Perceptual and Motor Skills, 2003, 97, 235-245.

STEREOTYPES TOWARDS STUTTERING FOR THOSE WHO HAVE NEVER HAD DIRECT CONTACT WITH PEOPLE WHO STUTTER: A RANDOMIZED AND STRATIFIED STUDY[1,2]

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Summary.—Research suggests that many people hold pervasive negative stereotypes towards persons who stutter and that to date, success in changing these attitudes has been limited. However, few studies have selected people who had not had direct contact with a person who stutters or employed a true randomized and stratified selection of people from the community to assess attitudes towards stuttering. To assess stereotypes, a randomized and stratified investigation was conducted by telephone interview to assess the type of stereotypes 502 people from households in the state of New South Wales, Australia have about stuttering. Consenting persons were given a brief introduction to the research and a description of stuttering. Then they were asked if they or any person living in their household stuttered or whether they knew or had ever met any one who stuttered If answers were no, they were asked to participate. If they answered yes to either question they were thanked and not asked to participate. Analysis showed that a large number believe persons who stutter are shy, self-conscious, anxious people who lack confidence. In contrast, many also believe they would not be embarrassed talking to someone who stutters, that they have average or above average intelligence, and are capable of holding responsible work-related positions. While this research yields a mixture of negative and positive community stereotypes, a significant portion of society continue to show little knowledge of the causes of the disorder.

Because stuttering is a disorder in oral communication (that is, it occurs when a person attempts to talk), people who stutter are believed to be susceptible to negative stereotypes and social stigma. To understand this, it is important to present a brief introduction to the disorder. Stuttering is a potentially debilitating disorder that starts as soon as children begin to talk, and for at least 20% of those children, it becomes a chronic problem into old age (9, 13). It is believed to be a neurological disorder that affects the neural systems involved in the motor aspects of speech (28). In research recently published by the investigators (18), the prevalence of stuttering over

[1]This research was funded by a competitive grant from the University of Technology, Sydney, and a Commonwealth Department of Health Grant (NHMRC). Thanks also to the following funding bodies who also contributed financially to the research: the Big Brother Movement, the Australian Rotary Health Research Fund, the Sunshine Foundation, and the Inger Rice Foundation. Thanks to Ms. Karin Peters, Dr. Karen Hancock, and Ms. Karen Siccardi for their assistance in conducting this research.
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the entire lifespan (from two years to older age) was .7% with at least a 50% higher prevalence rate of stuttering in males (2.3 to 1 male to female ratio). While the risk of stuttering is higher (2 to 4% depending on age), a .7% prevalence rate is predictable given that many children naturally recover from stuttering. A higher prevalence rate of around 1.4% was found in children (2 to 10 years), with boys having a higher prevalence of stuttering (2.3 to 3.3 to 1). In adolescence (11 to 20 years), the prevalence fell substantially to .5%, with boys much more likely to stutter (4 to 1 ratio). However, prevalence increased in adulthood to .8% (2.2 to 1 ratio), falling once again in late middle to older age (.4%) with males again stuttering more frequently than females (1.4 to 1 ratio). Stuttering is not only potentially debilitating, it is also a prevalent disorder as a potential 2.8 million adults in the USA stutter (18).

As communication is essential for social interaction, stuttering can create barriers to normal social and psychological development raising risks of the formation of negative stereotypes. While people who stutter are not thought to be different from those who do not stutter in terms of personality or mood (2, 3, 27, 36), evidence suggests that living with stuttering over many years can become associated with problems such as anxiety and distress, feelings of helplessness, lowered employment opportunities, and lower than desired quality of life (12, 14, 17, 23, 25, 34). Adult research has shown that people who stutter are significantly higher in trait anxiety than nonstuttering adults of similar age (12, 17). Others have shown links of stuttering to social anxiety (31, 33). Stein, Baird, and Walker (40), using structured interview techniques, noted that many adults who stutter had salient difficulties with social anxiety. These authors argued that many people who stutter should be diagnosed as social phobic. Anxiety of children who stutter are not significantly different from that of nonstuttering children (15, 16). Therefore, as children grow, the experience of living with chronic stuttering increases the risk of developing anxiety, raising chances that they will also develop shyness and consequently begin to avoid those social interactions essential for their development. In further support of this, research has consistently shown that children of about five years with speech disabilities like stuttering have an increased risk of anxiety disorder in early adulthood (6, 7, 8). Stuttering can be a potentially debilitating disorder.

A stereotype is generally regarded as a generalization or an exaggerated belief about a person or group of persons (1). Problems occur when these stereotypes lead to unfair discrimination (such as denying employment to a person who stutters) or prejudice (such as believing a person who stutters is inferior). Therefore, it is important to study the extent of stereotypes towards stuttering in the community. It has been hypothesized that stereotypes may develop because there is an "element of truth" in these beliefs (1), suggest-

ing that some stereotypical generalizations may have a valid basis. Assuming that people who stutter are more socially anxious, this theory suggests that nonstuttering people hold a negative stereotype towards people who stutter. This is consistent with the finding that many nonstuttering people across different professions and communities have predominately negative stereotypes about people who stutter (11, 14, 21, 26, 30, 38). This is also believed to be the case for those who stutter (29, 30, 32) as well as their parents (19). The typical person who stutters is believed to be nervous and anxious, shy and self-conscious, introverted, and insecure.

The origin of stereotypes is thought to arise from a natural function of human information seeking and perceiving (24). It is thought stereotypes assist by simplifying complex social information (1, 24). Further, some suggest that people develop these stereotypes through contact (either directly or indirectly) with those who belong to the stereotyped group (1). Those who have had direct contact with people who stutter (such as family, acquaintances, clinicians, and teachers) have negative stereotypes which are resistant to change (21, 22, 39, 42). For example, Snyder (39) showed that clinicians were resistant to changing their negative views about stuttering even after watching a factual video on the nature of stuttering. However, Craig and Calver (14) reported that, while employers of people who stuttered believed them to be limited in their ability to communicate and their prospects for promotion, these attitudes were reversed when their stuttering employees received successful treatment for their stuttering. The research of Klassen (30) suggested that long-term more intimate rather than superficial contact with a person who stutters is associated with less negative stereotypes. White and Collins (41) extended this contact hypothesis. They suggested and showed that people attribute their own experience of stuttered speech (either their own temporary disfluent utterances or their observations of the disfluencies of others on television, etc.). Often, these experiences (actual or observed) can be perceived as stressful, and this emotional state is then inferred in people who stutter.

Most research has been conducted with people who have had some direct association with people who stutter so it is important to identify the extent and nature of stereotypes and perceptions towards stuttering by those who have never had direct contact with a person who stutters. It is assumed that such people form their beliefs about people who stutter from activities such as discussions, reading, watching television programs, or viewing popular films (such as "A Fish Called Wanda"). Furthermore, we have not been able to find any studies that have employed a randomized and stratified design to provide reliable estimates of stereotypes towards stuttering in the general population. Currently, our knowledge about stereotypes towards stuttering is largely based upon studies employing brief survey research with con-

venience samples (that is, nonrandomized samples). The aim of this research was therefore to conduct a study of beliefs towards stuttering held by those who have never had direct contact with those who stutter An additional aim was to provide data that may assist in overcoming commonly held misconceptions and negative stereotypes.

METHOD

Participants and Random Sampling Procedure

The study consisted of a random and stratified selection of households in New South Wales, Australia. The population consisted of approximately 6 million people during 1996/97, of primarily city and urban dwellers (74%), when these data were collected as part of a larger study. Almost 77% of these persons were born in Australia, although the population is ethnically diverse with the most common regional groups in rank order being people of European or British descent, Asian, Middle Eastern, and Indian. People living in city, urban, and rural areas across New South Wales were randomly selected, so that (i) all had equal chances of being selected, and (ii) the distribution of people in the sample from these three types of areas was proportional to the known population. Table 1 shows the distribution of this sample.

TABLE 1
NUMBER OF RESPONDENTS BY REGION IN NEW SOUTH WALES SELECTED FOR SURVEY

Region in New South Wales	Men	Women	Total
Sydney region	122	225	347
Central Coast	8	16	24
South Coast	4	10	14
Western Tablelands	5	9	14
Southern Highlands	4	7	11
Northern Rivers	10	25	35
New England area	8	15	23
Western Plains	5	8	13
South West Plains	4	17	21
Total	170	332	502

As stuttering is prevalent (18), and 73% of people in the general population claim to have known a person who stutters (26), we assumed that we would need to interview a substantial number of participants to have a large sample of people who had never had direct contact with a person who stutters. A study of the epidemiology of stuttering (18) involved interviewing by telephone 4,689 families, consisting of 12,131 people. From this total we estimated the prevalence and risk of stuttering (18). During the course of interviewing the families, we also interviewed at least 500 people who (i) agreed

to participate in the stereotype study, (ii) did not stutter, and (iii) had not ever had direct contact with a person who stutters. The method of the epidemiological study is reported elsewhere (18).

In accord with the population distribution across New South Wales (5), three-quarters of the sample were from city or urban areas across New South Wales, while the remaining participants came from rural areas across the state. It is known that surveys strategically conducted according to the known population distribution are believed to be valid representations of the population being sampled (10). All the people interviewed were selected using telephone directories. People were then contacted by telephone and interviews conducted (either during this initial contact or at a convenient follow-up time). Since over 95% of Australian households had a telephone in 1996/97, a high penetration rate in the community was assured, and there was only a small chance of introducing population bias into the sample. This random procedure for selection has been described elsewhere (18, 20). People who could not speak English sufficiently to complete the interview were not included. If this occurred, the interviewer noted this and proceeded to the next random number. Disconnected telephone numbers or no answer after three attempts were also noted, and the same procedure followed. The time and day of interviews varied across the week and weekend to ensure a high penetration rate.

Interviewing Procedure and Definition of Stuttering

Interviewers were two professionals trained to conduct the interview which began with a brief statement of the purpose of the survey. The interview also included 15 forced-choice type questions so that responses could be categorized. If another time was more convenient, a new time was arranged for the interviewer to call. If a young child answered the telephone, the interviewer asked to speak to a parent. All refusals were recorded as missing data along with "no answers."

Stuttering was defined in detail using a standard definition (16) as "repetitions of syllables, part-or-whole words or phrases; prolongations of speech, or blocking of sounds." Associated symptoms such as embarrassment and anxiety were also discussed. If requested, the interviewer gave a demonstration over the telephone of a repetition and a block. It was important that the people in this study did not presently stutter or stutter in the past. Therefore, the person interviewed was asked whether they or a member of their household stuttered, or if they knew someone who stuttered. If they were not sure, they were encouraged to speak to other members of their household, and an alternative time was then made to call to complete the interview. After listening to the definition and description of stuttering, if the person answering the telephone believed he stuttered or had in the past, or

knew someone who stuttered, e.g., a member of their household, a friend, or acquaintance, he was thanked and not asked to participate. If the person believed he did not ever stutter or had never known someone who stuttered, he was asked to participate. During this interview, the interviewer also listened for the presence of stuttering.

Reliability of Interviews

As reliability of the survey was important, a 1-wk. test-retest reliability measure conducted on 15 interviews showed 96% agreement for the content of the interview. This involved recontacting subjects who had participated. Interviewers were trained in the interview protocols, with emphasis placed on establishing rapport with the respondent. Interview structure and rapport are important in ensuring the validity and reliability of telephone sampling in comparison to face-to-face and self-administered modes (37). Traditionally, personal interviews are regarded as more valid and reliable than telephone interviewing. However, several researchers reported no significant differences in outcome and sociodemographic data between these modes of interview (4, 10, 35, 37). Low response rate is a possible problem for telephone interviews, and studies conducted in the USA have reported only 3 to 5% lower response rates for telephone interviewing compared with face-to-face (10). Telephone samples give higher response rates than mail surveys and share many of the advantages of the face-to-face interview over the self-completion questionnaire.

Analysis

Items were structured so respondents were asked to choose "yes," "no," or "unsure." Interviewers were trained to allow interviewees time to decide their answers. Chi-square were applied to test the distribution of the frequencies. Given the number of interview items (15 in all), the probability for rejection was set at .001.

Results

The response rate for the stereotype study was considered satisfactory and was similar to the response rate for the epidemiology study (18), with 69% of the telephone numbers initially selected resulting in completed interviews (for a minority after 2 or 3 calls). This meant that for 31% of numbers, a second or third telephone number was randomly selected. Of the 31% of calls in which interviews did not occur, 15% refused giving no reason, 2% were too busy or unwell, and 6% had language problems. The remaining 8% could not be contacted due to disconnected lines or unanswered calls. After three attempts without contact a new number was selected. The final number of people participating was 502 consisting of 332 women (M age 44.7 yr., $SD=17.8$) and 170 men (M age 46.3 yr., $SD=19.5$). The

chi-square analyses for the 15 items presented in the interview are shown in Table 2. No sex differences were found for any of the 15 items. However, significant differences were found as a function of belief and these are presented below:

Item 1: Do you think people who stutter are shy? The majority of people believed this to be the case, although many were unsure.

Item 2: Do you think people who stutter are self-conscious? The majority of people (83%) believed this to be the case.

Item 3: Do you think people who stutter lack confidence? The majority of people believed this to be true (56%), although 80 people (16%) were unsure.

Item 4: Do you think people who stutter are anxious? The majority of people believed this to be true (56.6%), although 83 people (16%) were unsure.

Item 5: Do you think speaking to a person who stutters would be embarrassing? The majority (82%) believed this to be untrue.

Item 6: Would you avoid a person who stutters? 90.8% believed this to be untrue.

Item 7: Do you think a person who stutters could be employed in a position requiring speech skills? 51.4% believed this to be true, although 81 (16%) people were unsure.

Item 8: Do you think a person who stutters could be employed in a responsible position? 79.8% believed this, although 71 (14%) people were unsure.

Item 9: Do you think people who stutter are interesting? 77.5% believed this, although 81 people (16%) were unsure.

Item 10: Do you think people who stutter are of average/above average intelligence or below average intelligence? 76.3% believed people who stutter have at least an average intelligence, although 116 people (23%) were unsure.

Item 11: Do you think people who stutter can be treated effectively? 72.9% believed this, although 132 people (26%) were unsure.

Item 12: Do you think stuttering is caused by anxiety? 77.3% believed this, although 74 people (15%) were unsure.

Item 13: Do you think stuttering is caused by parental pressure? 61.5% believed this, although 91 people (18%) were unsure.

Item 14: Do you think stuttering is caused by mimicking others? There was no clear consensus in the sample on whether this is the case, although 85 people (17%) were unsure.

Item 15: Do you think stuttering is caused by peer pressure? There was no clear consensus in the sample as to whether this is the case, although 81 people (16%) were unsure.

TABLE 2
RESPONSES TO ALL 15 ITEMS: CHI SQUARE ANALYSES AND SIGNIFICANCE

Item	Yes	No	Unsure	χ^2
1	294	146	62	49.8*
2	418	40	44	312.0*
3	280	142	80	45.2*
4	284	135	83	53.0*
5	79	413	10	226.0*
6	34	456	12	363.4*
7	258	163	81	21.4*
8	401	30	71	320.0*
9	389	32	81	302.8*
10	383	2	116	377.0*
11	366	4	132	354.0*
12	388	40	74	141.5*
13	309	102	91	104.2*
14	190	227	85	3.3
15	242	179	81	9.4

*$p < .001$.

DISCUSSION

A number of stereotypes and beliefs about stuttering were investigated in people who reported that they had never had direct contact with a person who stutters. Therefore, this study focused on stereotypic beliefs that one can assume developed from indirect contact with stuttering. Stereotypes towards stuttering included both positive and negative components. Negative beliefs were similar to those reported as stereotypes of people who have had direct contact with people who stutter (21, 26, 30, 38, 39). Items 1–4 illustrate this (see Table 2). People who stutter were mostly believed to be shy, anxious, self-conscious people who lack confidence. There was no significant difference in the percentage of males and females who held these negative beliefs towards stuttering.

As already discussed, there is strong evidence (17) for believing that living with stuttering can result in higher than normal anxiety and lead to side effects in adulthood such as shyness, social fears, avoidance behavior, and so on. Assuming this to hold, the negative stereotypes isolated here may well have a kernel of truth in them. Although these respondents had never met a person who stutters, they have likely formed their opinions based upon inference. Alternatively, people may project into their stereotypic beliefs their own hypothetical or expected reactions to such a disorder (41). For instance, it seems reasonable to assume that experiencing involuntary disfluency could be associated with some distress.

In contrast to the finding that many people hold negative stereotypes about stuttering, the majority of those surveyed also held positive beliefs

about stuttering. There were no significant differences in the percentage of males and females who held these positive beliefs. Table 2 (Items 5–10) show these positive beliefs. For example, most respondents believed they would not avoid a person who stutters or be embarrassed talking to a person who stutters. Most believed a person who stutters could be employed in responsible positions, even those positions requiring speech skills. Most believed a person who stutters would be interesting and have at least average intelligence. These beliefs are reassuring for people who have not met a person who stutters. They seem to have an appreciation of the difficulties that are associated with stuttering, such as struggling to speak fluently and being socially embarrassed. It is important to note that for the majority of people surveyed, negative beliefs were not associated with discrimination or prejudicial attitudes (e.g., "a person who stutters is not capable of holding a responsible position," "people who stutter have low intelligence," etc.). These results suggest that predominately, people are supportive of people who stutter.

Items 11 to 15 explored the respondents' knowledge about stuttering. While the majority of people in the sample correctly believed that stuttering could be treated effectively, many were ignorant about the possible causes of the disorder. For example, many respondents, believing that people who stutter are more likely to be anxious and shy individuals, assumed that it is caused by anxiety. Another common misunderstanding was that stuttering is caused by parental pressures. Furthermore, a substantial minority of respondents were unsure about what causes stuttering. While it is becoming accepted that stuttering is caused by speech processing deficits of some nature (28), these causal beliefs are typical of past theories of stuttering (9, 13). Perhaps the lack of agreement amongst professionals on causes of stuttering has influenced public stereotypes about stuttering. While replication of this research is warranted, and the method strengthened to include, say, free form responses (that is, not forced-choice responses), this research has shown that Australian public stereotypes towards stuttering are in part negative but on the whole are not associated with prejudice and discrimination. In contrast, many of those surveyed regard people who stutter positively. Notwithstanding the above, the lack of understanding regarding the causes of stuttering and the substantial numbers of people who were unsure about answering many of the items suggest that further effort could be invested in educating the community to offset misconceptions.

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Accepted June 27, 2003.