

Assignment 1 Answers

Data

Racial resentment is usually measured by summing (or averaging) the responses to the following four items:

1. Irish, Italians, Jewish, and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors. (**favors**)
2. Over the past few years blacks have gotten less than they deserve. (**deserve**)
3. It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites. (**tryhard**)
4. Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class. (**conditions**)

SRC and Item Analysis

Reliability analysis

Call: alpha(x = sumrate)

```
raw_alpha std.alpha G6(smc) average_r S/N ase mean sd median_r
0.86      0.86      0.84      0.61 6.4 0.0044 2.9e-17 0.84 0.6
```

```
lower alpha upper      95% confidence boundaries
0.86 0.86 0.87
```

Reliability if an item is dropped:

```
raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
favors      0.82      0.82      0.76      0.60 4.6 0.0061 0.0049 0.58
conditions  0.84      0.84      0.78      0.63 5.1 0.0056 0.0025 0.62
deserve     0.82      0.82      0.76      0.60 4.5 0.0062 0.0052 0.57
tryhard     0.83      0.83      0.77      0.62 5.0 0.0057 0.0031 0.62
```

Figure 1: Histograms of responses to four racial resentment items.

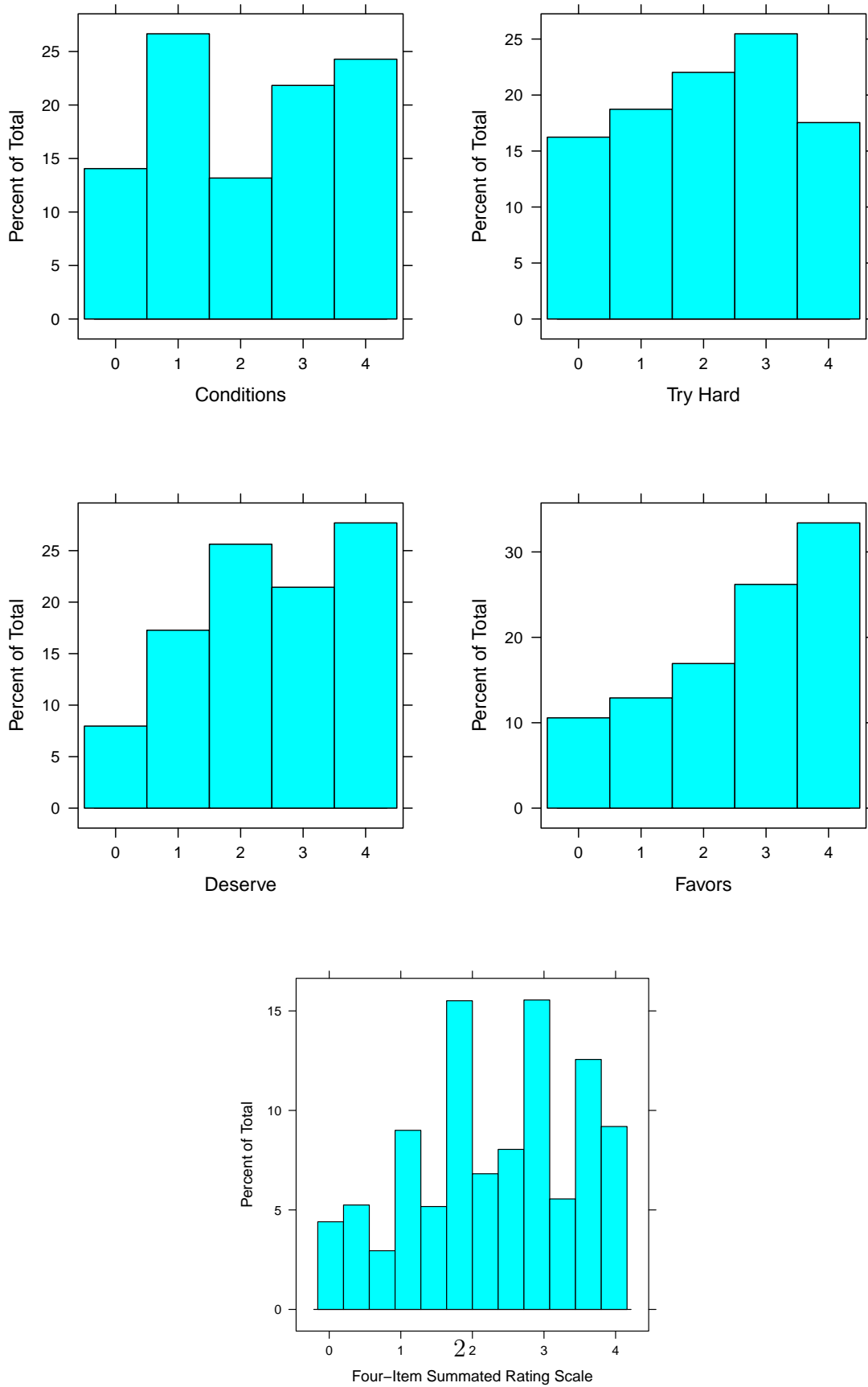
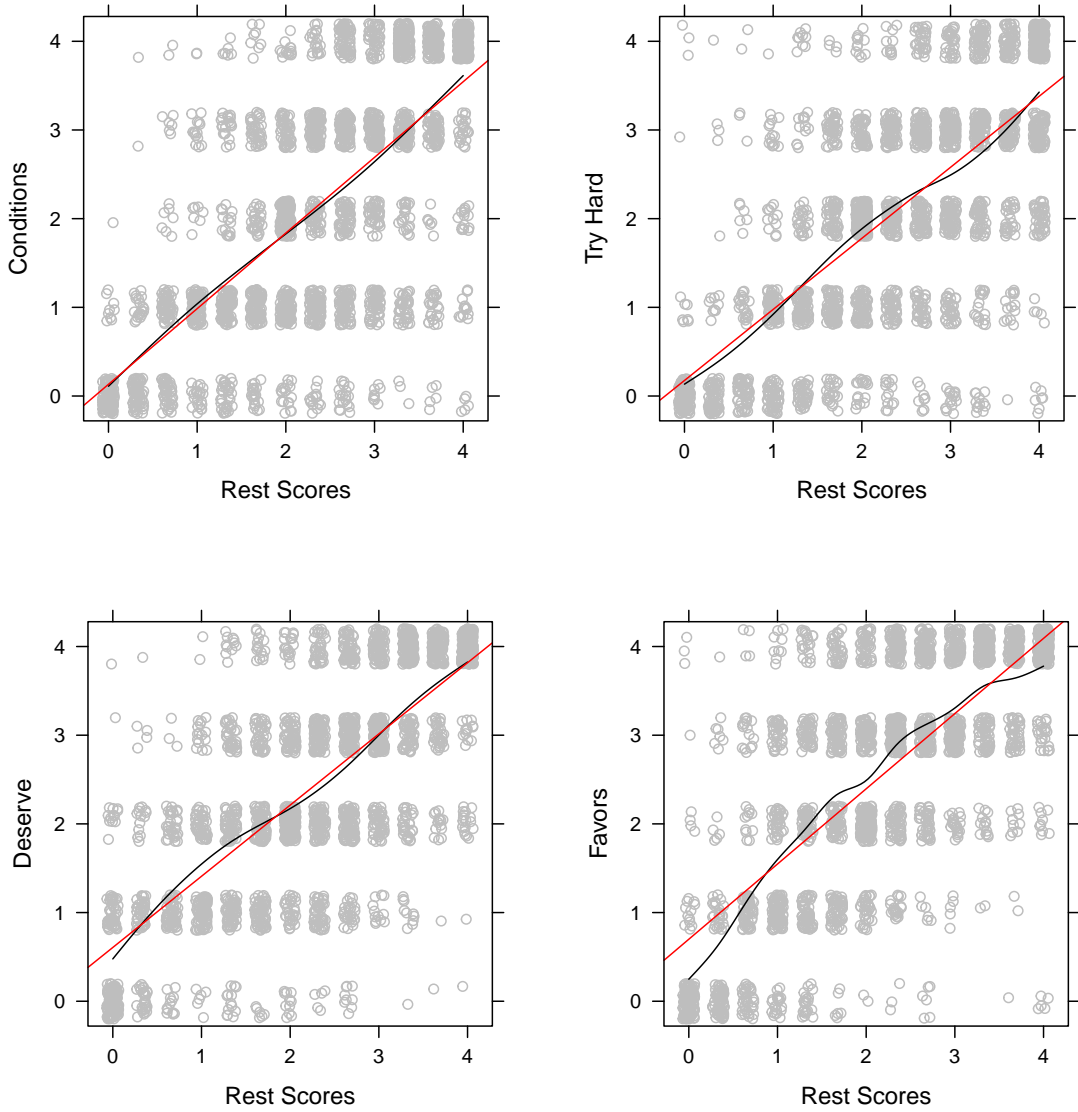


Figure 2: Item analysis of racial resentment items. Individual item response plotted against the restscores, with scatterplot smoother (black) and linear fit line (red) overlaid.

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Reliability Using Panel Data

Table 1: Correlations between racial resentment items in **1992**.

	(1)	(2)	(3)	(4)
(1) Try Hard	1.000			
(2) Deserve	0.289	1.000		
(3) Conditions	0.292	0.483	1.000	
(4) Favors	0.561	0.372	0.326	1.000

$$\alpha_{92} = \frac{4 \times 0.387}{1 + 0.387(4 - 1)} = 0.716$$

Table 2: Correlations between racial resentment items in **1994**.

	(1)	(2)	(3)	(4)
(1) Try Hard	1.000			
(2) Deserve	0.283	1.000		
(3) Conditions	0.311	0.409	1.000	
(4) Favors	0.563	0.341	0.298	1.000

$$\alpha_{94} = \frac{4 \times 0.368}{1 + 0.368(4 - 1)} = 0.700$$

Table 3: Correlations between racial resentment items in **1996**.

	(1)	(2)	(3)	(4)
(1) Try Hard	1.000			
(2) Deserve	0.321	1.000		
(3) Conditions	0.298	0.492	1.000	
(4) Favors	0.554	0.357	0.326	1.000

$$\alpha_{96} = \frac{4 \times 0.391}{1 + 0.391(4 - 1)} = 0.720$$

Table 4: Correlations between racial resentment scales across years.

	(1)	(2)	(3)
(1) Racial Resentment ₉₂	1.000		
(2) Racial Resentment ₉₄	0.666	1.000	
(3) Racial Resentment ₉₆	0.598	0.683	1.000

$$a^2 = \frac{r_{12}r_{23}}{r_{13}} = \frac{0.666 \times 0.683}{0.598} = 0.761$$

$$d = \frac{r_{13}}{r_{23}} = \frac{0.598}{0.683} = 0.876$$

$$e = \frac{r_{13}}{r_{12}} = \frac{0.598}{0.666} = 0.898$$