

# **Scatterplots : The Next Frontier**

## **Directions:**

The data sets that follow are bivariate in nature. Generally, your task will be to plot the appropriate points and write a few sentences describing and interpreting the plots.

# Interests vs Gender

The data below is from Jones, R. M., "A Cross-Sectional Study of Age and Gender in Relation to Early Adolescent Interests," Journal of Early Adolescence, 1981, 1(4), p365-372. Boys (n = 318) and girls (n = 344) in 28 classrooms in 16 schools rural towns in in 7 counties North Carolina were asked to indicate a degree of interest in the topics below. They rated the subjects on a seven-point scale. The data below are averages for the two groups, and are the combined responses for grades 5 - 9.

## Interests and Gender

Interest	Male	Female
Money	6.49	6.33
Love	6.35	6.47
Life	6.18	6.38
Opposite Sex	6.20	6.00
People	5.61	6.09
Music	5.33	5.96
Sports	6.12	5.23
Peace	5.50	5.84
TV	5.49	5.31
Animals	5.17	5.46
Movies	5.40	5.22
Cars	5.70	4.95
Religion	5.07	5.48
Motorcycles	5.70	3.41
Magazines	4.08	4.16
Teachers	3.63	4.64
School	3.30	4.40
Cooking	3.05	4.40
Other Countries	3.58	3.84
Generation Gap	3.49	3.59
War	3.05	1.86
Death	1.98	2.25
Alcohol	1.90	1.74
Cigarettes	1.57	1.71
Drugs	1.59	1.53

# Sex Education

The following data comes from Alexander, S., J. & Jorgensen, S. R., "Sex Education for Early Adolescents: A Study of Parents and Students," Journal of Early Adolescence, 3(4), p315-325. The researchers were interested in the communication between parents and early (age 12-14) adolescents about sex and related topics. The investigators asked students and parents whether or not they had communicated with their child/parent about these topics. They were not matched by family, but presumably there was a great deal of overlap. Below is a list of topics and the percentages reported by the different groups:

## Discussions of Sex Education Topics : Parents and Students' Perceptions (%)

	Parents report parents have discussed	Students report parents have discussed
Physical differences between males and females	90.3	74.1
Emotional changes as teenagers grow up	79.7	65.1
Menstruation	80.6	67.5
Sexual Intercourse	68.7	52.7
Different stages during pregnancy	59.0	39.6
Childbirth	72.4	57.6
Most likely time in menstrual cycle for pregnancy	37.3	32.0
Contraceptive methods and how well they work	44.2	31.3
When it is right or wrong to have sex	74.2	54.9
How to say NO when a teenager does not want to have sex	53.9	44.6
Facts about abortion	47.5	37.8
Facts about homosexuality	55.8	33.7
Venereal disease and its prevention	46.5	29.7
Masturbation	36.4	32.9
Rape and sexual abuse	59.9	59.0
How to make decisions regarding sexual issues	57.1	51.6
What teenagers should do if they think they have a venereal disease	41.0	26.8
What a teenager should do if she thinks she is pregnant	41.5	36.6
What a teenager should do if he thinks he is responsible for a pregnancy	34.6	26.4
What foods and exercise women should have when they are pregnant	35.5	31.9
Who teenagers should talk to when they are worried or curious about something related to sex	82.0	65.3

# Teen Timetable Scores

The following data is from Feldman, s., & Quatman, T., "Factors influencing age expectations for adolescent autonomy: A study of early adolescents and parents," Journal of Early Adolescence, 1983, 8(4). The authors surveyed 217 parents of male early adolescents and a separate group of adolescents regarding their views on when kids should be able to make decisions to make decisions autonomously -- or, as it would usually be termed by the younger half of the group, "without overbearing interference from Mom & Dad." Here are the mean ages in years that Male Child and Parent thought that Child ought to be able to decide do these things:

	<b>Child</b>	<b>Parent</b>
Choose hairstyle even if your parents don't like it	14.8	14.1
Choose what books, magazines to read	13.2	14.3
Go to boy-girl parties at night with friends	14.8	13.9
Not have to tell parents where you are going	17.2	18.9
Decide how much time to spend on homework	13.0	15.0
Drink coffee	16.0	17.5
Choose alone what clothes to buy	13.7	14.7
Watch as much TV as you want	14.3	17.2
Go out on dates	15.4	16.1
Smoke cigarettes	20.3	20.5
Take a regular part-time job	16.2	16.6
Make own doctor and dentist appointments	17.4	17.9
Go away with friends without any adults	15.8	18.5
Be able to come home at night as late as you want	17.7	19.4
Decide what clothes to wear even if your parents disapprove	15.8	16.0
Go to rock concerts with friends	16.1	17.3
Stay home alone rather than go out with your family	14.5	15.0
Drink beer	18.9	19.3
Be able to watch any TV, movie, or video show you want	15.3	17.4
Spend money (wages or allowance) however you want	13.4	14.1
Stay home alone if you are sick	13.4	14.2

## Census by satellite

To keep track of the economic development of urban peoples without disrupting their lives with surveys, it might be possible to use satellite photography, specifically taking pictures of the residential structures.

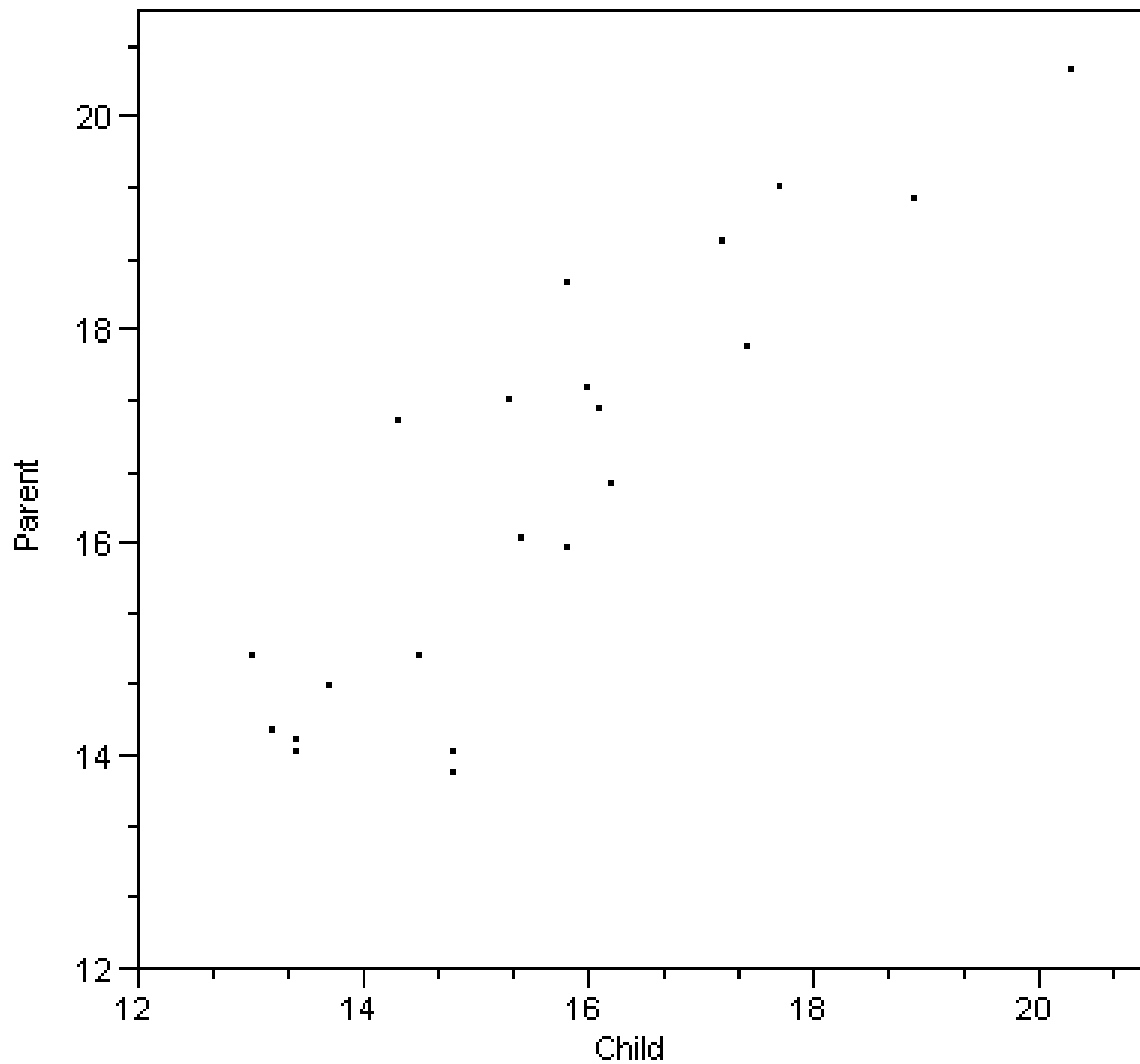
A variable thought to be indicative of social status within a society is the percentage of single-family dwellings (generally smaller dwellings not butting up to other dwellings.) Seventeen sites in Birmingham, AL, were randomly selected for study, and the percentage of single-family dwellings and the building density were gathered from both the ground and satellite photography for these variables over a period of about a month. The data for these 17 sites is presented below.

**% Single Dwelling Units Detached  
Aerial vs. Ground Survey**

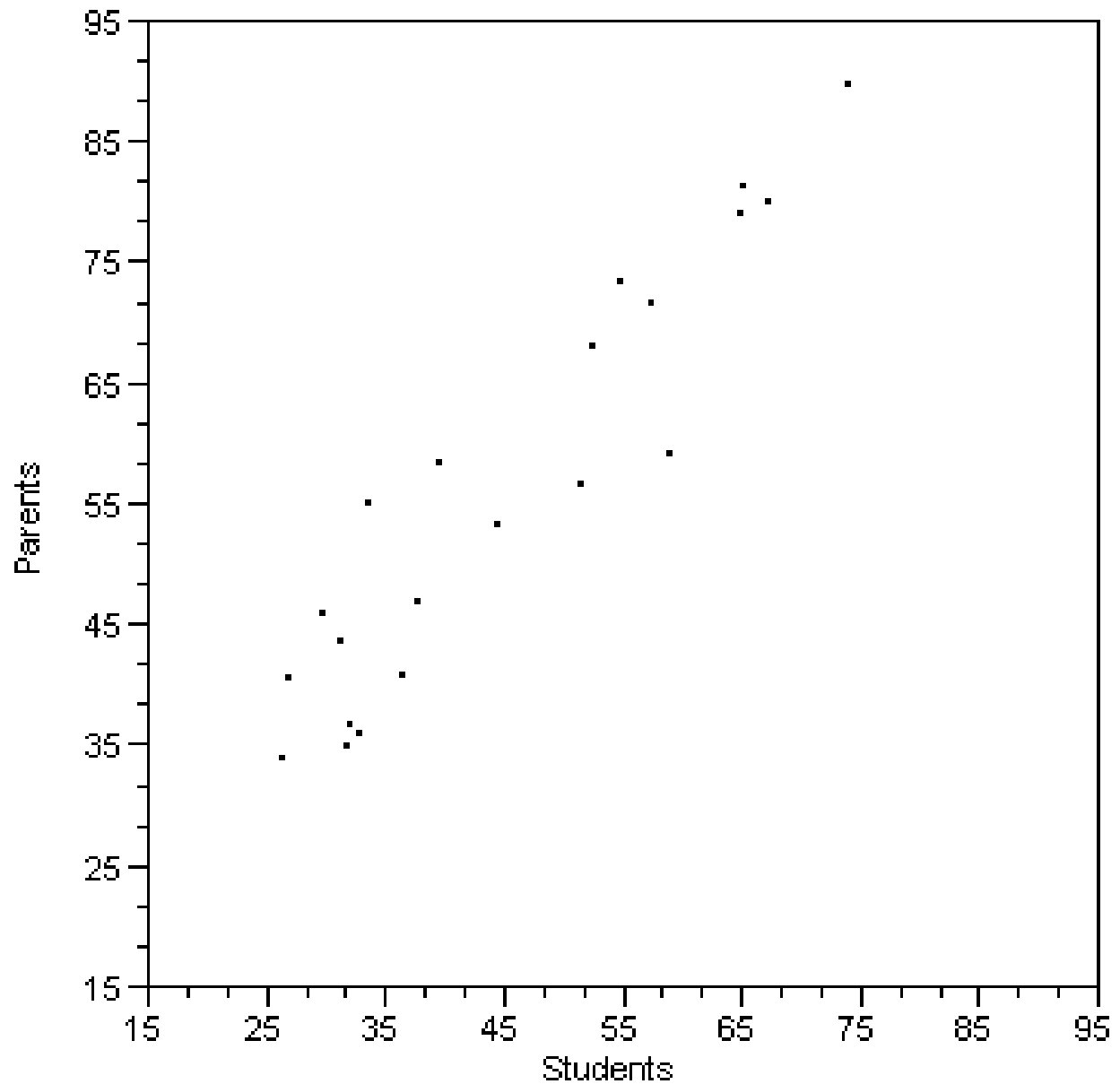
<b>Aerial</b>	<b>Ground</b>
21.0	20.1
62.7	60.1
69.9	66.2
44.5	36.8
30.8	24.1
23.4	13.5
36.1	21.0
92.0	90.0
80.2	77.1
96.7	93.6
72.9	72.4
72.2	66.0
29.1	25.8
75.0	72.0
17.1	12.1
55.9	45.8
68.8	60.2

Source: Green, Norman E. Aerial photographic analysis of residential neighborhoods: an evaluation of data accuracy. Social Forces v35 #2 Dec, 1956.

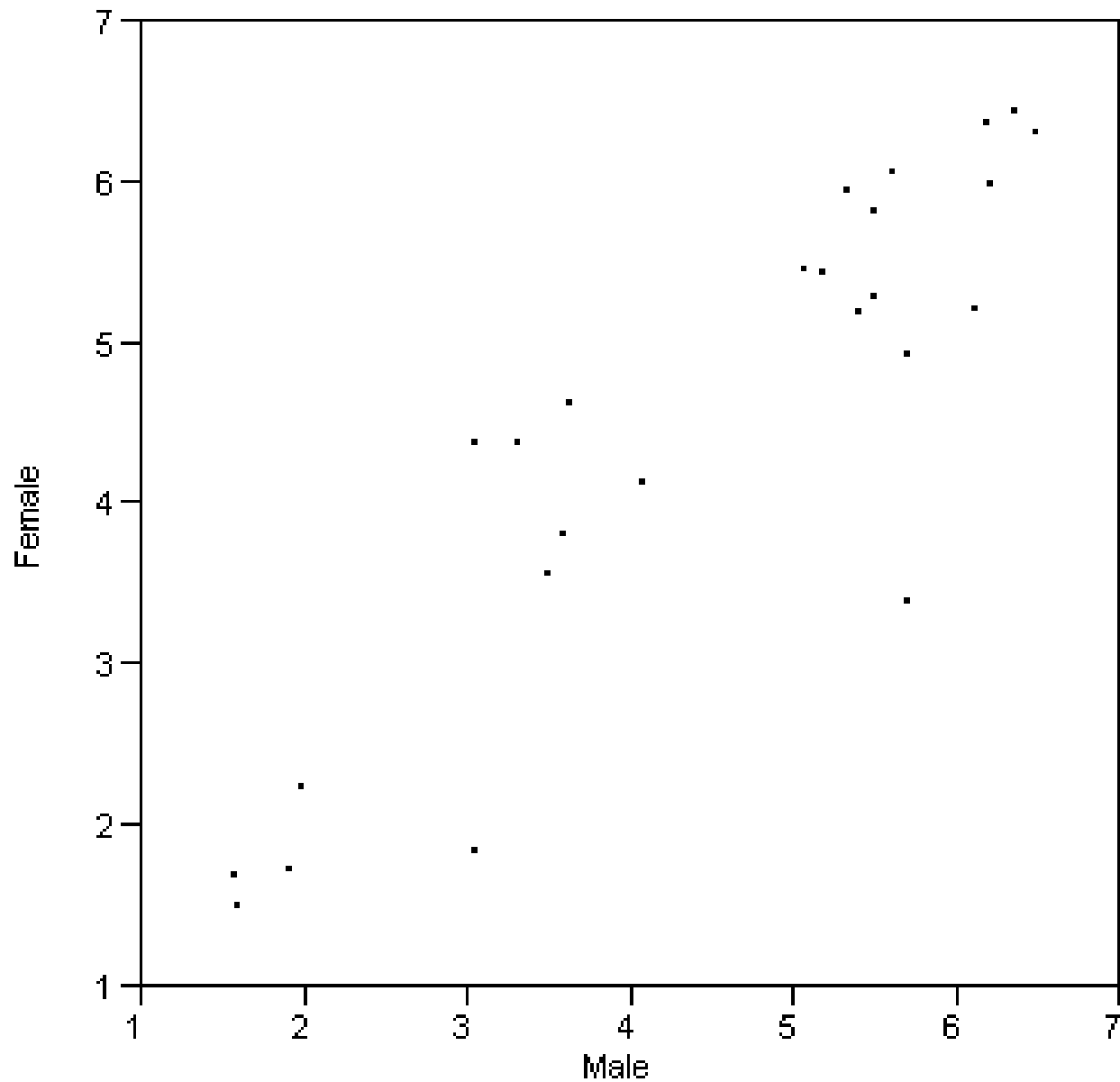
# Teen Time Table Scores



# Sex Ed Topics



# Interest vs. Gender





# Ground vs. Aerial

