Homework 5

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1. Monophthongization of /aɪ/ (314-315)
   - African-American Texans: **9.6%**
   - Hispanic Texans: **13.1%**
   - White Anglo Texans: **26.6%**
   - White Anglo Texans: who have lived in Texas their whole lives **33.7%**
   - White Anglo Texans, aged 18–29, who have lived in Texas their whole lives in a town or rural area: **60%**
   - White Anglo Texans, aged 18–29, who have lived in Texas their whole lives in a very large metropolitan area: **19%**
2. Average F2 in the offset of /aɪ/ for rural students was nearly equal to that of /a/, while for metropolitan students it was closer to /e/, significantly higher than for rural students. (Explained in prose on 321; data on pg. 323).
3. F2 at onset of /e/ was significantly lower for rural than for metropolitan students. (Explained in prose on 321; data on pg. 323).
4. Thomas attributes the disparity between rural and metropolitan vowels largely to a process of *koineization* occurring in metropolitan areas where dialectical differences in vowels are being leveled between native Texans and anglos migrating from other parts of the country. Since northerners moving to Texas are far more likely to settle in metropolitan areas than in rural ones, this leveling did not occur in rural-dwelling speakers. k
5. Height

Df	Sum Sq	Mean Sq	F value	Pr (>F)
height	2	2636083	1318041	368.3 <2e-16 ***
Residuals	239	855333	3579	

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Tukey multiple comparisons of means 95

Fit: aov(formula = f1 height)

	diff	lwr	upr	p adj	Pr (>F)
$height	low-high	283.90612	259.22099	308.5913	0
	mid-high	87.35117	67.03735	107.6650	0
	mid-low	-196.55495	-221.36966	-171.7402	0

The p-value for the group difference between low and high, mid and high, and mid and low is below 0.01 for each group. Thus, each of these three groups of vowels differ significantly with respect to f1.

Frontness

Df	Sum Sq	Mean Sq	F value	Pr(>F)
frontness	2	44465655	22232827	418.9 <2e-16 ***
Residuals	239	12685505	53077	

— Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Tukey multiple comparisons of means 95

Fit: aov(formula = f2 frontness)

	diff	lwr	upr	p adj	Pr(>F)
$frontness	central-back	297.8337	202.7684	392.8989	0
	front-back	948.0021	869.7712	1026.2329	0
	front-central	650.1684	554.6041	745.7327	0

The p-value for the group difference between central and back, front and back, and front and central is below 0.01 for each group. Thus, each of these three groups of vowels differ significantly with respect to f2.