

Project: A Research Project on Birth Weight

The data file [ncbirth2625.sav](#) is a sample of birth records taken by the North Carolina State Center for Health and Environmental Statistics. The data set represents a sample of around a thousand births taken within the state of North Carolina. Of particular interest will be incidents of Low Infant Birth Weight. Low birth weight has been associated with weaker development of many characteristics such as intelligence, coordination, strength, etc. Low birth weight is commonly defined as less than 2500 grams (approximately 88 ounces).

The variables examined are:

sex:	Sex of child (1=Male, 0=Female)
race:	Race of child (0=other Nonwhite, 1=White, 2=Black, 3=American Indian, 4=Chinese, 5=Japanese, 6=Hawaiian, 7=Filipino, 8=Other)
mothage:	Age of mother, in years
mothed:	Education level of mother, in years
gest:	Completed Weeks of Gestation, in weeks
marital:	Marital status (1=married, 0=not married)
cigs:	Smoking Cigarette (1=Smoke, 0=Do not smoke)
drinks:	Drink Alcohol (1=Drink Alcohol, 0=Do not drink alcohol)
apgar1:	Apgar score at 1 minute (0-10)
fas:	Fetal Alcohol Syndrome (0=No, 1=Yes)
plural:	Number of children born of the pregnancy
totounc:	Birth Weight in total ounces
btotounc:	Birth Weight Categories (1=Below normal birth weight, 0=Normal birth weight)

Data values are labeled in the SPSS data file provided above.

The data was from North Carolina Vital Statistics Institute for Research in Social Science. The data for this project comes from 1995 birth registry at the North Carolina State Center for Health and Environmental Statistics. Use is allowed if reference is cited to the above agency.

Answer the questions in the next page and recode the data if it is necessary.

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Name _____

Use this worksheet and SPSS to answer the following questions for the [birth weight data](http://gchang.people.yzu.edu/stat/ncbirth2625.sav). (Web site for the data: <http://gchang.people.yzu.edu/stat/ncbirth2625.sav>) In the following question, the term population means the population of mothers who successfully gave birth to a child during the period of data collection.

1. Find the 95% confidence interval for the average birth weight in the population.

_____ ± _____

2. Find the 95% confidence interval for the average Apgar score in the population.

_____ ± _____

3. Find the 95% confidence interval for the average birth weight from smoking mothers population.

_____ ± _____

4. Find the 95% confidence interval for the average birth weight from nonsmoking mothers population.

_____ ± _____

5. Find the 95% confidence interval for the percentage of smoking mother in the population.

_____ ± _____

6. Find the 95% confidence interval for the percentage of babies that were below normal birth weight in the population.

_____ ± _____

7. Find the 95% confidence interval for the percentage of females in the population

_____ ± _____ (from SPSS output)

_____ ± _____ (from your own computation using the formula in class note and the percentages statistics from SPSS)

8. Find the 95% confidence interval for the percentage of mothers having below normal birth weight babies among those mothers who were smokers.

_____ ± _____ (from SPSS output)

_____ ± _____ (from your own computation using the formula in class note and the percentages statistics from SPSS)