

OCCUPATIONAL ACCEPTABILITY AND NASALITY

by

Sharon G. Penner
University of Minnesota

Steven A. Belanger
University of Minnesota

Clark D. Starr
University of Minnesota

ABSTRACT

Literature suggests that people associate different voice characteristics with different occupations and that people consider excessive nasality to be a problem. Part one of this study is an investigation of adults' judgments of the importance of speech for success in three occupations with different levels of social status. Results suggest that speech is important for all three occupations, that it is more important for lawyers than teachers and that it is more important for teachers than sales clerks.

In part two of the study, recordings of speakers representing three levels of nasality were preselected and adults rated the acceptability of speakers for such occupations used in part one. Results suggest that presence and degree of nasality affect ratings of occupation acceptability, but they do not affect one occupation more than any other.

INTRODUCTION

A speech deviation may be a handicap. Few would dispute this statement when the nature or extent of the deviation results in a loss of intelligibility. However, some speech deviations that do not appear to affect intelligibility are still considered to be handicapping. Excessive nasality is one of these deviations. Textbooks uniformly acknowledge the significance of excessive nasality and, in the clinical world, extensive time and energy are devoted to its elimination. Unfortunately, few studies have evaluated systematically the ways or the degrees to which it constitutes a handicap. Some studies suggest that listeners associate negative personality traits and social status with the presence of nasality (Addington, 1968), that nasality affects viewers' perceptions of physical attractiveness (Glass, 1978), and that listeners' recall of information is reduced in the presence of nasality (Diehl and McDonald, 1956). Additional conclusions about the effects of nasality can be inferred from studies of persons with cleft palates (Clifford, 1973; Richman, 1976). However, nasality is only one component associated with clefting and its unique impact cannot be determined directly from these studies since they do not control for deviations other than nasality.

One way nasality may constitute a handicap is by imposing limitations on a person's ability to succeed in an occupation. Some authors have found that people associate types of speech with certain occupations (Allport and Cantril, 1934; Fay and Middleton, 1939). These findings and those indicating that nasality had a negative effect on judgments of personal characteristics, provide a basis for conjecturing that nasality may affect a person's acceptability in some occupations.

The purpose of this investigation was to determine if people have preconceptions of the speech characteristics needed for success in certain occupations and if nasality is one of the speech characteristics they consider to be important for success. Specifically, the study was designed to answer three questions.

1. When people are asked to rate the importance of speech quality for selected occupations, will ratings differ for each occupations?
2. When people listen to speech samples and rate speakers' acceptability for selected occupations, will the ratings be related to the presence and degree of nasality in the speech samples?
3. If the presence of nasality has an effect on ratings of occupational acceptability, will the effects be different for each of the selected occupations?

In order to respond to these questions, two studies were carried out. Study I was designed to respond to question one, Study II to questions two and three.

STUDY I

Procedures

Three occupations that involve extensive speaking and differ in social status were selected for study. The Index of Status Characteristics (Warner et al 1949) was used to select occupations differing in social status. This index provides seven levels of social status for occupations. Lawyers were selected from level one, high-school teachers from level two and store clerks from level three. The investigators judged these three occupations to require extensive speaking.

Ratings of the importance of speech quality to these occupations were made on a ten-point equal appearing interval scale. Number one on the scale was labelled "speech quality is of minimal concern" and number ten was labeled "speech quality is of maximal concern." Raters were instructed to use the scale to indicate the importance of speech quality for each of the occupations. The occupations were rated in the following order: lawyers, high school teachers and store clerks.

Ratings were obtained from 10 male and 10 female college students, who ranged in age from 21 to 35 years of age. None of the raters had academic backgrounds that included courses dealing with communication problems.

Results

A summary of data obtained is presented in Table I. This table indicates that mean ratings for all three occupations were above the midpoint on the ten-point scale. This can be interpreted to mean that raters, as a group, considered speech quality to be important for these occupations. Also, the order of importance progresses from store clerks to high school teachers to lawyers, with the latter requiring the highest speech quality. A two-factor analysis of variance with repeated measures on one factor (Winer, 1971) indicates that differences in mean ratings across occupations are significant ($F(2,36)=21.50$; $p < .001$). Differences between mean ratings of male and female raters are not significant ($F(1,18)=.01$; $p > .05$) and there is no significant interaction between occupation ratings and the sex of the raters ($F(2,36)=.99$; $p > .05$). In response to question one, these findings suggest that people consider speech quality to be of more concern for some

occupations than for others and that the extent of concern is related to the social status of the occupation.

	Mean	Standard Deviation
Lawyer	9.10	1.37
High School Teacher	7.85	1.90
Sales Clerk	6.15	1.90

Table I. Summary of 20 adults' ratings of the importance of speech quality for three occupations.

STUDY II

Procedures

Occupations selected for Study I were used in Study II. Raters were asked to listen to recorded speech samples that contained varying degrees of nasality and rate the acceptability of the speaker for the occupation specified. This study also used a ten-point equal appearing interval scale. This time number one was labeled "outstandingly acceptable" and ten was labeled "totally unacceptable". Raters were told that the investigators were part of a team constructing tests to assess vocational potential and that their task was to determine the importance of speech quality for different occupations.

Speech samples consisted of 30-second excerpts from adult male speakers' recordings of a standard reading passage. Recordings were obtained from files in a cleft palate clinic. Original recordings had been made under standard conditions in a sound booth, with high quality recording equipment (AKG D 200E microphone connected to a Revox AFF recorder).

Speech samples were selected to represent three categories of nasality and to be free from other types of deviation. Two samples represented normal resonance, two-mild nasality and two-moderate nasality. Categorizations were based on ratings made by groups of staff clinicians, for clinical management purposes.

Samples selected were dubbed onto an experimental tape in a random order. Intensity was equated across samples in the dubbing process. Two additional samples of speakers with normal resonance were dubbed on the tape to provide raters an opportunity to familiarize themselves with rating procedures. The final tape contained eight speech samples. Each sample was preceded by an identification number; followed by 10 seconds of silence.

Raters were 15 male and 15 female college students who ranged in age from 17 to 30 years. All raters reported that their hearing was normal and that they had no coursework in the area of communication disorders.

Raters were divided into three groups of 10. Each group contained five males and five females and listened to the same experimental tape. Group one was asked to rate speech acceptability in relation to speakers' potentials to be lawyers, group two rated speakers'

potentials to be high school teachers and group three to be sales clerks. Raters listened to the experimental tape through earphones (Telex 12.10) connected to a high quality portable tape recorder (Urher 4000). Recordings were played for all raters at a comfortable loudness level that was preselected by the investigators.

Results

Data obtained from Study II are presented in Table II. Speech acceptability ratings decreased from normal to mild nasality and from mild to moderate nasality for all three occupations. There is no apparent trend for acceptability changes across occupations.

A two-factor analysis of variance with repeated measures on one factor (Winer, 1971) indicates that differences in means across quality categories are significant ($F(2,54) = 129.30$; $p < .001$). Differences across occupations did not reach significance ($F(2,27) = .52$; $p > .05$) and there was no significant interaction between occupation and quality ($F(4,54) = 1.47$; $p > .05$). Regarding question two, these findings suggest that the presence and degree of nasality affect listeners' judgments of the acceptability of speech for the occupations studied. Regarding question three, the findings fail to show that nasality has a different effect on speech acceptability for any of the three occupations studied.

Occupations	Speech Quality Categories		
	Normal Resonance	Mild Nasality	Moderate Nasality
Lawyer	3.50	5.95	7.10
High School Teacher	4.00	6.05	7.90
Sales Clerk	3.45	6.80	7.60

Table II. Means of adults' ratings of the acceptability of speech quality for three occupations. Each mean is based on 10 raters' ratings of speech samples in each quality category.

DISCUSSION

Interpretations of this study are limited because neither the size of the groups of raters nor the procedure used to select them provide assurance that they are a representative sample. Similarly, the speech samples were limited in number and may not represent an appropriate range in nasality.

Within these limitations, findings in Study I support the investigators' judgment that speech quality is considered to be important for lawyers, teachers and sales clerks. In addition, they support previous researchers' (Allport and Cantril, 1934; Fay and Middleton, 1943) findings that people associate different speech characteristics with different occupations. As might be expected, they also suggest that better quality of speech associated with high than low social status occupations.

Findings in Study II indicate that nasality is a speech quality that people consider to be important for verbal occupations. However, they do not show that nasality is perceived as a greater detriment to high than to low status occupations. The latter finding might be interpreted as indicating that nasality is not one of the speech qualities raters in Study I had in mind when they made their decisions. Finally, it should be noted that this study dealt with normal, mild and moderate nasality and not severe nasality, and that listeners were aware of these limited deviations and responded to them.

Requests for information should be directed to:

Clark D. Starr, Ph.D.
 Department of Communication Disorders
 115 Shevlin Hall
 164 Pillsbury Drive S.E.
 University of Minnesota
 Minneapolis, Minnesota 55455

REFERENCES

- Addington, D. W., The relationship of selected vocal characteristics to personality perception. **Speech Monogr.**, 35, 472-503 (1968).
- Allport, G. W., and Cantril, H., Judging personality from the voice. **J. Soc. Psychol.**, 5, 37-55 (1934).
- Clifford, E., Psychological aspects of orofacial anomalies: Speculations in search of data. In **Oral Anomalies: Clinical and Research Implications, ASHA Reports Number 8**, Washington: American Speech and Hearing Association (1973).
- Diehl, C. F., and McDonald, E. T., Effect of voice quality on communication. **J. Speech Hearing Dis.**, 21, 233-237 (1956).
- Fay, P. J., and Middleton, W. C., Judgment of occupation from the voice as transmitted over a public address system and over a radio. **J. Appl. Psychol.**, 23, 587-601 (1939).
- Glass, L., The effects of cosmetic appearance and speech on patients with orofacial anomalies. Unpublished doctoral dissertation, Univ. of Minnesota (1978).
- Richman, L. C., Behavior and achievement of cleft palate children. **Cleft Palate J.**, 11, 4-10 (1976).
- Warner, W. L., Meeker, M., and Eells, K., **Social Class in America**. Chicago: Science Research Associates (1949).
- Winer, B. J., **Statistical Principles in Experimental Design** (2nd Ed.). New York: McGraw-Hill (1971).