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Predicting Daily Television Viewing of Senior Citizens Using Education, Age and Marital Status

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Daily television viewing (hours, 6-minute increments), marital status (0=not married; 1=married), age and education (years, integers) data were obtained for a randomly-selected sample of 25 senior citizens[1] (Table 1). Training analysis predicting viewing (dependent variable) as a linear function of the other (independent) measures by multiple regression analysis identified a statistically significant omnibus effect: $F(3,21)=11.7$, $p<0.0001$, $R^2=0.626$. Partial F (variable entered last) statistics indicated that marital status [$F(1,21)=13.9$, $p<0.0008$] and education [$F(1,21)=9.2$, $p<0.0062$] had statistically reliable negative relationships with viewing hours. This model accounted for 5/8 of the variance in television viewing time, however it was unable to make statistically reliable point predictions[2] of viewing times: ESS=7.1, D=194.9, *ns*. The globally-optimal (GO) novometric model predicting viewing times was: if education$\leq$ 13 years, then predict viewing $\leq$0.7 hours; otherwise predict viewing> 0.7 hours. Training performance (stable in jackknife analysis) was very strong: ESS=90.1, D=0.20, $p<$ 0.0001. The model correctly classified 3 of 3 observations having 0.7 or fewer viewing hours, and 20 of 22 (90.1%) with 0.8 or more daily viewing hours.

References

[1]Mendenhall W, Reinmuth JE (1974). *Statistics for management and economics* (2nd Ed.). North Scituate, MA: Duxbury Press (pp. 354-358).

[2]Yarnold PR, Soltysik RC (2016). *Maximizing predictive accuracy*. Chicago, IL: ODA Books. DOI: 10.13140/RG.2.1.1368.3286

Author Notes

The study analyzed de-individuated data and was exempt from Institutional Review Board review. No conflict of interest was reported.

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Table 1: Study Data.[1]

Viewing Hours	Marital Status	Years of Age	Years of Education
0.5	Married	73	14
0.5	Married	66	16
0.7	Not Married	65	15
0.8	Not Married	65	16
0.8	Married	68	9
0.9	Married	69	10
1.1	Married	82	12
1.6	Married	83	12
1.6	Married	81	12
2.0	Not Married	72	10
2.5	Married	69	8
2.8	Not Married	71	16
2.8	Not Married	71	12
3.0	Not Married	80	9
3.0	Not Married	73	6
3.0	Not Married	75	6
3.2	Not Married	76	10
3.2	Not Married	78	6
3.3	Married	79	6
3.3	Not Married	79	4
3.4	Married	78	6
3.5	Not Married	76	9
3.6	Not Married	65	12
3.7	Not Married	72	12
3.7	Not Married	80	6