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Effects of stuttering severity and therapy involvement on role entrapment of people who stutter

Rodney M. Gabel^{a,*}, Stephanie Hughes^a, Derek Daniels^b

^a Bowling Green State University, United States

^b Wayne State University, United States

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Abstract

The primary purpose of this study was to examine whether a group of university students would report role entrapment of people who stutter (PWS) in the form of occupational stereotyping. The study also examined whether severity of stuttering (mild or severe) and level of therapy involvement (choosing or not choosing to attend therapy) affected the perceptions of role entrapment. To examine these issues, 260 students completed the Vocational Advice Scale (VAS) [Gabel, R. M., Blood, G. W., Tellis, G., & Althouse, M. T. (2004). Measuring role entrapment of people who stutter. *Journal of Fluency Disorders*, 29, 27–49]. Results suggested that stuttering severity and the level of therapy involvement did not appear alter the judges' reports for all of the careers except for the career of speech therapist. For the career of speech therapist, therapy involvement improved the participants' reports and stuttering severity had no effect. Additionally, findings suggested that university students reported that 16 of the careers listed on the VAS were appropriate choices for people who stutter and were less certain about advising for 27 of the careers. Thus, the findings from this study do not support the notion that stuttering leads to role entrapment in the form vocational stereotyping and variations in therapy involvement or stuttering severity do not change perceptions of role entrapment.

Learner outcomes: The reader will be able to (1) identify common stereotypes of PWS, (2) describe the possible effects of stereotyping and role entrapment, and (3) describe the effects of severity and therapy involvement of role entrapment of PWS.

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* Corresponding author at: Department of Communication Disorders, Bowling Green State University, Bowling Green, OH 43403, United States. Tel.: +1 419 372 7168; fax: +1 419 372 8089.

E-mail address: rgabel@bgnnet.bgsu.edu (R.M. Gabel).

1. Introduction

Stuttering is a communication disorder that can profoundly affect an individual's interpersonal relationships (Manning, 2001). In fact, the way in which people who stutter (PWS) cope with their communication disorder and develop interpersonal relationships depends strongly on the way listeners who do not stutter react to them. Unfortunately, research supports the notion that many groups of individuals who do not stutter perceive PWS negatively (Cooper & Cooper, 1996; Crowe & Walton, 1981; Hurst & Cooper, 1983a, 1983b; Ruscello, Lass, & Brown, 1988; Yeakle & Cooper, 1986). These findings indicated that PWS are perceived as shy, nervous, anxious, withdrawn, self-conscious, tense, hesitant, less-competent, introverted, and insecure. These perceptions propagate a negative stereotype of PWS (Woods & Williams, 1976).

1.1. Role entrapment of PWS

Negative stereotypes often cause a person to become stigmatized and contribute to disadvantages and societal barriers (Crocker, Major, & Steele, 1998). These barriers may limit important aspects of a person's life including educational, social, and employment and vocational opportunities. Smart (2001) describes these limitations as arising from role entrapment. Role entrapment is one of the most damaging effects of negative stereotypes and occurs when a group in power (for example, people who do not stutter) defines the social, educational, or occupational roles that a minority group (for example, people who stutter) can fulfill (Crocker et al., 1998; Smart, 2001).

Most research exploring role entrapment has studied the perceptions of appropriate occupational choices for specific populations. In addition, the research has explored how certain individuals perceive appropriate occupational choices for specific populations. Theoretically, these perceptions, as they relate to occupational limitations for specific groups, are a valid measure of role entrapment (Decaro, Evans, & Dowaliby, 1982; Smart, 2001). According to this research, a variety of groups of individuals report that many minority and marginalized groups, including those from different ethnic groups (Crocker et al., 1998; Smart, 2001), women (Holleran & Lopez, 1984; Lupaschuk & Yewchuck, 1998), and people with disabilities (Decaro et al., 1982; Smart, 2001), suffer from role entrapment. One study by Gabel, Blood, Tellis, and Althouse (2004) explored whether PWS experience role entrapment in the form of occupational stereotyping. This study utilized a survey design in which 385 university students reported their perceptions of appropriate career choices for PWS and people who do not stutter (PWDS), using the Vocational Advice Scale (VAS) (Gabel et al., 2004). The 43 items on the scale measure the advice given regarding 43 of the most popular careers in the United States (Krannich & Krannich, 1993). The respondents reported 20 careers to be less appropriate for PWS when compared to reports made for PWDS. These careers were those that required more communication skill and public presentation skills. Conversely, the respondents judged 23 careers to be equally appropriate for PWS and PWDS. These careers appeared to require less communication ability. The findings from this study support the notion that PWS suffer from role entrapment related to career choices.

Though Gabel et al. (2004) is the only research study that has attempted to explore role entrapment of PWS, other studies exploring employment experiences of PWS provide partial support for the notion that PWS will be limited in their career opportunities and experience other difficulties related to work (Klein & Hood, 2004; Rice & Kroll, 1997). PWS are perceived negatively related to employability (Hurst & Cooper, 1983a) and are seen less positively than PWDS performing similar careers (Silverman & Bongey, 1997; Silverman & Paynter, 1990). Thus, there appears to be evidence that negative stereotyping of PWS may lead to role entrapment and limited career choices. This study seeks to contribute to our understanding of role entrapment and vocational stereotyping of PWS.

1.2. Factors that improve attitudes towards PWS

Due to the limitations and barriers to employment that may arise from the negative stereotyping of PWS, it is important to understand factors that may lead to improvement of societal attitudes towards PWS. One of these factors might be reduced stuttering severity. Turnbaugh, Guitar, and Hoffman (1979) surveyed 36 SLPs regarding their attitudes towards (1) “a typical individual who stutters mildly,” (2) “a typical individual who stutters moderately,” (3) “a typical individual who stutters severely,” and (4) “a typical normally fluent individual.” They found that the traits assigned by the SLPs to the three descriptions of PWS were significantly more negative than the traits assigned to the description of a normally fluent speaker. In particular, the SLPs reported that the three descriptions of PWS were more nervous, self-conscious, tense, sensitive, anxious, fearful, afraid, hesitant, and insecure. The individual who stuttered severely was evaluated more negatively than was the person who stuttered mildly. These findings suggested that severity of stuttering affected attitudes towards PWS.

In a more recent study, Susca and Healey (2001) utilized a mixed-method (qualitative and quantitative) approach to explore the attitudes and perceptions that 60 listeners reported towards different levels of simulated stuttering and fluency. To complete the study, the researchers digitally altered a speech sample of a single speaker, thereby simulating increasing amounts of stuttering (0%, 5%, and 15%) and a sample with characteristics that might reflect changes related to therapy (longer pause times, eliminating sudden onsets, etc.). For comparison purposes, the authors included a sample produced by a speaker who was normally fluent. Findings of the study suggested that listeners provided more negative quantitative and qualitative reports toward the samples that contained more stuttering as compared to the samples with less stuttering.

Other research has found that stuttering therapy, including the use of therapy techniques and attending therapy programs, can have a positive effect on attitudes towards PWS. One study by Collins and Blood (1988) explored whether the use of the acknowledgement technique (Breitenfeldt & Lorenz, 1989) and variations in stuttering severity would improve the attitudes that university students reported toward PWS. The participants evaluated four samples of adult men who stuttered utilizing a 14-item semantic differential scale and four open-ended questions about the speakers. The samples were of two men who stuttered, one of whom stuttered mildly and one who stuttered severely. Each man appeared in two short video samples. During one of the samples, each man acknowledged his stuttering, and during the other, he did not. The results of the study suggested that listeners

reported more negative attitudes towards the individual who stuttered severely than toward the individual who stuttered mildly. Also, those samples in which the individuals acknowledged their stuttering received a more positive rating than the samples in which the individuals did not. Therefore, this study supported the premise that reduced stuttering severity and the use of the acknowledgement technique improves attitudes towards PWS.

A study by [Craig and Calver \(1991\)](#) explored the effects of fluency shaping therapy on employers' perceptions of PWS. Thirty-four employers were surveyed regarding two groups of PWS. One group had received fluency shaping therapy, while the other group had not. The employers were aware that their employees had attended therapy. In addition to surveying the employers, the researchers polled the 62 PWS who had completed the therapy program regarding their vocational and career-related changes following therapy. The results suggested that the employers had more positive perceptions of the members of the treatment group following therapy. Conversely, the attitudes toward the individuals who had not received therapy did not change over this time period. Also, over half the PWS who completed the therapy program (i.e., 37 of 62 respondents) reported a promotion or desirable job change following therapy.

In summary, a number of research studies have found that a variety of groups view PWS in a negative stereotypical manner ([Cooper & Cooper, 1996](#); [Crowe & Cooper, 1977](#); [Crowe & Walton, 1981](#); [Hurst & Cooper, 1983a, 1983b](#); [Ruscello et al., 1988](#); [Silverman & Bongey, 1997](#); [Silverman & Paynter, 1990](#); [Yeakle & Cooper, 1986](#)). These stereotypes may be related to a role entrapment of PWS that in turn limits career choices ([Gabel et al., 2004](#); [Silverman & Bongey, 1997](#); [Silverman & Paynter, 1990](#)). Several studies have suggested that reduced stuttering severity ([Susca & Healey, 2001](#); [Turnbaugh et al., 1979](#)), along with therapy involvement through either the use of techniques ([Collins & Blood, 1988](#)) or attending a program ([Craig & Calver, 1991](#)), can improve negative attitudes towards PWS. In addition, it appears as if attending therapy might improve employment opportunities ([Craig & Calver, 1991](#)). It is unknown whether these two factors may lead to reductions in role entrapment. To date, no research studies have explored whether reduced severity of stuttering and involvement in therapy would lead to a reduction in role entrapment for PWS. The primary purpose of this study was to explore whether students perceive stuttering as having a negative effect on career choices. Additionally, the study explored whether variations in stuttering severity and therapy involvement affected perceptions of role entrapment.

2. Methods

2.1. Participants

The participants were 260 undergraduate and graduate students at a large eastern university. The mean age of the participants was 22.7 (S.D. = 10.7 years) with a range of 19–48 years. The students represented a variety of majors and disciplines. One hundred and forty-six of the participants were female and 114 were male. Fourteen participants were sophomores, 55 were juniors, 141 were seniors, and 50 were graduate students. Most of the sample was Caucasian (226 participants), but 17 participants were Asian, eight were

Hispanic/Latino, four were African-American, three were Indian, and two were Turkish. One hundred and forty of the participants reported knowing a person who stutters and 120 reported not knowing a person who stutters.

Participants were excluded from the study if they were majoring in communication disorders or a related area, due to the possibility that they might have more knowledge of stuttering than other students in the sample. Freshmen were also excluded from the study, due to their limited exposure to college life. Finally, if a student reported being a person who stuttered or if they reported having a family member who stuttered, they were asked not to participate in the study. Presumably, students with either type of background might have a positive bias toward PWS and report different attitudes than the rest of the population.

2.2. *Procedures*

2.2.1. *Survey instrument*

The Vocational Advice Scale (VAS) (Gabel et al., 2004) was utilized in this study to measure role entrapment. This scale was developed to measure the perceptions that individuals have toward advising people who do and do not stutter to pursue one of 43 careers. The items on the scale reflect 43 of the most sought after careers in the U.S. (Krannich & Krannich, 1993). This scale directs participants to report their level of agreement with each item using a five-point Likert-type scale, with scores ranging from 5 (strongly agree) to 1 (strongly disagree). An item on the VAS takes the following form: “I would advise a person who stutters (or one who does not) with the right kind of qualifications (i.e., elementary, middle school, high school, or higher academic requirements) to train to be a _____ (specific career).” If the participants reported less agreement with an item for PWS than the agreement reported for an item for PWDS, then the career is less advisable for PWS. In turn, if the career is less advisable, we can infer that the respondents judged it to be less appropriate for PWS than for PWDS, suggesting a stereotype against PWS working in this career. This paradigm was borrowed from a scale developed by Decaro et al. (1982), which measured attitudes toward career choices for people who are deaf. This approach has been found to be a valid measure of vocational stereotyping. The VAS was found to have appropriate content validity and measures of test–retest reliability and internal consistency (Gabel et al., 2004). The VAS was analyzed to offer data about the individual items and the overall mean score. The mean score on the VAS provides a measure of the overall effect that stuttering has on employment options (Gabel et al., 2004).

2.2.2. *Participant recruitment and survey distribution*

A trained undergraduate assistant recruited the 260 participants. This assistant was a student in communication disorders and did not stutter. The assistant went to the classrooms, described the purpose of the study, and explained each of the exclusionary criteria. Interested participants provided their name, e-mail address, and mailing address. All correspondence between the participants and the first author, including answering questions and debriefing, took place via email. The assistant visited 12 classrooms in which the number of students ranged between 20 and 60. In all, approximately 335 students were asked to participate in the study and a total of 260 participants agreed to participate. Thus, the response rate for the study was approximately 77.6%.

Each participant received a packet containing the VAS, a demographic questionnaire, and directions for completing the study. The 260 participants were randomly assigned to four conditions. For each of the conditions, 65 participants responded to a single description of a person who stuttered. The four conditions were: (1) a male who stutters severely and who has chosen to attend treatment to improve his stuttering, (2) a male who stutters mildly and who has chosen to attend therapy, (3) a male who stutters severely and who has chosen not to attend therapy to improve his stuttering, and (4) a male who stutters mildly and who has chosen not to attend therapy to improve his stuttering. These four conditions were selected in order to measure the effect of stuttering severity (mild versus severe) and treatment status (chose to attend treatment to improve his stuttering versus chose not to attend therapy to improve his stuttering) on participants' attitudes toward advising PWS to choose certain careers (role entrapment).

It was not accidental that the word "male" appeared in each description. This was because of the fact that more men stutter than women (Bloodstein, 1995) and to avoid any bias that may occur related to gender, since women have also suffered from role entrapment (Holleran & Lopez, 1984; Lupaschuk & Yewchuck, 1998). Also, specific definitions of stuttering severity and therapy involvement were absent from the descriptions in order to ensure that the participants' internal standards formed the basis of all responses and ratings of these concepts (Woods & Williams, 1976).

2.3. Statistical analysis

2.3.1. Descriptive statistics

Descriptive statistics (means and standard deviations) were used to identify whether the participants perceived certain careers as less advisable for PWS. Participants' scores for each item in each of the four conditions were averaged. In addition, an overall mean (averaged across the four conditions) was calculated for each of the 43 items on the VAS.

2.3.2. Analysis of variance

The method utilized for this study provided for a two (mild; severe) by two (chose to attend therapy; chose not to attend therapy) analysis of variance (ANOVA). This statistic was used to explore the effects of severity and treatment status on participants' reports of career advising for each item on the VAS, as well as the overall score on the VAS. The alpha level, or level of confidence, chosen for the study was .05. Due to the number of ANOVAs conducted in this study (44; including 43 individual items and the overall mean), the alpha level was divided by the total number of ANOVAs. This allowed for the use of a more conservative alpha level of .001, thus accounting for the increased variability that accompanies an increased number of comparisons.

3. Results

Table 1 provides a summary of the means (the average of the four conditions combined) and standard deviations for the 43 careers and the overall mean score for the VAS. Additionally, the frequency count and percentage of respondents for each type of

Table 1

The overall mean rating and the mean ratings of each condition for each career on the Vocational Advice Scale

Career	Mean (S.D.)			
	Condition 1	Condition 2	Condition 3	Condition 4
Computer Programmer	4.48 (0.562)	4.35 (0.598)	4.23 (0.702)	4.32 (0.589)
Mathematician	4.35 (0.717)	4.17 (0.675)	4.23 (0.632)	4.20 (0.733)
Biologist	4.35 (0.647)	4.18 (0.788)	4.18 (0.682)	4.18 (0.634)
Computer Systems Analyst	4.31 (0.705)	4.15 (0.905)	4.15 (0.775)	4.17 (0.821)
Statistician	4.33 (0.668)	4.06 (0.916)	4.18 (0.659)	4.17 (0.858)
Medical Records Technologist	4.29 (0.700)	4.09 (0.879)	4.12 (0.673)	4.17 (0.782)
Agricultural Scientist	4.28 (0.673)	4.11 (0.732)	4.11 (0.664)	4.08 (0.853)
Engineer	4.35 (0.671)	4.08 (0.797)	4.12 (0.819)	3.97 (1.03)
Astrologer	4.11 (0.903)	4.00 (0.935)	4.05 (0.891)	4.26 (0.691)
Motion Picture Editor	4.17 (0.858)	4.02 (0.875)	4.12 (0.793)	4.12 (0.886)
Medical Laboratory Technician	4.26 (0.713)	4.01 (0.976)	4.03 (0.789)	4.03 (0.883)
Postal Inspector	4.14 (0.788)	4.06 (0.768)	4.02 (0.672)	4.09 (0.897)
Industrial Designer	4.18 (0.705)	4.08 (0.625)	4.12 (0.625)	3.78 (1.02)
Publication Editor	4.05 (0.959)	3.92 (0.872)	3.91 (0.765)	4.15 (0.775)
Actuary	4.08 (0.835)	3.95 (0.799)	4.05 (0.891)	3.92 (0.853)
Computer Service Technician	4.05 (0.975)	4.08 (0.797)	3.86 (1.04)	4.02 (0.960)
Accountant	4.11 (0.850)	3.86 (0.966)	3.95 (0.759)	4.00 (0.866)
Medical Technologist	4.14 (0.788)	3.88 (0.892)	3.94 (0.846)	3.92 (1.05)
Historian	4.03 (0.984)	3.91 (1.04)	3.82 (0.950)	3.94 (0.899)
Physiologist	4.15 (0.833)	3.83 (0.977)	3.82 (0.950)	3.72 (1.18)
Paralegal	4.00 (0.866)	3.72 (1.02)	3.75 (1.11)	3.67 (1.08)
Urban/Regional Planner	3.82 (0.950)	3.92 (0.907)	3.83 (0.839)	3.60 (1.14)
Chiropractor	3.89 (0.921)	3.80 (0.887)	3.65 (0.975)	3.78 (1.12)
Pharmacist	3.95 (0.991)	3.66 (1.05)	3.62 (0.963)	3.91 (0.947)
Optician	3.86 (1.01)	3.75 (0.884)	3.52 (0.903)	3.69 (1.10)
Meteorologist	3.69 (1.19)	3.58 (1.14)	3.63 (1.05)	3.66 (1.14)
Optometrist	3.68 (1.02)	3.68 (0.954)	3.45 (0.969)	3.62 (1.23)
Sociologist	3.65 (1.02)	3.78 (0.944)	3.26 (0.989)	3.57 (1.07)
Broadcast Technician	3.66 (1.20)	3.58 (1.16)	3.46 (1.09)	3.12 (1.32)
Bank Officer	3.65 (1.19)	3.55 (1.06)	3.45 (1.00)	3.32 (1.26)
Political Scientist	3.69 (1.07)	3.54 (1.19)	3.20 (1.15)	3.34 (1.31)
Medical Secretary	3.29 (1.29)	3.45 (1.11)	3.32 (1.13)	3.32 (1.19)
Audiologist	3.38 (1.28)	3.32 (1.23)	3.14 (1.10)	3.29 (1.41)
Occupational Therapist	3.29 (1.20)	3.40 (1.11)	2.92 (1.16)	3.40 (1.17)
Physician	3.37 (1.27)	3.20 (1.23)	2.85 (1.16)	3.38 (1.26)
Hospital Administrator	3.24 (1.17)	3.37 (1.09)	2.91 (1.03)	3.09 (1.21)
Psychologist	3.35 (1.25)	3.11 (1.26)	2.80 (1.03)	3.05 (1.35)
Parole Officer	3.03 (1.25)	2.78 (1.15)	2.68 (1.08)	3.11 (1.30)
Speech Therapist	3.14 (1.46)	3.21 (1.43)	2.46 (1.37)	2.65 (1.36)
Guidance/Employment Counselor	2.86 (1.28)	3.09 (1.22)	2.52 (1.00)	2.81 (1.37)
Protestant Minister	2.92 (1.27)	2.86 (1.26)	2.57 (1.10)	2.91 (1.33)
Judge	2.86 (1.28)	2.78 (1.23)	2.28 (0.927)	2.58 (1.31)
Attorney	2.43 (1.24)	2.55 (1.29)	2.08 (1.03)	2.32 (1.25)

agreement score (strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree) is provided. This data was analyzed to identify important trends in the participants' responses. Sixteen of the careers received a rating above 4.0, with standard deviations less than 1.0. A score greater than 4.0 suggests that the judges agreed or strongly

agreed that these careers were appropriate or advisable choices for PWS. Twenty-seven of the 43 careers had means that ranging from 2.35 (attorney) to 3.97 (medical technologist). Additionally, these careers had standard deviations above 0.90, with most having a standard deviation higher than 1.0. These findings suggest that the respondents were more uncertain about the appropriateness or advisability of these careers.

The total mean score on the VAS provides a measure of the overall effect that stuttering has on employment options. The overall mean score for the entire sample was 3.72. Sixty-eight students (26% of the sample) reported a total mean score above 4.0. This score suggests that these students believed that stuttering did not affect employment in these 43 careers. A total mean score of 2.1–3.9 might suggest that the judges were unsure of the effect of stuttering on career options. One hundred and ninety-two participants (74% of the sample) reported a total mean score in this category. Thus, a majority of the students were unsure or had no opinion as to whether stuttering affected employment in these careers.

Results of the ANOVA identified no significant effects for stuttering severity on any of the 43 items on the VAS. The means for each condition are summarized in Table 1. Similarly, therapy involvement did not alter participants' perceptions for 42 of the 43 careers. For the career of speech therapist, there was an effect for therapy involvement ($F = 14.66$; d.f. = 1, 259; $p < .001$), such that therapy involvement improved the participants' reports of advisability. Thus, this career was perceived to be more appropriate if the individual was involved in therapy. There was no interactive effect of stuttering severity or therapy involvement for any of the 43 careers. Similarly, there was no effect for stuttering severity ($F = 0.020$; d.f. = 1, 259; $p = .888$), therapy involvement ($F = 2.96$; d.f. = 1, 259; $p = .080$), or the interaction of stuttering severity and therapy involvement ($F = 1.45$; d.f. = 1, 259; $p = .229$) on the mean score for the scale. Thus, it appears these factors did not affect the participants' perceptions of any of the 43 items.

4. Discussion

The first purpose of this study was to explore whether a group of college students would perceive certain careers as less advisable for PWS. The results of the study suggested that the participants judged 16 of the careers to be appropriate for a qualified person who stutters. These careers were: biologist, astrologer, industrial designer, actuary, engineer, medical records technologist, medical laboratory technician, computer systems analyst, motion picture editor, statistician, agricultural scientist, computer programmer, postal inspector, mathematician, publication editor, and computer service technician.

As with the study completed by Gabel et al. (2004), the present study did not ask participants to report the criteria they used to make their judgments related to appropriate career choices. In both studies, one could interpret that two factors might have influenced the participants to deem the 16 careers appropriate. The first factor is that these careers are related to technology and science. Thus, the group of students might have believed that PWS are well suited for careers in science and technology. Also, these 16 careers appear to require less communication or public presentation than the other 27 careers on the VAS. This group of students, as in the previous study (Gabel et al., 2004), appeared to suggest

that careers in technology, science, and those that require less communication skills and public presentation are most appropriate for PWS.

Given that the participants were asked to respond to a “male who stutters”, this study may have produced a gender bias, since the participants may perceive careers in technology and the sciences as more suited for men. An *a priori* decision was made to control for gender bias by not including a reference to women who stutter, since women are another group that might suffer from role entrapment (Holleran & Lopez, 1984; Lupaschuk & Yewchuck, 1998). Also, a majority of those who stutter are male (Bloodstein, 1995). Future research may choose to explore whether there is an effect for gender related to the effect stuttering might have on perceptions of role entrapment, as it relates to careers listed on the VAS.

The study also found that the participants judged 27 careers to be neither more nor less advisable or appropriate for PWS. In essence, this group of students appeared to be uncertain as to the advisability or appropriateness of these career choices. Another way this finding might be interpreted is that the respondents, as a group, differed in their attitudes toward the suitability of these careers. Unlike the 16 careers judged to be more advisable or appropriate career choices, several, if not all, of these careers require a moderate, to significant, amount of communication ability. This perceived need for communication may have led participants to be less certain as to whether these careers were advisable for PWS. It is possible that many of the participants perceived that the communication demands to be excessive for PWS and would not advise them to pursue a career that would present these challenges, thus the means were lower and the standard deviation greater than the other 16 careers. Because the participants were not asked to share their reasons for making their judgments, it is not possible to understand fully what led to their reports.

None of the careers were found to fall within a mean rating less than 2.0. Six careers did have a mean rating below 3.0 and had large standard deviations (above 1.0). These were judge, speech therapist, parole officer, guidance/employment counselor, attorney, and Protestant minister. Incidentally, these six careers also received the lowest mean scores in the previous study using the VAS (Gabel et al., 2004). This might suggest that these careers might be perceived to be particularly difficult for PWS by a segment of the group.

In generally, the mean ratings for each of the careers reported by these respondents were similar to those found by Gabel et al. (2004). In that study, 23 of these careers were found to be less advisable for PWS than for PWDS. Since there is similarity between the mean ratings between the present study and those of Gabel et al., one could interpret the present results to be indicative of role entrapment of PWS. Since this study did not use the control stimuli of a person who does not stutter, it is difficult to interpret the findings of this study to suggest role entrapment of PWS. Future research needs to be done to further explore this important phenomenon.

In future research, investigators should ask the participants to share what issues they believe lead to role entrapment and negative attitudes towards PWS. Utilizing a qualitative design, in combination with the VAS, might be one means of exploring this issue further. Recently, several studies have suggested that, to understand attitudes and stereotyping of PWS fully, both qualitative and quantitative methods should be used (Panico, Healey, Brouwer, & Susca, 2005; Susca & Healey, 2001). These authors suggested that use of a mixed quantitative and qualitative method allowed for a deeper understanding of attitudes towards PWS.

Another interesting finding from this study was that 74% of the participants reported a mean score on the VAS of 3.00–3.99. This suggests that most college students were unsure or had no opinion in regards to the overall effect of stuttering on career opportunities. In addition, 26% reported that stuttering had no effect on employability. One might interpret this finding to suggest that 74% of the sample reported that stuttering might have an effect on employment. Conversely, one may also interpret this finding to mean that 100% of the sample believed that stuttering did not affect employability. Future research studies are needed to ascertain whether there is an overall effect of stuttering on employability.

Generally, this study does not support the notion in the literature that stuttering can affect employment opportunities and experiences (Gabel et al., 2004; Hurst & Cooper, 1983a, 1983b; Klein & Hood, 2004; Rice & Kroll, 1997). Additionally, other research has suggested that employment and the workplace should be a particular focus of therapy (Craig & Calver, 1991). Future studies should continue to explore the effects of stuttering on employment issues.

The present study also explored the effects of severity and therapy involvement on the participants' perceptions of appropriate career choices for PWS (the individual items on the VAS) and the overall effect of stuttering on employment (the total mean score on the VAS). For 42 of the 43 careers and the overall mean score, there was no effect of either severity or therapy involvement. For the career of speech therapist, the participants appeared to report that this career was a more appropriate choice for a male who stutters that had attended therapy. Thus, with the exception of this career, there was no distinction in the participants' reports of occupational stereotyping or role entrapment based on alterations in severity or involvement in therapy.

The finding that severity and therapy involvement did not alter the participants' perceptions of role entrapment seems contrary to findings of past research that has explored the effects of these variables on perceptions and stereotypes of PWS (Collins & Blood, 1988; Craig & Calver, 1991; Susca & Healey, 2002; Turnbaugh et al., 1979). This finding is surprising given the theoretical relationship that stereotyping has on role entrapment and occupational stereotyping (Gabel et al., 2004; Smart, 2001). One might consider that this finding suggests that general stereotyping of PWS is not directly related to any type of role entrapment related to occupational choices. More research is necessary to fully understand this relationship as it pertains to PWS.

Several limitations of this study should be discussed. One issue that may have impacted the findings of this study was the use of a written description of stuttering, instead of using audio or video samples of an individual either stuttering or simulating stuttering. Though many studies have used written descriptions to measure negative attitudes and stereotyping of PWS (Hurst & Cooper, 1983b; Ruscello et al., 1988; Silverman & Bongey, 1997; Silverman & Paynter, 1990; Turnbaugh et al., 1979; Woods & Williams, 1976), it is clear that this design requires that the individual participants have an understanding of stuttering and can differentiate between severity levels and therapy involvement, without hearing or seeing the concepts. Future studies incorporating the VAS should utilize different modes of presentation of stuttering to measure role entrapment.

Another potential issue is the use of college students as the only research group for the study. These students, from a single university, formed the sample because they were a fairly convenient group from which to survey. Caution should be used when attempting to

generalize these findings to other populations. Even so, college students have consistently reported negative stereotypical attitudes towards PWS in past research studies (Ruscello et al., 1988; Silverman & Paynter, 1990) similar to other populations that have been surveyed (Cooper & Cooper, 1996; Crowe & Cooper, 1977; Crowe & Walton, 1981; Hurst & Cooper, 1983a, 1983b; Silverman & Bongey, 1997; Yeakle & Cooper, 1986). Therefore, one can assume with some confidence that other populations will report similar responses to those found in the present study. Certainly, future research should explore how specific important population groups perceive career opportunities for PWS. Among the groups that might be surveyed are teachers, SLPs, employers, and employment counselors.

The findings of this study may also support the notion that stereotyping of people who stutter might be less negative in the general population. Recently, other authors have discussed this trend in recent studies exploring attitudes towards PWS (Gabel, 2006; Healey, Gabel, Daniels, & Kawai, 2007). It may be that stuttering is not perceived as negatively as it was in the past. Future studies should explore whether there has been a “shift” in the attitudes of the general populations towards PWS.

Finally, the effects of several other important variables of the participants’ reports of role entrapment were not explored in this study. Among these variables that might be explored were the gender of the participants, familiarity with stuttering, and knowledge of stuttering. The exploration of all of these variables in one study was judged to be quite difficult. The authors decided, prior to initiating this research, to focus on the effects of therapy and severity alone. Future research should explore the effects of many important factors on role entrapment and attitudes towards PWS.

In conclusion, the present study does not appear to support the hypothesis that PWS suffer from role entrapment in the form of occupational stereotyping. If there is a presence of role entrapment, it appears to be limited to a small number of careers. Additionally, this study did not find that therapy involvement or stuttering severity improved attitudes towards PWS, unlike studies that have suggested that differences in stuttering severity and therapy involvement might improve attitudes towards PWS (Collins & Blood, 1988; Craig & Calver, 1991; Susca & Healey, 2001; Turnbaugh et al., 1979). Because of the important clinical and theoretical implications of understanding role entrapment, future research should continue to explore this phenomenon.

Appendix A. Continuing education

Test questions for ‘Effects of stuttering severity and therapy involvement on role entrapment of people who stutter’.

1. In this article, it is stated that role entrapment has been studied as it relates to:
 - a. The dominant culture being limited
 - b. Vocational stereotyping
 - c. Therapy limitations
 - d. None of the above
2. People who stutter are often viewed with a:
 - a. Positive stereotype

- b. Negative stereotype
 - c. Neutral stereotype
 - d. None of the above
3. The findings of the study suggest that:
 - a. Less than half of the careers listed on the VAS were appropriate choices
 - b. All of the careers listed on the VAS were inappropriate choices for people who stutter
 - c. 15 careers were judged to be inappropriate for people who stutter
 - d. None of the above
 4. In the study, stuttering severity and level of therapy involvement had the following effect:
 - a. It altered the participants' reports of career advice for all of the 43 careers
 - b. It altered the participants' reports of career advice for none of the 43 careers
 - c. Stuttering severity had no effect on career advice for any of the 43 careers, but being involved in therapy improved reports for one of the careers
 - d. None of the above
 5. For the careers reported to be less appropriate, the following variable(s) seemed to be a major factor:
 - a. Stuttering severity and therapy involvement
 - b. Communication ability and public presentation
 - c. Level of education and amount of time spent
 - d. None of the above

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