DAO2. NOVEMBER PARTIAL 1

k = number of independent variables

	SS	df	$MS = S^2$	F
REG.	81.523	1	81.523	76.047 ⑤
RES.	8.577	8	1.072	
	90.100	9	10.01 ②	
		N-1		

① $9 = N-1$

$9+1 = N$

$10 = N$

③ $1 - R^2 = 1 - 0.905 = 0.095 \simeq 0.1$

$$R^2 = \frac{SS_{exp}}{SS_T} = \frac{81.523}{90.100} = 0.905$$

④ $F_{t\,(1,8)} = 5.32$

⑤ F_{emp} F_t

$76.047 > 5.32$ —— $\cancel{H_0}$

$R^2 = 0.905$ ($>.67$) - High effect size

The effect probably exists

(14)

+1 A	+1 B	-1 C	-1 D
14	12	23	30
16	15	24	31
18	12	27	32
12	7	26	31
15	8	25	28
11	12	28	29
Σ 86	66	153	181
$\bar{Y}$ 14.33	11	25.5	30.17

SV	SS	df	MS	F
BETW	1380.78	k-1 1	1380.78	261.363
WIT	105.667	k(n-1) 20	5.283	
TOT		N-1 23		

$$SS_B = \frac{n\left(\sum a_j \bar{Y}_j\right)^2}{\sum a^2} = \frac{6\left[1 \cdot 14.33 + 1 \cdot 11 + (-1)\cdot 25.5 + (-1)(30.17)\right]^2}{(1)^2 + (1)^2 + (-1)^2 + (-1)^2} =$$

$$= \frac{6 \cdot [14.33 + 11 - 25.5 - 30.17]^2}{4} = \frac{6 \cdot (-30.34)^2}{4} = \frac{6 \cdot 920.52}{4} = \frac{5523.12}{4} =$$

$= 1380.78$

(15) F_{emp} $F_t\,(0.05, 1, 20)$

$261.363 > 4.35$ —— $\cancel{H_0}$