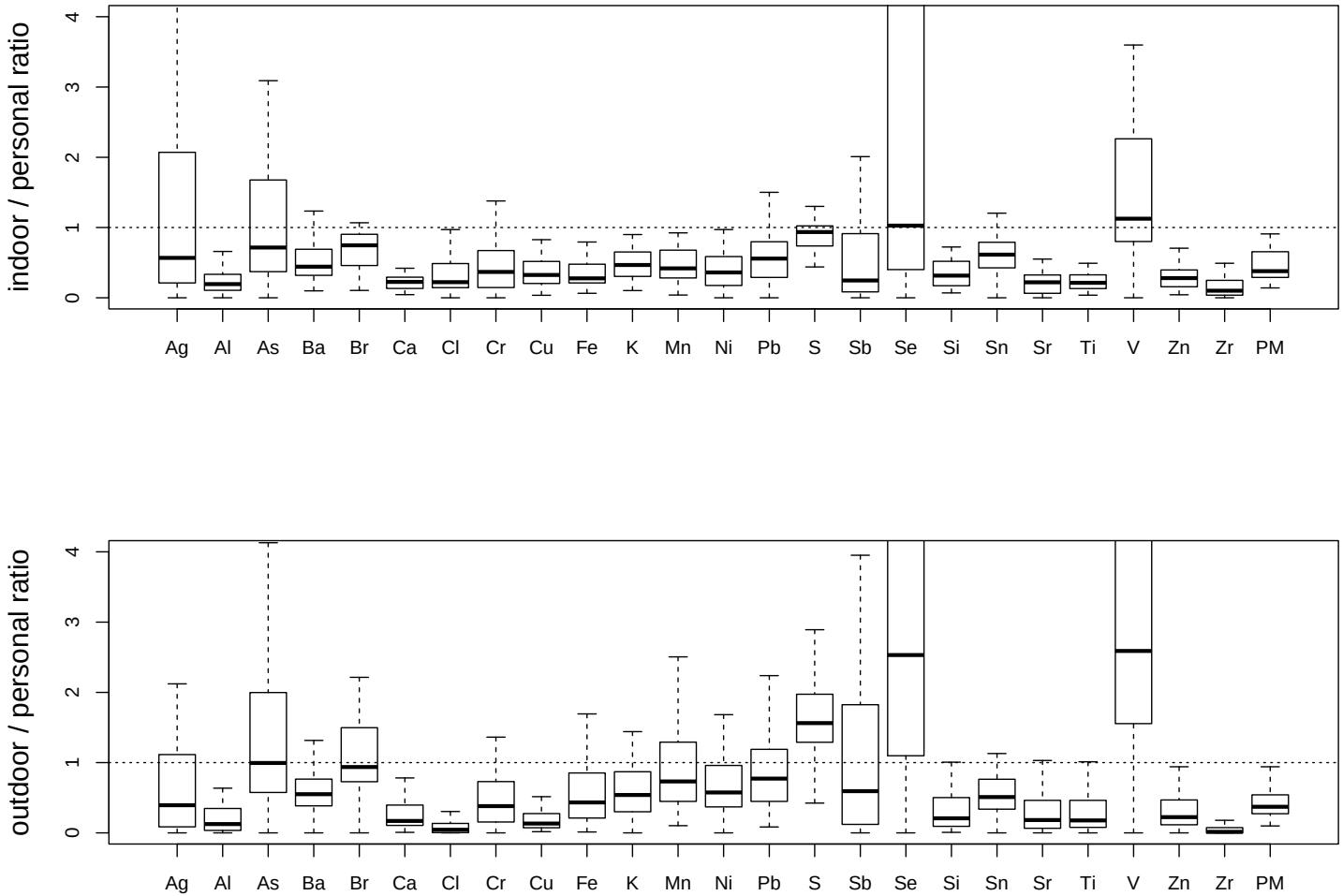
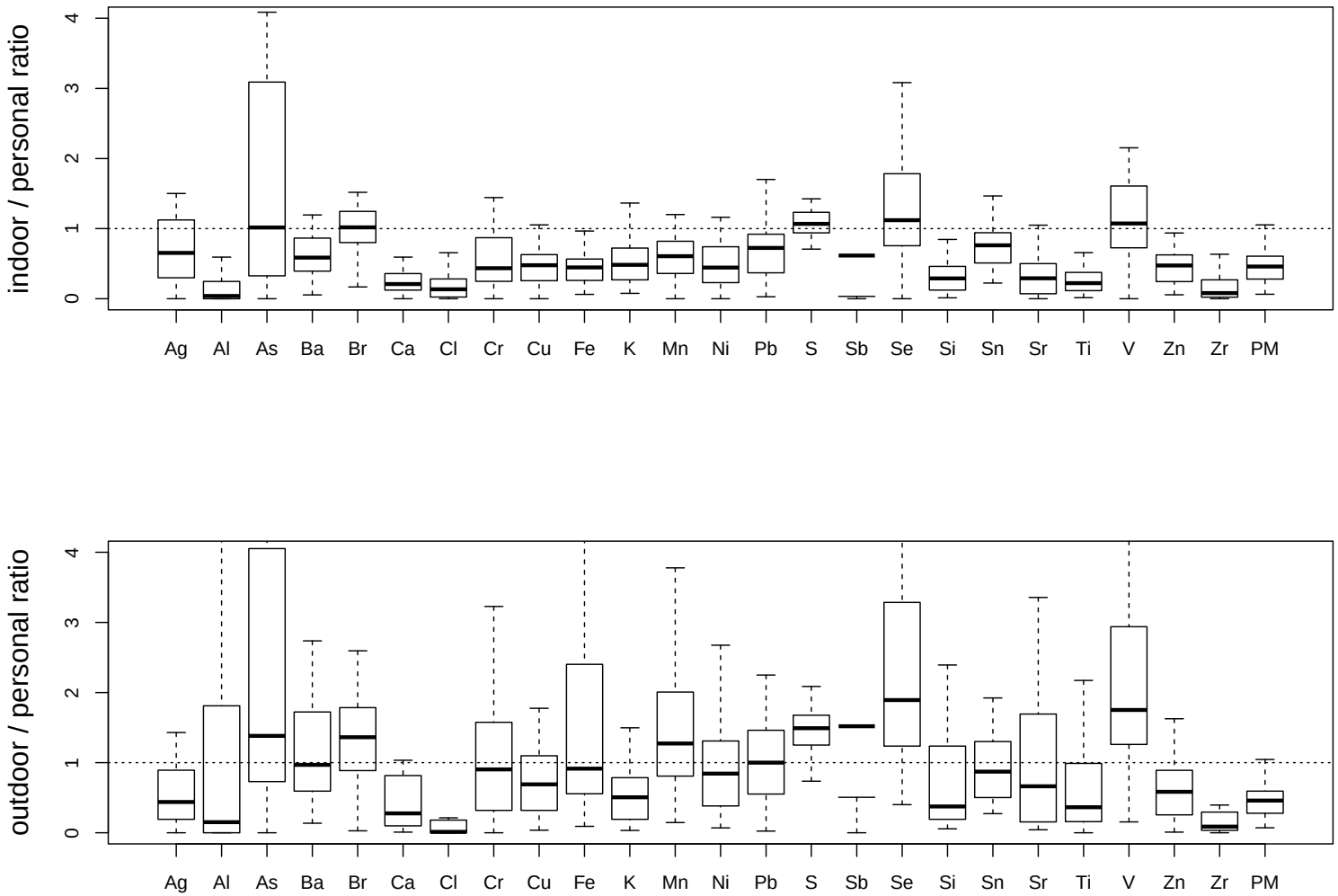


Figure A.6. Distribution indoor/personal and outdoor/personal ratios (New Jersey dataset).



Appendix B: Principal Component Loading Factors

Table B1. Principal Component Loading Factors by Study Site*

	California			New Jersey			Texas		
PM2.5 Element	**PC1**	**PC2**	**PC3**	**PC1**	**PC2**	**PC3**	**PC1**	**PC2**	**PC3**
Ag	-0.03	-0.02	0.20	0.06	0.09	0.20	0.10	-0.03	-0.28
Al	-0.20	-0.28	0.08	0.22	0.22	-0.16	0.23	0.16	-0.22
As	-0.12	0.11	0.26	0.13	-0.26	**-0.31**	0.07	-0.25	**-0.33**
Ba	-0.17	-0.11	0.28	0.20	0.03	-0.20	0.19	0.04	-0.10
Br	-0.19	**0.30**	0.00	0.19	**-0.31**	0.22	0.11	-0.28	**0.38**
Ca	-0.27	-0.15	-0.11	0.27	0.15	0.05	0.30	0.00	0.06
Cl	-0.15	-0.13	**-0.36**	0.20	0.23	**0.35**	0.19	0.17	**0.37**
Cr	-0.17	-0.12	**-0.40**	0.14	0.02	-0.20	0.20	0.03	-0.24
Cu	-0.23	-0.13	-0.10	0.19	0.10	-0.27	0.24	0.16	-0.14
Fe	-0.28	-0.07	0.17	0.28	-0.02	-0.15	0.28	-0.08	-0.08
K	-0.26	-0.10	0.19	0.22	0.05	**0.34**	0.24	-0.17	0.04
Mn	-0.28	0.04	0.17	0.27	-0.12	-0.21	0.23	-0.16	-0.15
Ni	-0.23	0.20	**-0.34**	0.23	-0.10	-0.10	0.21	-0.18	0.17
Pb	-0.23	0.21	0.10	0.25	-0.05	0.01	0.19	-0.16	-0.12
S	-0.11	**0.43**	-0.12	0.13	**-0.39**	0.21	0.07	**-0.45**	0.10
Sb	-0.11	0.15	0.24	0.12	-0.15	-0.05	0.10	-0.07	0.22
Se	-0.11	**0.38**	-0.05	0.12	**-0.45**	-0.11	-0.01	**-0.43**	-0.20
Si	-0.27	-0.17	0.03	0.28	0.11	0.00	0.28	0.05	-0.01
Sn	-0.18	0.16	0.07	0.14	-0.05	-0.06	0.13	0.21	**0.40**
Sr	-0.23	-0.09	0.29	0.26	0.09	0.07	0.28	0.06	0.05
Ti	-0.28	-0.07	-0.03	0.27	0.17	-0.02	0.29	0.12	-0.04
V	-0.09	**0.44**	-0.04	0.11	**-0.39**	0.15	-0.02	**-0.40**	0.22
Zn	-0.24	-0.03	-0.15	0.18	-0.01	**0.48**	0.23	-0.05	0.10
Zr	-0.20	-0.13	-0.29	0.20	0.27	-0.07	0.24	0.20	0.01

* Loading factors greater than 0.3 are bolded

Table B2. Principal Component Loading Factors from PCA by Sample Type*

	Indoor				Outdoor				Personal		
PM2.5 Element	**PC1**	**PC2**	**PC3**		**PC1**	**PC2**	**PC3**		**PC1**	**PC2**	**PC3**
Ag	-0.01	0.12	0.24		0.06	-0.04	0.11		0.04	-0.02	**0.37**
Al	-0.03	**-0.39**	0.23		0.17	**-0.34**	-0.27		0.23	-0.26	-0.04
As	-0.08	0.20	**0.43**		0.14	0.07	0.01		0.12	0.04	0.25
Ba	-0.14	-0.19	-0.21		0.19	-0.14	0.11		0.11	-0.06	-0.21
Br	-0.28	0.04	-0.06		0.18	**0.38**	-0.12		0.14	0.23	**-0.33**
Ca	-0.21	**-0.33**	0.06		0.25	-0.10	**-0.34**		**0.30**	-0.12	-0.07
Cl	-0.08	-0.29	0.06		0.12	0.06	-0.11		0.23	-0.24	-0.09
Cr	-0.06	0.10	**0.44**		0.17	-0.08	0.22		0.18	0.01	**0.38**
Cu	-0.15	0.04	0.25		0.23	-0.14	**0.34**		0.20	0.00	0.28
Fe	**-0.31**	-0.08	-0.04		0.28	-0.16	0.03		**0.30**	0.08	-0.02
K	-0.21	-0.05	0.17		0.22	0.00	**-0.37**		0.27	-0.06	-0.09
Mn	-0.27	0.03	0.20		0.27	-0.11	-0.04		**0.30**	0.08	-0.01
Ni	-0.26	0.28	0.03		0.21	**0.32**	0.02		0.22	0.13	**0.31**
Pb	-0.28	0.18	-0.01		0.25	0.08	0.23		0.21	0.23	0.16
S	-0.24	0.27	-0.15		0.15	**0.39**	-0.21		0.12	**0.43**	-0.03
Sb	-0.17	0.00	-0.27		0.14	0.05	0.16		0.05	0.13	-0.26
Se	-0.25	0.26	-0.02		0.18	**0.30**	0.20		0.02	**0.47**	0.13
Si	-0.20	**-0.34**	0.20		0.26	-0.17	-0.28		0.29	-0.15	-0.08
Sn	-0.22	-0.08	-0.25		0.13	0.01	**0.30**		0.08	0.23	**-0.30**
Sr	-0.23	-0.21	-0.16		0.23	-0.13	-0.05		0.23	-0.01	-0.28
Ti	-0.25	-0.23	-0.09		0.25	-0.19	-0.07		**0.31**	-0.06	-0.07
V	-0.25	0.18	-0.17		0.14	**0.41**	-0.18		0.03	**0.44**	-0.03
Zn	-0.18	0.13	0.09		0.26	0.13	0.20		0.16	0.03	0.04
Zr	-0.10	-0.12	0.24		0.22	-0.12	0.23		0.21	-0.13	0.10

* Loading factors greater than 0.3 are bolded