

# Would One's Best Boy- or Girl-Friend be More Upset if One Began Smoking: An Exploratory GenODA Model for Anglo-, Mexican-, and Indian-American College Undergraduates

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Samples of 1,171 male and 1,503 female Anglo-American, 291 male and 503 female Mexican-American, and 138 male and 361 female Indian-American, non-smoking college undergraduates were asked if their best boy-friend or their best girl-friend would be most upset if the subject began smoking<sup>1</sup> (p. 168). Original analysis using separate chi-square analyses (one design cell for the Indian-American students violated the minimum expectation assumption<sup>2</sup>; Table 1) concluded: "While the influence of boy-friends or girl-friends on their smoking or non-smoking partners seemed to be rather small, the opposite-sex friend was invariably perceived to be more upset by the possibility of the respondent's taking up the habit: all these differences were significant beyond the .01 level" (p. 168).

An exploratory GenODA analysis was conducted treating ethnicity as the Gen variable: an ODA model is identified that, when simultaneously and independently applied to each of the Gen groups (dummy-coded as 1-3), explicitly *maximizes* the *lowest* ESS obtained across all of the Gen groups.<sup>3-5</sup> Here the subject's gender is the class variable, and the gender of one's most-affected friend is a categorical attribute (gender variables were dummy-coded: female=0, male=1). The omnibus GenODA model was: if Friend=female, predict subject gender=male; otherwise predict subject gender=female:  $p < 0.0001$ , *strong* ESS=77.7 (84.9% of actual female and 92.8% of actual male subjects were correctly classified). The GenODA model performed comparably for the Anglo-, Mexican-, and Indian-American samples: all  $p$ 's < 0.0001; *strong* ESS=77.3, 81.3, and 75.1, respectively.

Data investigated herein are given in Table 1.

Table 1: Study Data<sup>1</sup>

<i>Who would be more upset if subject began smoking?</i>			
<u>Ethnicity</u>	<u>Subject's Gender</u>	<u>Best Girl- Friend</u>	<u>Best Boy- Friend</u>
Anglo- American	Male	54	4
	Female	18	96
Mexican- American	Male	13	1
	Female	3	23
Indian- American	Male	10	1
	Female	3	16

## References

<sup>1</sup>Zagona SV (1967). Psycho-social correlates of smoking behavior and attitudes for a sample of Anglo-American, Mexican-American, and Indian-American high school students. In: Zagona SV (Ed.), *Studies and issues in smoking behavior*. Tucson, AZ: University of Arizona Press (pp. 157-180).

<sup>2</sup>Yarnold JK (1970). The minimum expectation in  $\chi^2$  goodness of fit tests and the accuracy of approximations for the null distribution. *Journal of the American Statistical Association*, 65, 864-886.

<sup>3</sup>Yarnold PR, Soltysik RC (2005). *Optimal data analysis: A guidebook with software for Windows*. Washington, DC, APA Books.

<sup>4</sup>Yarnold PR (2010). GenUniODA vs. log-linear model: Modeling discrimination in organizations. *Optimal Data Analysis*, 1, 59-61.

<sup>5</sup>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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