Factors Affecting Nonstutterers' Occupational Recommendations for Adults Who Stutter

Kenneth J. Logan & Elizabeth M. Mazzocchi
Department of Speech, Language, & Hearing Sciences
University of Florida, Gainesville, FL 32611-7420

Introduction

- Work-related issues are a central concern for many adults who stutter.
- Surveys of employers and job counselors have revealed a variety of negative or inaccurate ideas about people who stutter (Hurst & Cooper, 1983a, 1983b).
- Employer attitudes are generally consistent with work-related experiences reported by people who stutter.
  - Rice & Kroll's (1994) survey of 282 people who stutter:
    - ~16% reported being denied a job because of stuttering,
    - ~ 33% reported receiving negative performance evaluations because of stuttering,
    - ~50% thought supervisors underestimated their capabilities because of stuttering.
  - Klein & Hood's (2004) survey of 232 adults who stutter:
    - ~66% felt stuttering reduces one's chances of being hired or promoted,
    - ~33% indicated their stuttering interfered with their job performance,
    - ~80% felt an employer would hire a nonstuttering person over an equally qualified person who stutters,
    - ~40% said they'd have another job if they didn't stutter.
- Other research has examined nonstutterers' views on which occupations are most suitable for hypothetical persons who do and do not stutter.
  - Gabel, Blood, Tellis, & Althouse (2004): nonstutterers rated fewer occupations as suitable for people who stutter. This suggests that people who stutter may face occupational stereotyping.
- We attempted to identify factors that affect the occupational ratings nonstutterers assign to fluent and disfluent speakers. Research questions:
  - Do nonstutterers regard various occupations as having different speaking and educational training requirements?
  - Do the perceived speaking demands and educational training requirements of an occupation affect nonstutterers' perceptions of whether the occupation is suitable for a person who stutters?
  - Does a speaker's fluency or other personal qualities affect the occupational recommendations that nonstuttering person makes?
  - Does a rater's gender affect the occupational recommendations that he or she makes?

Method

Preliminary study for Rating Scale Development

- An occupational rating scale was developed using the U.S. Department of Labor's *Occupational Outlook Handbook* (OOH; 2006-07).
  - 70 occupations were selected from the OOH. 30 college students with normal communication skills rated the educational and speaking requirements for each occupation on 5-point scale.
  - Based on the ratings, 32 occupations were picked for the final scale. Selected occupations were (a) rated relatively "high" or "low" in perceived speaking and educational requirements, and (b) received relatively stable ratings, as indicated by their *SD* values.

Participants

- 58 college-aged adults (*M* age = 20 years), were assigned to one of two gender-matched groups (*n* = 29) that differed by the speech sample they heard (i.e., mild stuttering *v.* moderate stuttering).

Data Collection & Analysis

- A 1 min recording of an adult male who stuttered was played three times to participants. Text for recorded sample: *Rainbow Passage*.
  - 29 participants heard the original recording which featured moderately severe stuttering.
  - 29 participants heard an edited version of the original recording which suggested mild stuttering.
- Participants marked disfluent syllables on a typed transcript of the passage and completed a 3-item *Communication Rating Scale*.
- Participants rated the speaking and educational demands for the 32 occupations using 5-point rating scales.
- After hearing the recorded sample at least twice, participants completed a 32-item *Occupational Advice Scale* and *25-item Semantic Differential Scale* (Woods & Williams, 1976).
- The presentation sequence for rating tasks was counterbalanced to control for potential order effects.

Results

Ratings of occupational demands

High Speaking, Low Education
1. Actor
2. Cashier
3. Catering manager
4. Fitness instructor
5. Meeting planner
6. Radio announcer
7. Retail salesperson
8. Teller

High Speaking, High Education
1. Accountant
2. College professor
3. Engineer
4. Financial advisor
5. Lawyer
6. Physical therapist
7. Physician
8. Psychologist
9. School principal
10. Teacher

Low Speaking, Low Education
1. House painter
2. Janitor
3. Mail carrier
4. Maintenance worker
5. Pest control worker
6. Roofer
7. Truck driver
8. Vending machine servicer

Low Speaking, High Education
1. Biological scientist
2. Chemist
3. Computer programmer
4. Computer service technician
5. Graphic designer
6. Mathematician

Figure 1. Raters' perceptions of occupational demands. Occupations with a *M* rating between 1.00–2.99 = "Low." Occupations with a *M* rating between 3.00–5.00 = "High."

Overall, females' ratings were significantly higher than males' ratings for both *Speaking Demands* ($F(1, 54) = 8.41$; $p = .005$; Eta = .37) and *Educational Demands* ($F(1, 54) = 6.75$; $p = .01$; Eta = .33).

Communication Ratings & Disfluency Identification

- Participants in the Mild Stuttering condition rated the speaker as having better communication skills than those in the Moderate Stuttering condition ($F(1, 54) = 6.20$; $p = .016$; Eta = 0.32). (See Table 1.)

Table 1. *Number of Identified Disfluencies and Communication Ratings, by Group*

Significant difference in # of disfluencies identified. ($F(1, 54) = 21.875$; $p < .001$, Eta = .54)

				Communication Rating Scale							
				Individual Scale Items							
		# of disfluencies identified		Talks smoothly and fluently		Communicates effectively		Presents information clearly		Average of scale items	
Sample source	Sample version	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Adult male who Stutters	Mild	19.79	5.47	2.97	0.73	3.93	0.80	3.79	0.98	3.56	0.72
	Moderate	27.31	5.71	2.28	0.80	3.43	0.88	3.17	1.07	2.96	0.80

Occupational Recommendations

- The main effect for the within-subjects factor, Occupation Quadrant, was significant, however, $F(2.4, 129.8) = 167.008$, $p < .001$; Eta = .87. None of the interaction terms were significant.
- The between-subjects analyses indicated no significant effects for *Sample Type* (i.e., Mild or Moderate stuttering), *Gender*, or their associated interaction ($p > .05$).
- Post-hoc tests (see Figure 1, below, and Tables 2& 3, in next column).
  - "High Speaking + Low Education" occupations received significantly lower suitability scores than the other three occupational categories.
  - "High Speaking" occupations received significantly lower suitability scores than "Low Speaking" occupations, regardless of the perceived educational requirements associated with occupation.

Figure 2. Mean occupational recommendations (+/- 1 *SE*) by demand quadrant, in Mild and Moderate speech sample conditions.

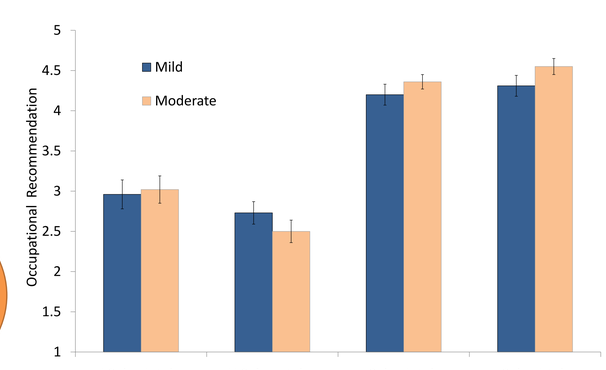

Table 2. *Post-hoc Comparisons of Occupational Advice Quadrant Scores*

Quadrant Comparisons	Pair Differences *M*	Pair Differences *SD*	*t*	df	*p*	*d*
HS HE – HS LE	0.38	0.58	4.94	57	<.001	0.66
HS HE – LS HE	-1.29	0.67	-14.71	57	<.001	1.93
HS HE – LS LE	-1.44	0.93	-11.81	57	<.001	1.55
HS LE – LS HE	-1.67	0.68	-18.73	57	<.001	2.46
HS LE – LS LE	-1.82	0.79	-17.56	57	<.001	2.30
LS HE – LS LE	-0.15	0.61	-1.80	57	.08	0.25

Note: HS = High Speaking Demands; HE = High Educational Requirements; LS = Low Speaking Demands; LE = Low Educational Requirements

Table 3. *Lowest & Highest Occupational Recommendation Scores*

Lowest Rating	Lowest Occupation	Highest Rating	Highest Occupation
1.38	Radio announcer	4.43	Roofer
1.74	Actor	4.47	House painter
1.96	Lawyer	4.50	Truck driver
2.39	Retail sales person	4.51	Computer programmer
2.60	Fitness instructor	4.55	Mail carrier

Table 4. *Semantic Differential Scale Ratings by Sample Type*

Sample version	Rating *M*	Rating *SD*
Mild	3.93	0.55
Moderate	3.89	0.71

Main effects for Sample Type ($F(1, 54) = 0.049$, $p = .826$, Eta = .03) and Gender ($F(1, 54) = 0.015$, $p = .902$, Eta = .02) were not significant. Semantic ratings were not correlated with occupational ratings.

Discussion

- Male and female participants differed in their perceptions of how much speaking and education was needed to perform the occupations, yet their ratings of occupational suitability were similar.
- High speaking demand occupations were rated more than 1 scale point lower than low speaking demand occupations on the occupational advice scale, regardless of educational demand.
  - But, only 12 of 32 occupations were rated below the advice scale midpoint, and 8 of the 12 were within 0.5 points of the midpoint.
- Stuttering severity did not affect occupational advice: perhaps *any* level of stuttering is considered occupationally handicapping.
  - But, few occupations were rated so low as to suggest that raters considered them truly inappropriate for people who stutter. Perhaps raters think people who stutter can perform many occupations, but some occupations are simply more appropriate than others.

References

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