Jobs, Sex, Love and Lifestyle: When Nonstutterers Assume the Roles of Stutterers

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Quality of life · Speech perception · Stuttering

Abstract

Purpose: This study assessed the impact of stuttering via a questionnaire in which fluent individuals were asked to assume the mindset of persons who stutter (PWS) in various life aspects, including vocation, romance, daily activities, friends/social life, family and general lifestyle. The perceived impact of stuttering through the mind's eyes of nonstutterers is supposed to reflect respondents' abilities to impart 'theory of mind' in addressing social penalties related to stuttering. **Method:** Ninety-one university students answered a questionnaire containing 56 statements on a 7-point Likert scale. Forty-four participants (mean age = 20.4, SD = 4.4) were randomly selected to assume a stuttering identity and 47 respondents (mean age = 20.5, SD = 3.1) to assume their normally fluent identity. **Results:** Significant differences between groups were found in more than two thirds of items regarding employment, romance, and daily activities, and in fewer than half of items regarding family, friend/social life, and general life style ($p < 0.001$). **Conclusions:** The social penalties associated with stuttering appear to be apparent to fluent individuals, especially in areas of vocation, romance, and daily activities, suggesting that nonstuttering individuals, when assuming the role of PWS, are capable of at least temporarily feeling the negative impact of stuttering.

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Introduction

Stuttering is a developmental communication disorder characterized by intermittent and involuntary syllabic repetitions, prolongations, and silent postural fixations that disrupt the flow of speech [1, 2]. During moments of stuttering, persons who stutter (PWS) oftentimes show overt ancillary behaviors such as head jerking, eye blinking, facial contortion, and tongue protrusion. In addition, PWS generally employ an array of covert strategies which include avoidances of specific sounds or words, and avoidances of people and places that they 'feel' will induce stuttering [1, 2]. It is estimated that up to 80% of the stuttering symptomatology remains hidden within the PWS and only 20% is heard and seen by the public [3].

An extensive body of research has revealed the existence of pervasive and seemingly omnipresent stereotypical perceptions toward PWS, that PWS are relatively nervous, tense, guarded, shy, reticent, hesitant, afraid, introverted, insecure, anxious, passive and sensitive [e.g. ref. 4]. It is of no doubt that these perceptions have negatively impacted various aspects of life for PWS. Writing from his decades of clinical experience, Van Riper stated that 'most stutterers manage to acquire jobs and friends and mates and children, even though their choices (for all but the last of these) are more limited than for normal speakers' [5, p. 238]. Hurst and Cooper [6] found that according to most employers, stuttering decreases a person's employability and opportunities for promotion. Silverman

and Paynter [7] compared undergraduate students' assessment of occupational competence and found that perceived competencies were significantly decreased by the label of stuttering. In addition, Rice and Knoll [8] found that PWS perceived their stuttering to have adversely affected employment opportunities, job promotions, job responsibilities, and performance evaluations as well as contributing to feelings of social alienation at work. Gabel et al. [9] demonstrated role entrapment for PWS when nonstutterers allocate PWS to jobs with minimal speaking requirements (e.g. computer programmer, statistician, publication editor, accountant and engineer). Taken together, these studies suggest a general perception that PWS have diminished employability, promotional opportunities, and job choices.

The negative impact of stuttering may start early in life and protract long thereafter. Hugh-Jones and Smith [10] reported a majority of 276 British adult PWS mentioned bullying at school and its long-lasting negative after-effects. Davis et al. [11] investigated how children who stutter integrated with their nonstuttering classmates and suggested that antibullying policies initiated in England were unable to overcome bullying practices, hierarchical discrimination, and social outcasting of stuttering children. Weisel and Spektor [12] revealed that fluent adolescents hold a more negative attitude toward stuttering peers than their own fluent communication, and suggested that stuttering may be an important factor in the low self-esteem and loneliness found in adolescents who stutter. These studies show that as a group, the school-aged PWS, especially teenagers, oftentimes suffer from the social penalties and emotional upheavals brought about by stuttering, in conjunction with the awkwardness of the pubescent years.

In addition, a number of studies have investigated the impact of stuttering on the personal lives of PWS, including issues concerning dating, romance, marriage, friendships, and general quality of life [13, 14]. In Boberg and Boberg [13], wives of PWS reported that they first knew their husbands by means of dates as couples, when the PWS could hide their stuttering; that they expected a limited social life; and that they tended to assist their stuttering husbands in some oral situations. Klompas and Ross [14] individually interviewed 16 South African adult PWS. Their respondents reported that stuttering reduced their opportunities for vocational promotion, but not for occupation choice, friendship, family and marriage. They also suggested a debilitating impact of stuttering on self-esteem, self-image, and on inducing powerful emotional responses.

How these stereotypical negative perceptions about PWS have come to arise is still unclear. However, Guntupalli et al. [15, 16] found evidence that stuttering induces heightened physiological responses (i.e. changes in skin conductance response and heart rate) in listeners that indicate discomfort and emotional arousal. They suggested that these visceral autonomic responses might seed the generalized negativity associated with PWS.

The fact that these stereotypes about PWS exist suggests that PWS are viewed 'differently' than normally fluent people in a number of salient aspects of life that are influenced by communicative ability. What is still unclear is the degree of perceived difference that exists, which might reflect the extent of the impairment brought about by stuttering. One way to measure this might be to ask a group of normally fluent individuals to rate themselves both from their own normally fluent perspective and from the assumed perspective of a PWS on items relating to various communicatively influenced constructs such as vocation, romance, friendships, family relationships and daily living activities. By quantifying the relative perceived intraindividual differences from these two contrasting viewpoints, we may be able to glean an appreciation of the true social penalties of stuttering.

In other words, individuals may apply Theory of Mind (ToM) to adopt the viewpoint of a PWS and contrast it with their own 'normal' viewpoint. Such a task seems reasonable as ToM is inherent to most humans [17], and is accomplished by a combination of experience, memory, and cognition interacting with empathetic processes. Though some debate continues about the relative roles of these processes in ToM [18, 19], human beings undoubtedly possess this remarkable ability to see the world through the eyes of another. Thus, the goal of this study is to allow nonstutterers to see through a stutter's eyes in order to reflect the degree of social impairment that stuttering places upon those afflicted.

Method

Scale Development

Two forms of a questionnaire scale, Stutter Scale and Fluent Scale, were originally developed. Each scale consisted of 56 statements asking the participants how they saw themselves in various roles and situations. In the Stutter Scale, the questions started with 'If I were a person who stutters', while in the Fluent Scale, the questions began with 'I feel that'. In addition, the Fluent Scale contained specific instructions as 'Please respond to these questions as they TYPICALLY apply to you based on your current NORMAL manner of speaking'. The statements in the Stutter Scale are displayed in the appendix. Every item had a 7-point Lik-

Table 1. Significant differences found between Stutter-Scale and Fluent-Scale participants in regard to various life aspects

Life aspects	Number of items	Significantly different items ($p < 0.001$)	Percentage
Vocation	10	7	70.00
Romance	9	6	66.67
Daily activity	10	8	80.00
Friends/social life	9	3	33.33
Family	7	0	0
General lifestyle	11	3	27.27

ert scale, from 1 (strongly agree) to 7 (strongly disagree). The internal consistency of the Stutter Scale and Fluent Scale, measured by Chronbach's α , is 0.974 and 0.962, respectively.

Participants and Procedure

Ninety-four participants were enrolled from two undergraduate classes: Phonetics and Introduction to communication disorders. The questionnaire was randomly distributed 20 min prior to the end of a regular class, and each participant received either the Stutter Scale or the Fluent Scale. Three persons were excluded from analysis because they reported a history of stuttering. The Stutter-Scale group had 44 respondents (2 males and 42 females; age 18–45 with mean = 20.45, SD = 4.41), and 41 of them (93.2%) knew at least 1 PWS. The Fluent Scale had 47 respondents (2 males and 45 females; age 18–37 with mean = 20.57, SD = 3.11).

Data Analysis

The data from the survey were analyzed using SPSS (version 13, SPSS Inc., 2004, on Windows platform). These responses were categorized into 6 categories: vocation, romance, daily living, friendship, family and general life satisfaction. Within each category, multiple two-sample t tests were employed to investigate the strength of agreement/disagreement with each statement between the two participant groups. The robustness of the test with respect to nonnormality was assured due to the large sample size ($n = 44$ in the Stutter Scale and $n = 47$ in the Fluent Scale). The significance level was set to $p = 0.001$ by using Bonferroni correction (approximately 0.05 over 56). Effect size was estimated using Cohen's d .

Results

For each of the 6 life aspects, number of items with significant between-group difference is displayed in table 1. For each statement, the category it falls into and whether it received significant between-group difference is indicated in the appendix.

Discussion

In this study, fluent speakers were asked to assume the mindset of PWS and appreciate the attendant social, vocational, and recreational impact on life. When assuming this mindset and projecting themselves into various roles as PWS, the participants demonstrated their capability to discern the impact of stuttering events on salient life trajectories (e.g. jobs, promotion, and marriage). By using this contrastive approach, insight into the impact of stuttering may be gleaned, not from PWS, but from the adopted viewpoint of the overwhelming 99% of the population who do not, and who represent the majority of communication partners for PWS. These findings are of considerable importance as they shed light on both the perceived societal value of unimpaired verbal communication relating to quality of life and the degree to which stuttering is perceived as a roadblock to success in these areas.

This study demonstrated that when taking the perspective of PWS, the participants believed that stuttering has a mild to moderate negative impact on family, friends/social life and general life, but might become a relatively eminent obstruction for PWS on vocational opportunities, romance, marriage and activities of daily living. First, significant group differences were found in 7 out of 10 items in regard to vocational choices and aspirations. In situations where unimpaired verbal communication seems most necessary, PWS are perceived to be at a distinct disadvantage. This finding echoes those from previous studies [e.g. ref. 9] in that PWS have fewer chances to gain employment or be promoted, setting a pattern of 'role entrapment' [9] relative to vocation. Perhaps a certain level of speech fluency is regarded as a requirement for doctors, lawyers, policemen and others to instill confidence in the general public, while stuttering may detract from that public confidence, possibly because of the emotional arousal it creates. Interestingly, the chance to become a university professor was not seen as impaired as that of other professions that require constant communication, which is possibly in accordance with the idea of 'academic cocoon' [2] where a more tolerant attitude toward disability exists.

Second, relating to romance, stuttering was perceived as having a detrimental effect on more than half of the activities addressed. PWS were thought to have minimal disadvantage during the initial stages of relationships, but greatly diminished opportunities in their long-term romantic relationship. However, more than three times as many males stutter than females [2]. Hence, the responses given by those predominantly female partici-

pants may not fully reflect the true extent to which stuttering may hinder romantic opportunities in the majority of the stuttering population.

Third, a large percentage of daily-living activities were seen as affected by stuttering, indicating that PWS were perceived as receiving less respect, having more difficulty initiating oral communications, and using e-mails more frequently than fluent individuals. However, the susceptibility to substance abuse and the chance of being fairly treated by police officers did not seem to be as affected by stuttering. This finding indicates that even in a severely impaired area, the negative perceptions of stuttering vary to some extent, depending on context.

Fourth, interestingly, no significant differences were revealed between the two perspectives with regard to family life in this cultural setting (i.e. North America). Family is generally seen as accepting, loving, protecting and trusting, and is the last harbor in case of problems. Hence, this otherwise disabling condition was perceived as having at least one safe communicative haven in a familial environment. In addition, the protective nature of the family was underlined, with marginal significance, as respondents believed that PWS were more disabled and required higher levels of protection from their families.

Respondents perceived PWS as having similar opportunities to make friends and enjoy friendships. However, their responses also indicated that some common interactions among friends (e.g. talking on the phone, joking, or being introduced to friends' families) may be compromised. These findings might be interpreted as suggesting that friends of PWS need to make certain allowances, and if these allowances are not afforded, PWS may suffer from a decreased quality or quantity of friends [5].

Consistent with previous reports [1, 5], PWS were thought to be more anxious and less confident than normally fluent people, having more obstacles in their lives, and fewer chances for overall happiness. However, the respondents believed that PWS and fluent people have similar capacities for being good spouses and parents, as well as leading rewarding lives. These findings may be best explained by temporal qualities of the addressed relationships (i.e. long-term or transitory). In the long run, PWS may become more acceptable to others who have learned to see their true disposition beyond the stuttering behaviors. As a result, stuttering becomes less important in long-lasting, deeply entrenched relationships that have a chance to flourish when those involved base their opinions of each other on qualities other than obvious surface-level differences. Maybe words from Van Riper make a concise and insightful conclusion for the impaired so-

cial life of PWS that 'They have to work harder, tolerate more initial rejection, or accept a subordinate position in a new group. They must create compensatory assets in order to gain acceptance, and in general learn to live within their communicative limitations' [5, p. 238].

Convergent evidence from brain imaging experiments has pointed out that ToM is crucial for individuals to understand the emotional states of others and to maintain emotional health and strong social bonds [e.g. ref. 20]. Brain areas with mirror properties, which are supposed to be causal to emotional arousal in listeners when observing stuttering speech [15, 16], are found to be coactivated with ToM, even in action-imagining or scenario-imagining tasks [20]. Hence, the use of ToM may facilitate normally fluent persons to assume the emotional and social consequences of stuttering on specific life events when asked to take on the 'stuttering viewpoint'. To see the impact of stuttering through the 'eyes' of nonstutterers, instead of the PWS', is the 'other side of the coin', and may contribute to measure the full scale of the social punishment of stuttering.

In this study, the majority of respondents were female college students in their early twenties who also had some interest in communication disorders, which may confound the results by a cohort effect, gender bias, scholarly knowledge, and education level. As such, the data should be interpreted and generalized with caution. The overall validity of the questionnaire also needs to be externally evaluated as it was originally developed by the authors. For future studies, the roles of demographic factors, such as culture, origin of birth, gender, exposure to stuttering, and education level on perception of stuttering, need to be clearly demonstrated. Another question that needs to be answered is how PWS perceive the impact of stuttering according to the items on this questionnaire. It is suspected that in addition to its negative impact on vocation, romance and daily activities, stuttering may be perceived as deleterious to general life satisfaction to a magnitude greater than that found in this study although it may vary according to stuttering severity. An additional topic for investigation is uncovering strategies which may be used to help PWS gain more chances of success in important life issues such as vocation and romance.

A deeper understanding of the source of negative perceptions toward stuttering will be helpful in developing such strategies and improving overall quality of life for PWS. Understanding and support from family, friends, spouses or potential partners, clinicians and society could possibly relieve the feelings of frustration and shame of PWS.

Appendix

Stutter-Scale Statements

Please circle the number which best describes your degree of agreement to the statement.

Please respond to these questions as if you were a person who stutters.

1. If I were a person who stutters, my siblings would not treat me any differently than they treat siblings, who do not stutter (*Family*; NS).
2. If I were a person who stutters, I would feel equally confident joining an amateur sports team as other people, who do not stutter (*Friends*; NS).
3. If I were a person who stutters, a police officer pulling me over would treat me the same way as other people, who do not stutter (*Daily*; NS).
4. If I were a person who stutters, my children would respect me just as much as they would respect a parent that did not stutter (*Family*; NS).
5. If I were a person who stutters, I would be just as capable of being as good a parent as other people, who do not stutter (*General*; NS).
6. If I were a person who stutters, my opportunities to communicate effectively would be the same as those of other people, who do not stutter (*Daily*; *).
7. If I were a person who stutters, I would have the same opportunities to make the same salary as other people, who do not stutter (*Vocation*; *).
8. If I were a person who stutters, I would have the same opportunities to be a police officer as other people, who do not stutter (*Vocation*; *).
9. If I were a person who stutters, my boss would treat me the same as other people, who do not stutter (*Vocation*; *).
10. If I were a person who stutters, I would have the same opportunities to be a physician as other people, who do not stutter (*Vocation*; *).
11. If I were a person who stutters, my family would encourage me to follow my dreams as much as a person who does not stutter (*Family*; NS).
12. If I were a person who stutters, I would have the same opportunities to go on blind dates as other people, who do not stutter (*Romance*; NS).
13. If I were a person who stutters, I would be just as assertive as other people, who do not stutter (*General*; *).
14. If I were a person who stutters, I would have the same opportunities to impress potential romantic partners as other people, who do not stutter (*Romance*; *).
15. If I were a person who stutters, salespeople would treat me with just as much patience and respect as they treat other people, who do not stutter (*Daily*; *).
16. If I were a person who stutters, I would feel equally secure initiating conversations with coworkers as other people, who do not stutter (*Daily*; *).
17. If I were a person who stutters, my general levels of stress and anxiety would be the same as those of other people, who do not stutter (*General*; *).
18. If I were a person who stutters, my job opportunities would not be limited (*Vocation*; NS).
19. If I were a person who stutters, I would feel as confident talking to potential romantic partners as other people, who do not stutter (*Romance*; *).
20. If I were a person who stutters, I would have the same opportunities to make lasting friendships as other people, who do not stutter (*Friends*; NS).
21. If I were a person who stutters, my potential partners would feel equally comfortable introducing me to their family as they would with a partner who does not stutter (*Romance*; *).
22. If I were a person who stutters, I would have the same opportunities to initiate conversations with potential partners as other people, who do not stutter (*Romance*; *).
23. If I were a person who stutters, I feel my life would be just as rich as the lives of other people, who do not stutter (*General*; NS).
24. If I were a person who stutters, I would be just as capable of being a good spouse as other people, who do not stutter (*General*; NS).
25. If I were a person who stutters, I would feel equally confident calling a potential romantic partner on the telephone as other people, who do not stutter (*Romance*; *).
26. If I were a person who stutters, I would feel equally confident that my friends would respect me as much as other friends, who do not stutter (*Friends*; NS).
27. If I were a person who stutters, I would use e-mails just as much as other people, who do not stutter (*Daily*; *).
28. If I were a person who stutters, I would have the same opportunities to be a university professor as other people, who do not stutter (*Vocation*; NS).
29. If I were a person who stutters, I would have the same opportunities to meet my ideal romantic partner as other people, who do not stutter (*Romance*; NS).
30. If I were a person who stutters, my life would have no more obstacles than the lives of other people, who do not stutter (*General*; *).
31. If I were a person who stutters, I would feel like I could order items on a restaurant menu in the same manner as other people, who do not stutter (*Daily*; *).
32. If I were a person who stutters, I would have the same opportunities to be a lawyer as other people, who do not stutter (*Vocation*; *).
33. If I were a person who stutters, my family would have the same confidence in my abilities as they would have in my siblings who do not stutter (*Family*; NS).
34. If I were a person who stutters, my coworkers would treat me the same as other people, who do not stutter (*Vocation*; *).
35. If I were a person who stutters, I could have just as many good friends as other people, who do not stutter (*Friends*; NS).
36. If I were a person who stutters, I would feel as secure in my friendships as other people, who do not stutter (*Friends*; NS).
37. If I were a person who stutters, a stranger meeting me for the first time would treat me with as much respect as he or she would treat other people, who do not stutter (*Daily*; *).
38. If I were a person who stutters, I would feel as confident asking someone to dance at a nightclub as other people, who do not stutter (*Romance*; *).
39. If I were a person who stutters, I would have the same opportunities to be an accountant as other people, who do not stutter (*Vocation*; NS).

40. If I were a person who stutters, I would not be any more prone to illness than other people, who do not stutter (*General*; NS).
41. If I were a person who stutters, my friends would feel as comfortable introducing me to their families as they would with a friend who does not stutter (*Friends*; *).
42. If I were a person who stutters, I would feel as confident calling my friends on the telephone as other people, who do not stutter (*Friends*; *).
43. If I were a person who stutters, I would feel I have just as much opportunity to be happy as other people, who do not stutter (*General*; NS).
44. If I were a person who stutters, I would voice my opinion just as much as other people, who do not stutter (*General*; NS).
45. If I were a person who stutters, my parents would love me just as much as my siblings who do not stutter (*Family*; NS).
46. If I were a person who stutters, I would feel as able to joke with my friends as other people, who do not stutter (*Friends*; *).
47. If I were a person who stutters, my family would not see me as being disabled (*Family*; NS).
48. If I were a person who stutters, I would feel as secure telling my friends sensitive personal information as other people, who do not stutter (*Friends*; NS).
49. If I were a person who stutters, I would feel equally confident asking for a date as other people, who do not stutter (*Romance*; NS).
50. If I were a person who stutters and had to call 911, I would be taken just as seriously as other people, who do not stutter (*Daily*; *).
51. If I were a person who stutters, my parents would be no more protective of me than they would be of a sibling who does not stutter (*Family*; NS).
52. If I were a person who stutters, I would not be any more at risk for substance abuse than other people, who do not stutter (*Daily*; NS).
53. If I were a person who stutters, I would feel just as confident ordering food at a drive-through as other people, who do not stutter (*Daily*; *).
54. If I were a person who stutters, I would have the same opportunities for job advancement as other people, who do not stutter (*Vocation*; *).
55. If I were a person who stutters, I would be just as confident in my abilities as other people, who do not stutter (*General*; *).
56. If I were a person who stutters, I would not feel the need to work harder at my job than other people, who do not stutter (*General*; NS).

Note: 'Vocation', 'Romance', 'Daily', 'Friends', 'Family', and 'General' stand for the 6 life aspects of vocation, romance, daily life activities, friends/social life, family, and general life satisfaction, respectively. * denotes significant between-group difference at $p = 0.001$, while NS indicates no significant difference.

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