The following table summarizes the variable birth weight.

Table1. The statistic summary of birth weight from the sample

Location		Variability	
Mean	3,246.25	Std Deviation	604.03
Median	3,276	Variance	364,861
Mode	3,062	Range	4,466
		Interquartile Range	684.5

Table2. The Sample Distribution Summary of statistics of Birth weight and other related potential factors (n=600)

	Distribution		*Summary of Statistics			
	n	%	M	SD	Max	Min
****Smoking Status**						
Current Smoker	300	50%	3,128.20	652.29	4,890	424
Non-Smoker	300	50%	3,364.31	526.78	4,649	1,102
Mother's Age Group						
15-19 Years	54	9%	3,043.83	760.04	4,508	424
20-24 Years	184	30.67%	3,236.98	575.17	4,809	1,134
25-29 Years	172	28.67%	3,241.35	585.86	4,649	709
30-34 Years	120	20%	3,228.66	637.68	4,678	1,120
35-39 Years	50	8.33%	3,439.15	468.95	4,465	2,211
40-44 Years	20	3.33%	3,439.15	544.06	4,433	2,210
Race/Ethnicity						
White	509	84.83%	3,282.32	585.44	4,890	424
Black	70	11.76%	2,986.00	714.77	4,253	910
American Indian / Alaskan Native	6	1%	3,423.00	461.21	4,010	2,637
Asian / Pacific Islander	15	2.5%	3,166.27	417.34	3,827	2,503
Gestation age						
24^{th} to 36^{th} weeks	70	11.67%	2,477.13	831.65	4,340	424
37^{th} to 44^{th} weeks	530	88.33%	3,347.84	484.06	4,890	1,417
Prenatal care visit number						
No visits	10	1.67%	2,712.60	856.96	3,714	910
1 to 2 visits	7	1.17%	3,177.71	438.92	3,827	2,690
3 to 4 visits	16	2.67%	2,897.00	882.86	3,795	709
5 to 6 visits	23	3.83%	2,992.39	685.57	4,026	1,520
7 to 8 visits	58	9.67%	3,025.36	734.72	4,564	424
9 to 10 visits	123	20.50%	3,309.02	630.64	4,890	1,120
11 to 12 visits	153	25.50%	3,248.01	498.17	4,465	1,102
13 to 14 visits	104	17.33%	3,377.62	527.25	4,678	1,663
15 to 16 visits	59	9.83%	3,386.93	495.37	4,508	2,210
17 to 18 visits	11	1.83%	3,018.36	518.83	3,550	1,980
19 or more visits	14	2.33%	3,313.71	493.79	4,253	2,520
Unknown or not stated	22	3.67%	3,322.05	638.60	4,649	2,098

* The unit of birth weight is gram. M=mean, SD=stand deviation Max=maximum, Min=minimum.

** The t-test shows that t value is 4.88, p-values is less than 0.0001 means significant. 95% CI of non-smoking group's mean is (3,304.5 g, 3,424.2 g), 95% CI of smoking group's mean is (3,054.1 g, 3,202.3 g).

Fig1.1 Infant birth weight histogram

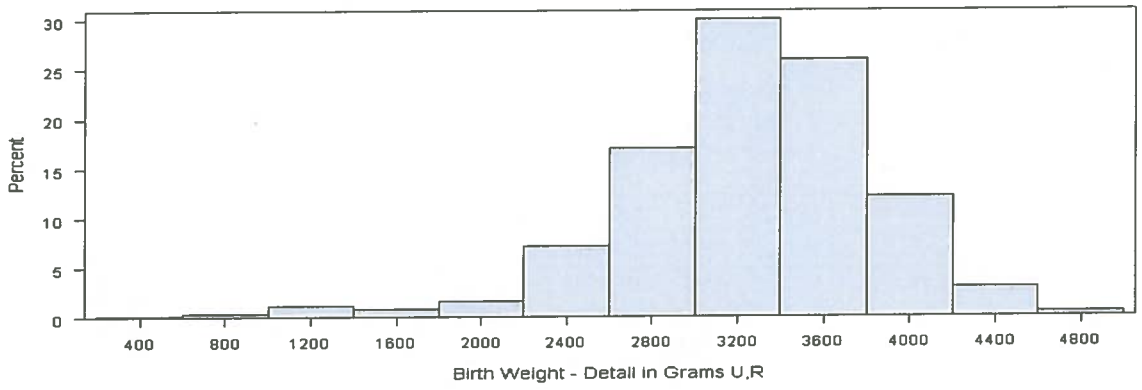


Fig1.2 Birth weight- Normal Probabilty Plot

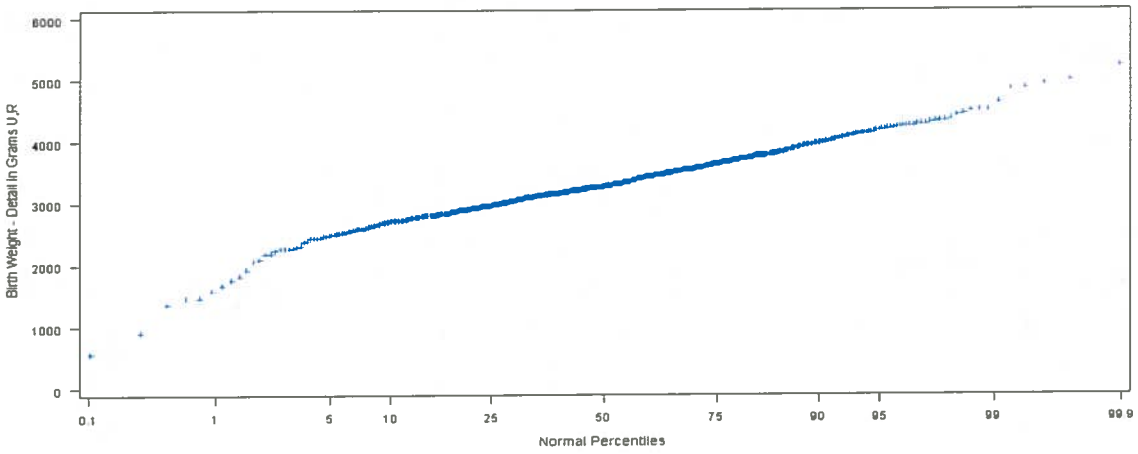
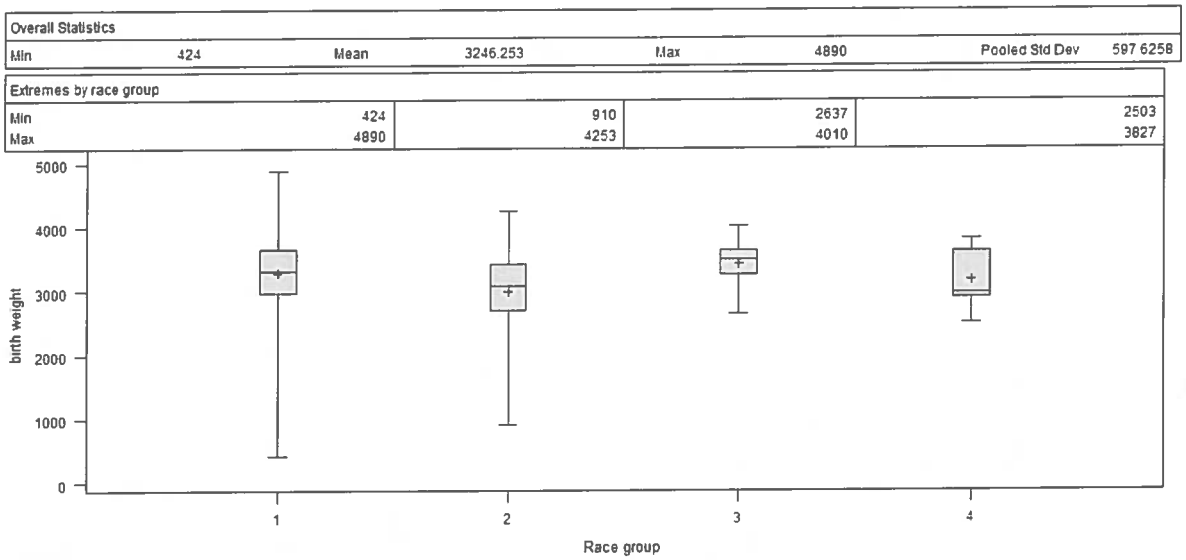
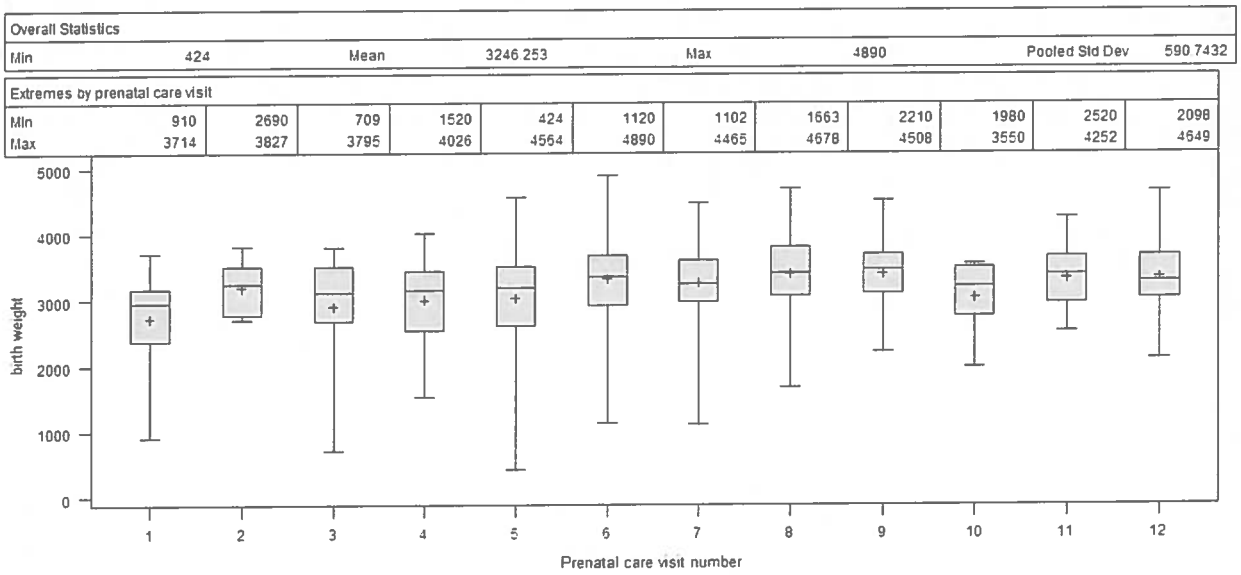


Fig2. Box Plot Mother's race Vs Birth weight



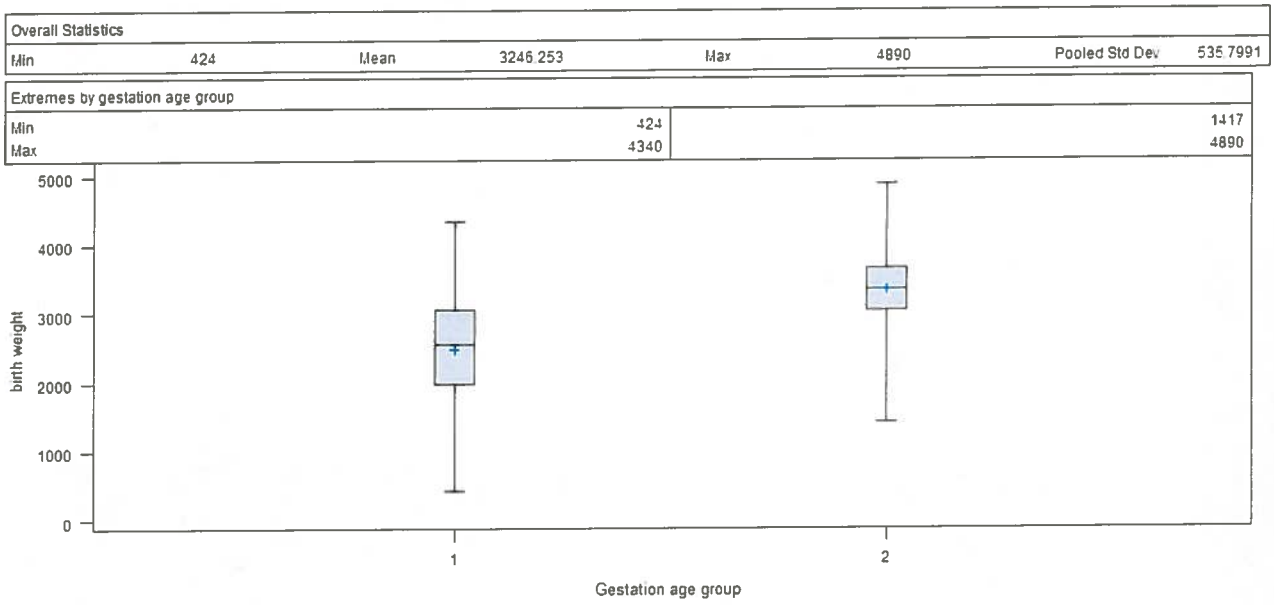
* 1=White, 2= Black, 3=American Indian / Alaskan Native, 4=Asian / Pacific Islander

Fig3. Box Plot Prenatal care visit number Vs Birth weight



* 1= No visits, 2=1 to 2 visits, 3=3 to 4 visits, 4=5 to 6 visits, 5=7 to 8 visits, 6=9 to 10 visits, 7=11 to 12 visits, 8=13 to 14 visits, 9=15 to 16 visits, 10=17 to 18 visits, 11=19 or more visits, 12=Unknown or not stated

Fig4.Box Plot Gestation Vs Birth weight



*1=24th to 36th weeks, 2=37th to 44th weeks

Fig5. Mother's age Vs Average birth weight

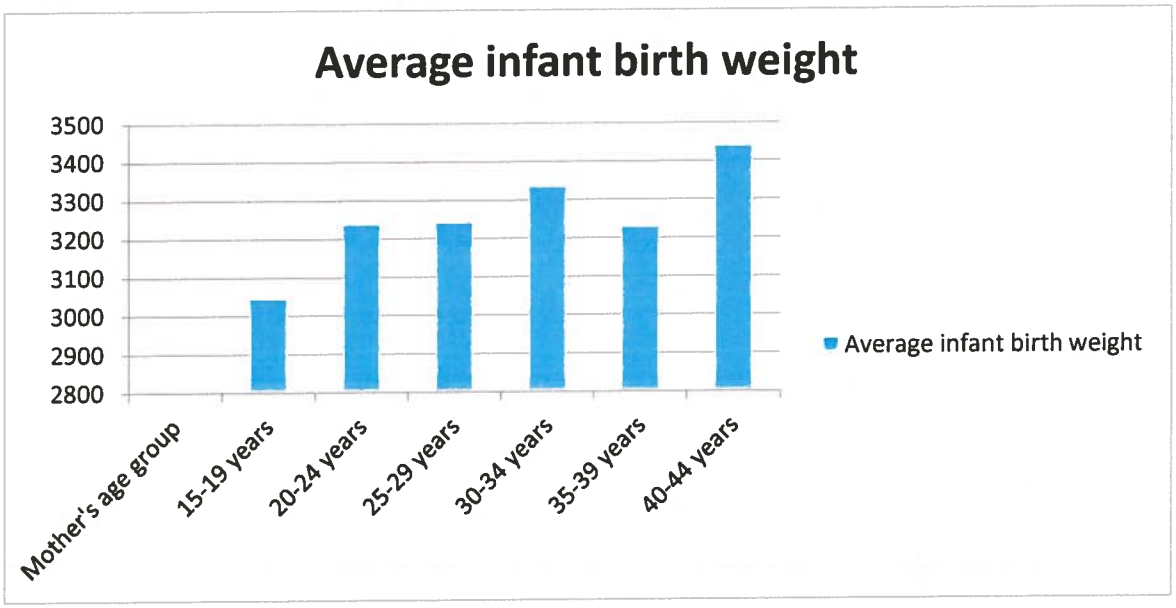
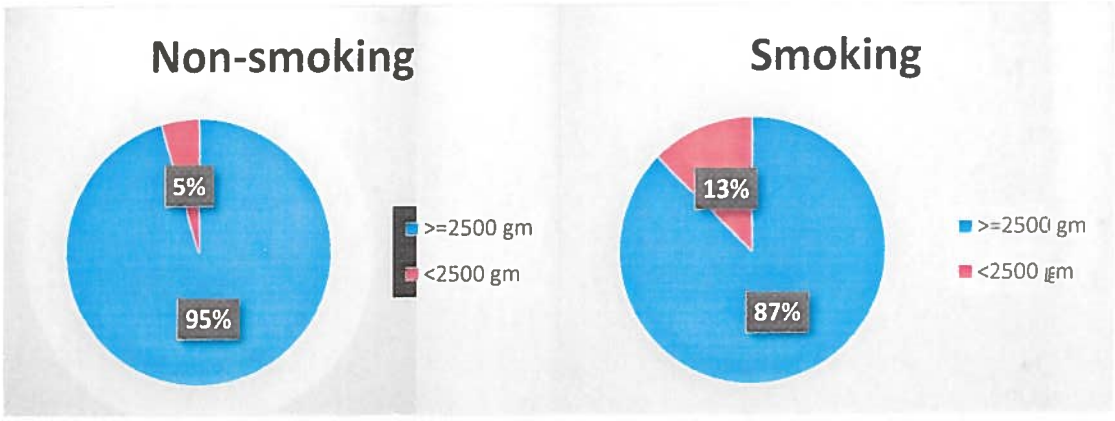


Fig6. Low birth weight for Non-smoking and smoking group



Tables

Table 1. Descriptive Statistics of NO_2 Concentration Grouped by Time

Statistic	N	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	SD
Morning	132	1.281	3.392	4.017	3.821	4.324	5.547	0.7465
Afternoon	127	2.219	3.684	4.048	3.936	4.256	6.395	0.61282
Evening	121	2.104	3.336	3.882	3.809	4.236	5.13	0.60861
Night	120	1.224	2.695	3.235	3.201	3.835	5.374	0.79925

Table 2. Summary Descriptive Statistics of All Variables

Variables	N	min	1st Qu.	median	mean	3rd Qu.	max	range	sd	se	skew
Logarithm of NO_2 concentration	500	1.22	3.21	3.85	3.7	4.22	6.4	5.17	0.75	0.03	-0.55
Logarithm of the number of cars	500	4.13	6.18	7.43	6.97	7.79	8.35	4.22	1.09	0.05	-0.81
Temperature 2m above ground	500	-18.60	-3.90	1.10	0.85	4.90	21.10	39.70	6.52	0.29	0.14
Wind speed	500	0.30	1.68	2.80	3.06	4.20	9.90	9.60	1.78	0.08	0.82
Wind direction	500	2.00	72.00	97.00	143.40	220.00	359.00	357.00	86.51	3.87	0.40

Figures

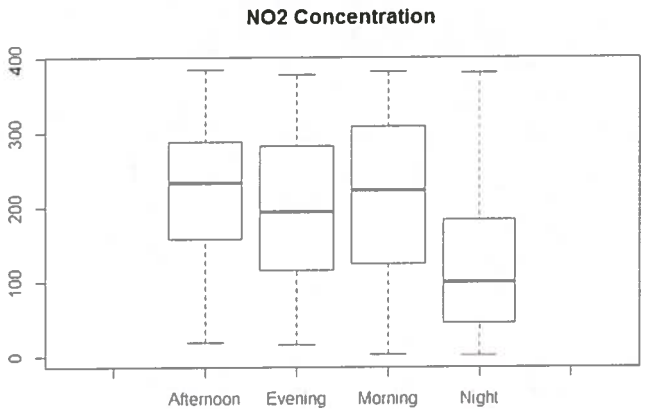


Figure 1. Box Plot for NO_2 Concentration

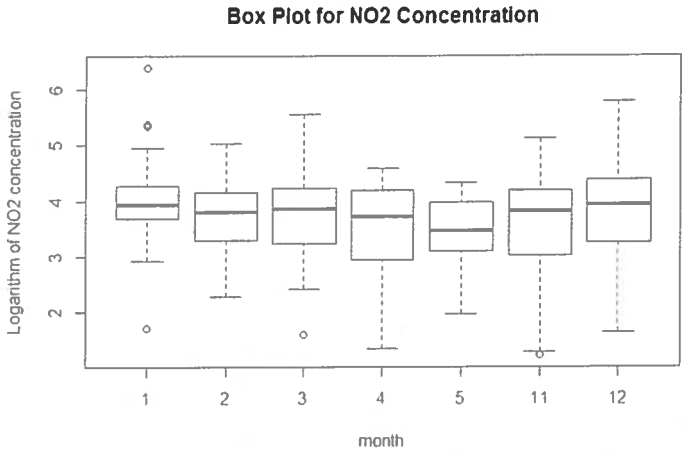


Figure 2. Box Plots for the Concentration of NO_2.

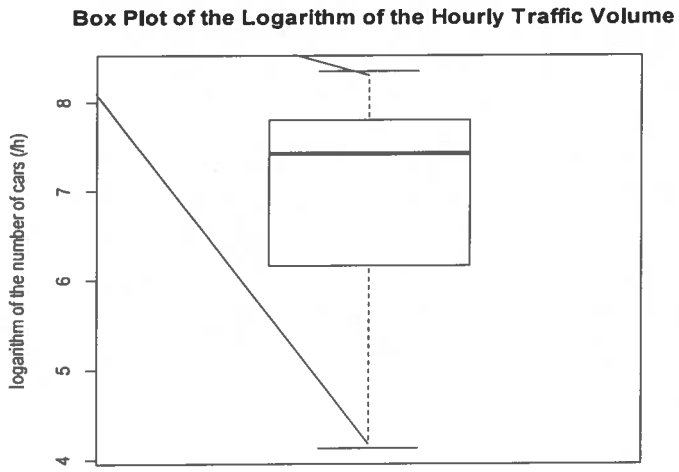


Figure 3.Box Plot of the Logarithm of the Hourly Traffic Volume

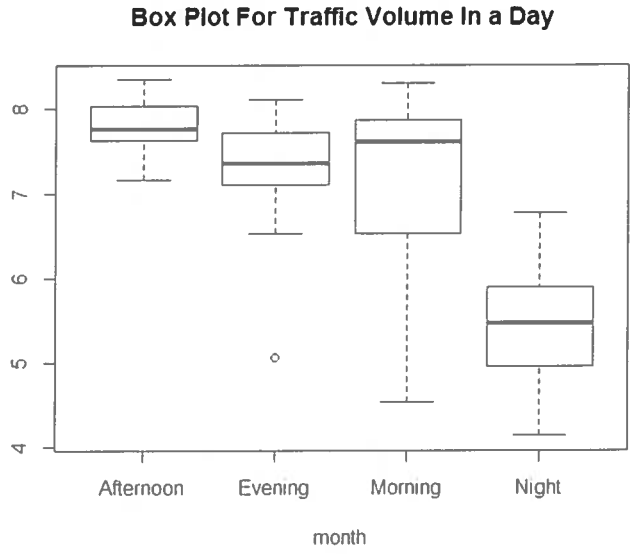


Figure 4. Box Plots of the Traffic Volume In a Day

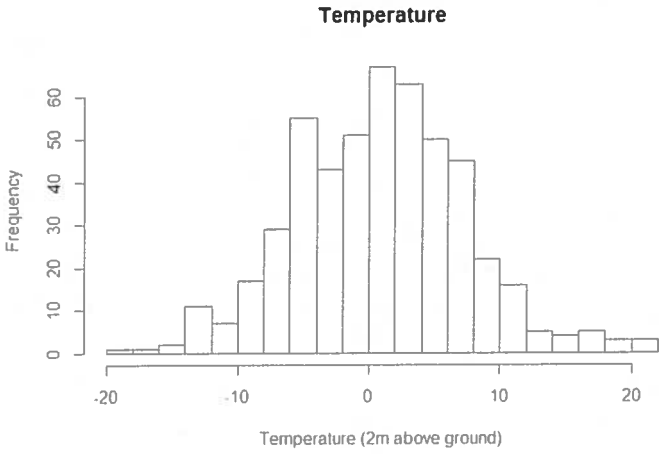


Figure 5.Histogragh for Temperature

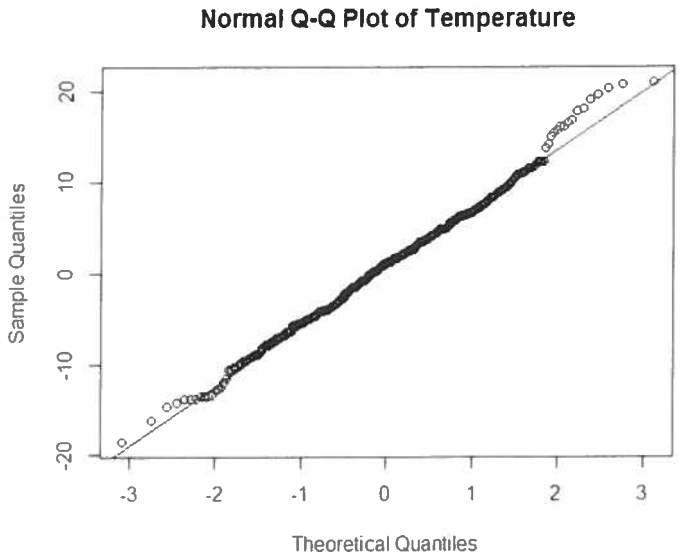


Figure 6. Q-Q plot for temperature

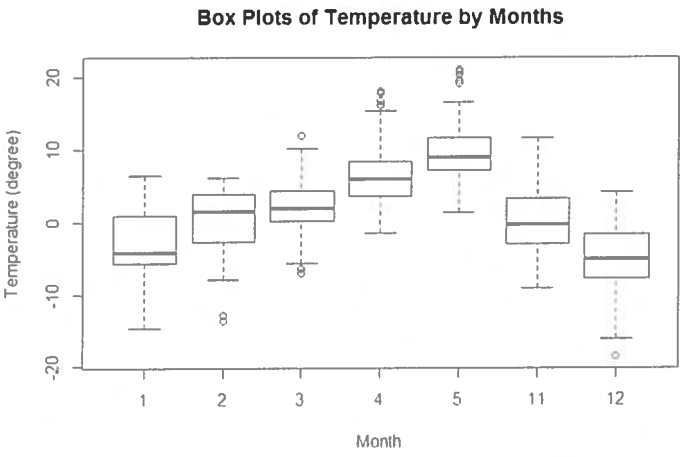


Figure 7. Box Plots for Temperature Across Months.

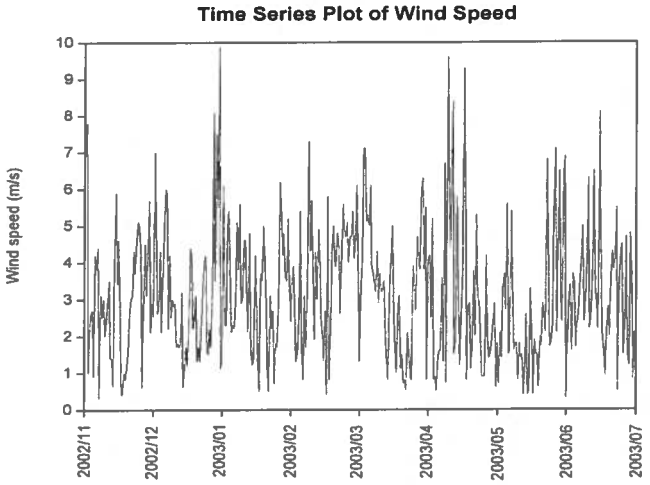


Figure 8. Time Series Plot of Wind Speed

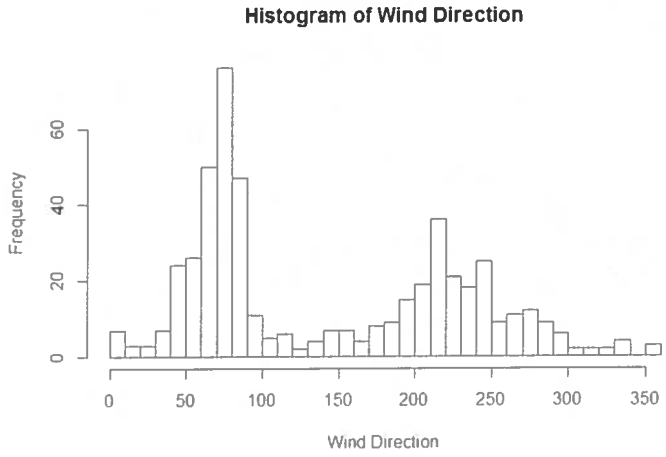


Figure 9. Histogram of Wind Direction

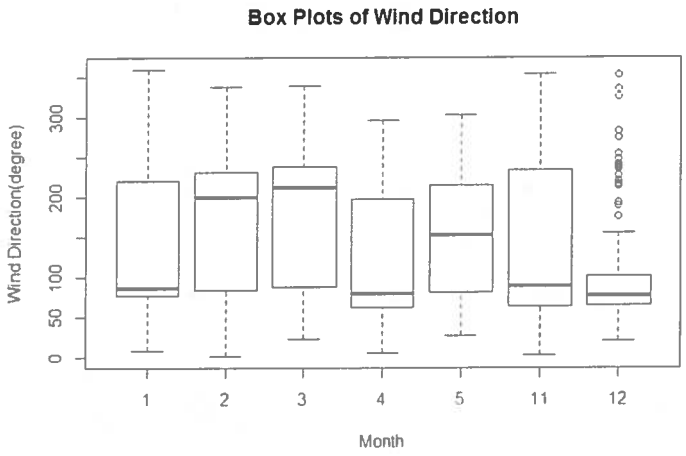


Figure 10. Box Plots for Wind Direction By Month

Table 1. Summary statistics of explanatory variables (N=1,246)

	State	Age	Marital status	Income	Gender
Min	1	21	1	1	0
Max	3	80	4	7	1
Mean	1.848	38	1.514	3.193	0.371
Median	2	36	1	3	0
Mode	1	24	1	2	0
Standard deviation	0.885	12.11	0.687	1.581	0.483
Variance	0.783	146.66	0.472	2.5	0.234
Standard error of the mean	0.025	0.03	0.02	0.046	0.014

Note: Sample sizes for each variable may be smaller than 1,246 because of missing values.

Mean of Age with 95% Confidence Interval:

$$\bar{x} \pm z_{(0.025)} \cdot (\hat{\sigma} / \sqrt{n})$$

$$38 \pm 1.645 \cdot (12.11 / \sqrt{1246}) = [37.44, 38.56]$$

So the 95% CI of age mean is (37.44, 38.56).

Table 2. Summary of Welch two-sample t-tests results

Variable	Groups A-B	Mean A	Mean B	t-statistic	P-value	95% CI
State	All-NJ	0.49	0.43	1.7	0.0972	[-0.0110 0.1270]
	All-NY	0.49	0.54	-1.5	0.06615	[-0.0945 0.0031]
	All-PA	0.49	0.46	1.1	0.2544	[-0.0230 0.0880]
	NY-NJ	0.54	0.43	2.7	**0.00641**	[0.0290 0.1780]
	NY-PA	0.54	0.46	2.4	**0.01493**	[0.0150 0.1410]
	PA-NJ	0.46	0.43	0.63	0.5268	[-0.0540 0.1050]
Gender	All-Male	0.49	0.48	0.59	0.5585	[-0.0380 0.0700]
	All-Female	0.49	0.50	-0.41	0.6832	[-0.0540 0.0350]
	Male-Female	0.50	0.48	-0.86	0.3897	[-0.0830 0.032]
Marital	Married-Unmarried	0.49	0.50	-0.36	0.7181	[-0.0670 0.046]
Age	Elder-Young	0.53	0.47	2.2	**0.02762**	[0.007 0.120]
Income	Low-High	0.47	0.50	-1	0.2968	[-0.0870 0.027]

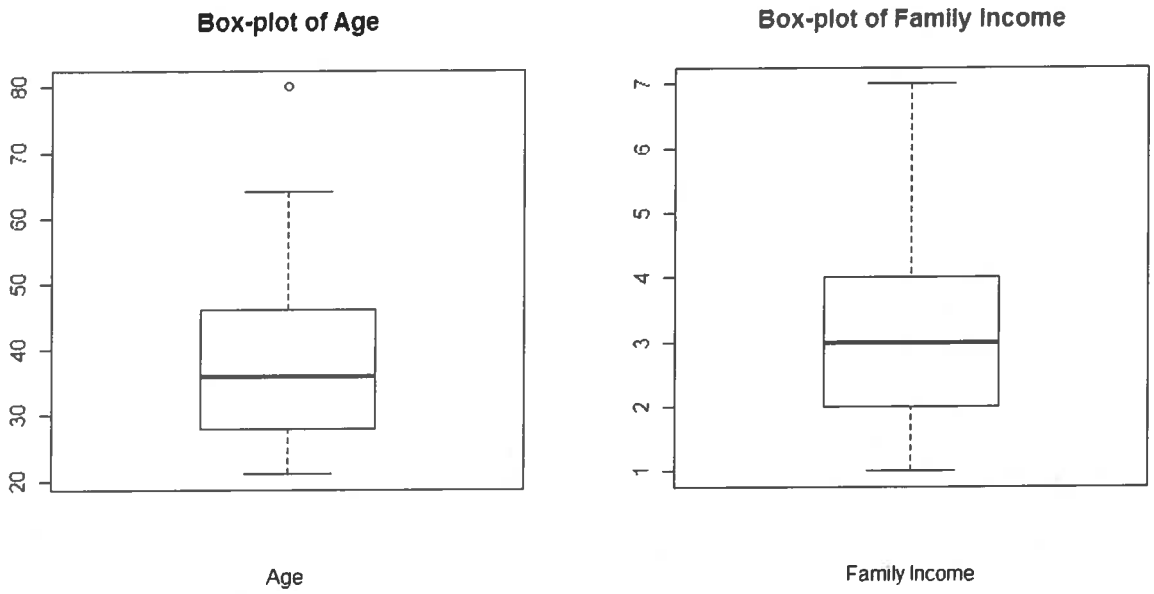


Figure 1. Box plots of select variables

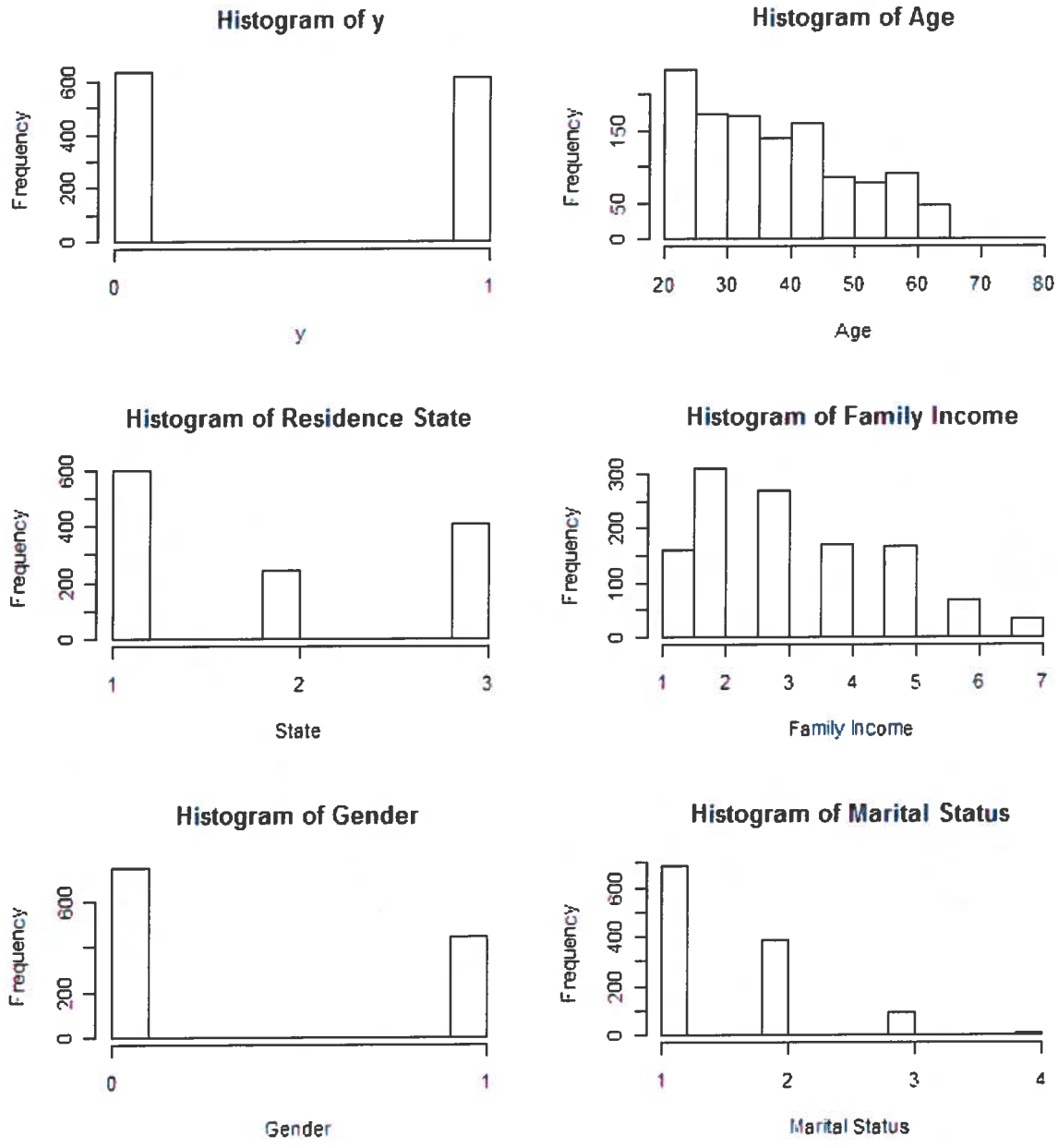


Figure 2. Histograms for the response and variables

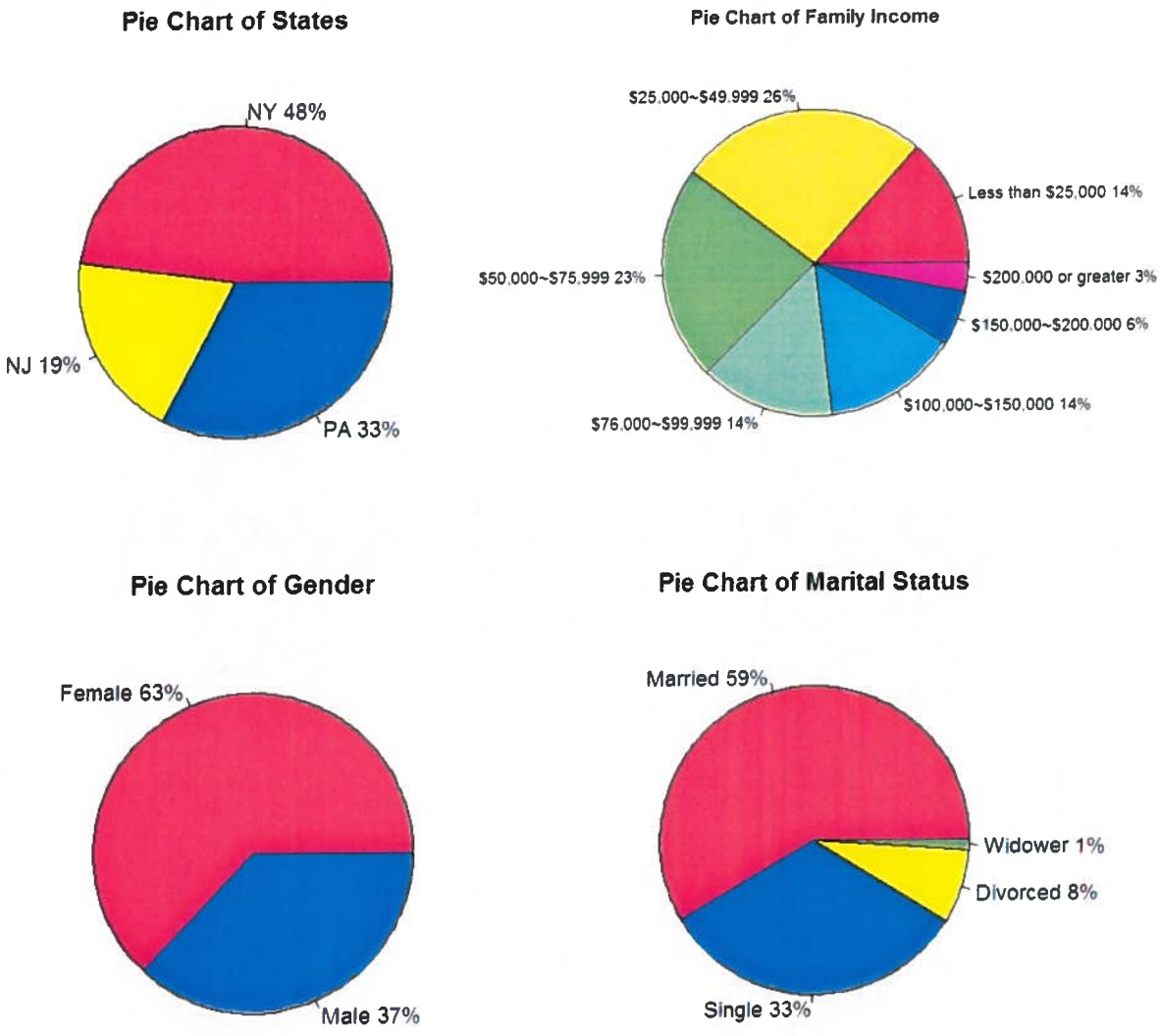


Figure 3. Pie charts for state, gender, marital status, and family income

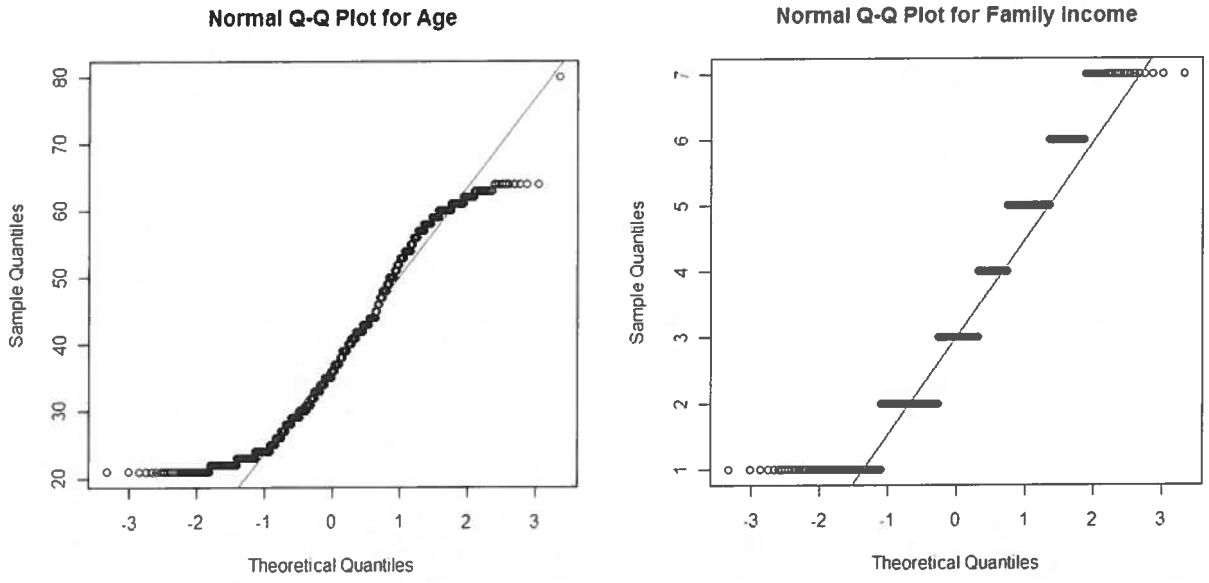


Figure 4. Q-Q plots for checking data normality