

Psychosocial Correlates of Speech-Language Impairment in the Context of Bilingual Learning Environment in a Multi Cultural Setting

Aman Ullah Khan

Language impairment is a major social and health problem. Most of the speech problems are the result of psychosocial correlates in cross-cultural / cross-linguistic perspectives. Hypotheses were formulated relevant to pro-active mother-child verbal transaction, bilingual families, medium of instruction, and religious institutions (madressahs). Research entailed a questionnaire administered on speech-language disorders at the educational institutions / and OPD referrals, diagnosed as speech-language disorders, non-organic in Karachi SouthWest District. The data so collected were subjected to chi-square testing. In terms of the stated objectives, overall results of the research study supported two of the hypotheses pertaining to proactive mother-child verbal transaction, and madressah education (religious institution / school), whereas the other hypotheses remained deficient of the required support for the hypothesized variables like mother-father tongue compatibility i.e. monolingual families and medium of instruction.

While speech-language impairment is considered a major social and health problem, it is quite difficult to define the impairment solely and simply with reference to the attributes of a person's speech. For most practical purposes, speech-language pathology may be defined as speech defects with features of speech that tend to create personal problems that are handicapping or potentially handicapping interpersonal relationships (Bloodstein, 1984). Speech-language disorders may be classified into four main categories: stuttering (fluency) / cluttering disorders, disorders of articulation, voice disorders, and language disorders (Evelyn & Rees, 1972). Various studies have established the fact that "functional" and "organic" factors tend to interact in complex ways to determine the quality of any communication (John, 1976). The major sources of organic disorders are: structural discords, neurological disorder, auditory disorders, endocrinological disorders (cretinism), etc. On the other hand, functional disorders of speech may be due to either faulty learning (a disorder of learning) or faulty motivation, i.e. heightened drive states such as anxiety or other motivation that conflict with normal speech which account for 70-80% of speech language pathology (Cornett, & Chabon, 1988). Various psychological theories attempt to explain the dynamics of speech language pathology in the light of sociological conditions and their impact on the mind resulting into the undesirable symptomatology.

Proactive mother-child relationship is one of the important areas considered relevant to the

development of faulty speech-language faculty in a child in various research studies. In the proactive mother-child relationship, the main focus is on the early social environment which is critical for language development and that in infancy this environment is provided largely by a mother or mother substitute who feels affection for the child (Robert & Glucksberg, 1977). Proactive verbal transaction may be defined as an active participation in verbal exchange of utterances between mother / caregiver and child within a social environment, duly marked with love, care, and compassion (Robert & Glucksberg, 1977). With reference to this context, maternal deprivation called hospitalism is another important phenomenon and is defined as either separation from the mother or inadequate maternal care resulting in retarded growth, increased susceptibility to disease, higher infant mortality, and a delay in general maturation including the acquisition of language. The symptoms of hospitalism may also occur at home when an infant receives insufficient maternal care (Robert & Glucksberg, 1977).

Bilingualism is another important area that has been viewed with concern by some of the research studies carried out in the educational, and socio-cultural perspective. A number of studies (Hakuta & Garcia, 1989; Lambert & Peal, 1972; Lindholm, 1991) have suggested that bilingual students actually have an advantage over monolinguals. For example, speakers of two languages show more cognitive flexibility. They have more linguistic possibilities available for containing situations they encounter because of their multiple-language abilities (Lindholm, 1991). In turn,

this permits them to solve problems with greater creativity. On the contrary, Mehdi (2002) has maintained that there is always a possibility that children exposed to two different languages might experience speech delay if their linguistic exposure is unevenly distributed. When that happens, a young child can experience hesitation and confusion, especially when it comes to communicating in the language to which he or she has been inadequately exposed. To prevent this from happening, Mehdi (2002) suggests that one parent should speak the native language with the child while the other the second language. Then children would be able to associate each parent with a different sound and language pattern.

In the context of bilingualism / multilingualism vis-à-vis medium of instruction in Pakistani school system, according to Mansoor (2001) medium of instruction is one of the most decisive factors in school achievement of the children. Bilingualism by definition implies a learning process where at least two languages are involved. Pakistani students have a multilingual and a multicultural background where Urdu is the mother tongue of only 7 percent of the population and a host of regional languages such as Punjabi, Sindhi, Balochi, Pushto, Seraiki, Gujrati, Memon / Kachi, Hindko, and Brohi along with their numerous dialects are spoken by the majority. The methods of instruction adopted: Urdu, English, Arabic, and any other local language are generally perceived as posing a threat to the regional learners having their mother tongue different from that of the prevalent medium of instruction at their educational institution (Mansoor, 2001). In speech-language developmental perspective, the dichotomy may result in various types of disorders. Thus, it calls for a scientific study of the factors working in bilingualism / multilingualism vis-à-vis medium of instructions in our school system.

According to Rehman (2003) the situation in some areas in both urban and rural parallel educational institutions of 'madressah' are functioning with a mixed medium of instruction i.e. Arabic and Urdu. This further compounds the situation. In addition, English and Urdu are taught till the Intermediate (Class-12) or Graduation (Class-14) as compulsory subjects. All the educational policies underscore the importance of mother tongue on education at the primary level, except in Sindh, where, Sindhi language is also an alternate medium of instruction till High School (Rehman, 2003). Rahman has carried out an in-depth analysis of the impact of bilingualism / multilingualism (Urdu, English and Arabic) in the

development of speech-language pathology in the educational system of Pakistan. According to Abbas (2003) the educational system in Pakistan encompasses Urdu and English medium of instruction parallel to madressah system that is mainly characterized by Arabic and 'Dini Ulum' (religious teachings) taught in highly stressful environmental conditions at some of the religious institutions (madressahs). The concept of bilingualism / multilingualism has been critically examined in the perspective of fear and stress and various speech disorders.

In Pakistan, there is a strong need to ascertain incidence of speech-language impairment. Amongst the cases come for help, many are not diagnosed with speech impairment and go unnoticed because of low awareness. These cases otherwise can be managed, and hence are a source of genuine concern (Mehdi, 2002). This study has been carried out to explore the incidence of speech-language pathology, classification, etiological factors and its psychosocial correlates in particular reference to cross-cultural and cross-linguistic perspective. The study, therefore, aims at a careful investigation of finding out various environmental (non-organic) factors responsible for speech-language pathology in South/ West district, Karachi.

Based on the findings of the currently available literature, certain hypotheses were formulated to ascertain the degree of relationship between the psycho-social variables (correlates) and speech-language pathology as follows:

Hypothesis 1: Pro-active mother-child verbal transaction is positively related with speech-language development.

Hypothesis 2: Monolingual families (mother-father tongue compatibility) as compared to bilingual families are positively related to speech-language development.

Hypothesis 3: Incompatibility of mother tongue vis-à-vis medium of instruction in the educational institution is related to speech-language pathology.

Hypothesis 4: Children studying at religious institutions (madressahs) display greater susceptibility to speech-language pathology.

Method

Sample

For the purpose of this study, the probability sampling procedures were adopted (Guilford, 1956). A list of registered educational institutions established

in Karachi South-West District was procured by the researcher from the Department of Education, Sindh. A combined sample of around 100 participants was drawn from the educational institutions as well as through referrals from PAF Masroor Hospital / Aero-Medical Institute, Psychiatric Centres and Clinics. The actual sample, however consists of 93 cases of speech-language disorder after ruling out physical and organic causes of speech-language pathology such as mental retardation, autism, head injuries, cleft palate, aphasia, larynxgectomy etc. The analyses of the data was carried out on 93 participants with speech-language pathology.

Measures

Questionnaire for demographic information and speech-language pathology information:

The researcher designed a questionnaire comprising of 60 items. The questionnaire included information regarding the participant, his/her family and speech disorder, e.g. name, age, sex, residential address, type of educational institutions, medium of instructions, academic progress at the school, parents' availability at home (number of hours), parents' marital an consanguinity status, occupation, monthly income, family extension (joint/nuclear), mother-tongue compatibility (bilingual / multilingual), order of birth, history of physical / psychiatric illness and speech pathology, etc.

Stuttering Severity Instrument (SSI):

To ascertain the cases of stuttering disorders, SSI diagnostic scale was administered. The SSI attempts to meet the criteria of simplicity, objectivity, and sensitivity of fluency changes of clinical significance. It is reliable, valid and usable with children and adults. The frequency, duration and associated physical

concomitants of prolongations or repetitions of short speech segments are described. Scoring of responses ranged from 0 to 45. The reliability of .84 and validity of .89 qualify the instrument for clinical and research purposes. The SSI Test Form is divided into four major areas: frequency, duration, physical concomitants, and severity conversion tables for children and adults. Stimulus material was used to elicit conversation from the non-reader and to provide reading materials for the reader. The severity of a person's stuttering can be ascertained by comparing his/her scores to the normative data presented in the form of percentiles from very mild to very severe categories. A single numerical score of the SSI provides an assessment of severity and a reference point for measuring clinical changes in language fluency.

Procedure

After seeking consent from the participants and explaining the purpose of the research, the questionnaire regarding demographic, family and illness information was individually administered to each of the respondent and his/her family members.

The investigator examined the tongue movement, lip movement and oral structure deviation anomalies in the participants. He also asked participants about physical causes of symptoms. After ruling out the physical basis of symptoms, diagnostic scales were used to determine the severity, i.e. very mild, mild, moderate, severe, and very severe. To ascertain the cases for stuttering disorders, SSI diagnostic scale was then administered.

Results

The results are presented in the following Tables.

Table 1
Distributions of the sample by overall diagnosis of the speech- language disorders (N = 93)

| Sr. No | Overall Diagnoses | Sample Code | Frequency | Percentage |
|--------|-------------------|-------------|-----------|------------|
| 1 | Very Mild | A | 11 | 11.82 |
| 2 | Mild | B | 25 | 26.90 |
| 3 | Moderate | C | 24 | 25.80 |
| 4 | Severe | D | 18 | 19.35 |
| 5 | Very Severe | E | 15 | 16.12 |

Almost half the cases fall into mild to moderate categories

Table 2

Distribution of the sample with age at the time of diagnosis, the duration of speech-language disorder, medium of instruction & types of institution.

| Sr. No | Age at Diagnosis | Sample Code | f | % |
|--------------------------|------------------------|-------------|----|-------|
| 1 | Less than 6 years | A | 34 | 36.56 |
| 2 | 6 to 10 years | B | 45 | 48.38 |
| 3 | 11 to 15 years | C | 14 | 15.06 |
| Duration of the Disorder | | | | |
| 1 | Less than 3 years | A | 9 | 9.70 |
| 2 | 3 to 5 years | B | 52 | 55.90 |
| 3 | 6 to 8 years | C | 28 | 30.10 |
| 4 | 9 to 11 years | D | 4 | 4.30 |
| Medium of Instructions | | | | |
| Sr. No | Medium of Instructions | | | |
| 1 | English | A | 07 | 7.3 |
| 2 | Urdu + English | B | 12 | 13.00 |
| 3 | Urdu | C | 51 | 55.00 |
| 4 | Arabic + Urdu | D | 23 | 24.70 |
| Types of Institution | | | | |
| 1 | Public School (HS) | A | 07 | 7.50 |
| 2 | Public School (NS) | B | 63 | 67.75 |
| 3 | Madressah (RS) | C | 23 | 24.65 |

Table 2 shows that most diagnoses were made before the age of 11, most participants with speech language pathology were having the disorder from 3-5 years, almost half the participants received

education in an Urdu medium school and almost two-third of the sample was from the Public normal schools.

Table 3
Distribution of the sample by mother-tongue of the respondents' mothers

| Sr. No | Mother-tongue (Mothers) | Sample Code | f | % |
|--------|-------------------------|-------------|----|-------|
| 1 | Urdu | B | 21 | 22.57 |
| 2 | Sindhi | C | 22 | 23.65 |
| 3 | Balochi | D | 4 | 4.30 |
| 4 | Punjabi | E | 25 | 26.88 |
| 5 | Makrani | G | 3 | 3.23 |
| 6 | Kachi / Memon | J | 10 | 10.75 |
| 7 | Pashto | N | 4 | 4.30 |
| 8 | Hindko | O | 4 | 4.30 |

Table 3 shows that Urdu, Sindhi and Punjabi were the most frequently spoken languages at home.

Table 4
Relationship between the mother-child verbal transactions and speech-language pathology: (df = 4)

| Mother-child Transactions | Grades on Speech Language Pathology Assessment Scale | | | | | Chi-square |
|---------------------------|--|---------------|--------------|---------------|-------------|------------|
| | Very mild | Mild | Moderate | Severe | Very Severe | |
| High Average | 35.7 (5/14) | 21.42 (3/14) | 21.42 (3/14) | 14.30 (2/14) | 7.15 (1/14) | |
| Average | 8.70 (6/69) | 27.50 (19/69) | 29 (20/69) | 21.75 (15/69) | 13.5 (9/69) | 19.17* |
| Low Average | 0 (0/10) | 30 (3/10) | 10 (1/10) | 10 (1/10) | 50 (5/10) | |

* = p < .05

In Table 4 analysis of chi-sqaure shows a significant difference in result pertaining to proactive mother-child verbal transaction for speech-language development.

Table 5
Relationship between monolingual / bilingual families and speech-language pathology: (df=4)

| Mother-Father Compatibility (Mother Tongue) | Grades on Speech Language Pathology Assessment Scale | | | | | Chi-square |
|---|--|---------------|---------------|---------------|---------------|------------|
| | Very mild | Mild | Moderate | Severe | Very Severe | |
| Compatible | 11.42 (8/10) | 25.70 (18/10) | 24.27 (17/10) | 21.42 (15/10) | 17.13 (12/10) | 1.19 |
| Incompatible | 13.04 (3/23) | 30.42 (7/23) | 30.42 (7/23) | 13.04 (3/23) | 13.04 (3/23) | (n.s) |

n.s = non-significant

The results in Table 5 shows no significant difference between monolingual and bilingual families with regard to speech-language pathology.

Table 6
Relationship between the mother-tongue (MT) compatibility with medium of instruction (MOI) and speech-language pathology (df = 4)

| MT / MOI Compatibility | Grades on Speech Language Pathology Assessment Scale | | | | | Chi-square |
|--|--|---------------|--------------|--------------|---------------|------------|
| | Very mild | Mild | Moderate | Severe | Very Severe | |
| Compatible (B) vs (b) | 25 (4/16) | 12.5 (2/16) | 37.5 (6/16) | 18.75 (3/16) | 6.25 (1/16) | |
| Low compatibility (BCDEGHI) vs (ab+jb) | 7.14 (5/70) | 31.42 (22/70) | 22.8 (16/70) | 20 (14/70) | 18.57 (13/70) | 9.99* |
| Very low compatibility (BCEG) vs (a) | 28.57 (2/7) | 14.28 (1/7) | 28.5 (2/7) | 14.28 (1/7) | 14.28 (1/7) | |

Note: Mother tongue = MT, A = English, B = Urdu, C = Sindhi, D = Balochi E = Punjabi, G = Makrani, F = Katchi/Memon
N = Pashto, O = Hindko, J = Arabic. Medium of instructions = MOI, a = English (MOI), b = Urdu (MOI),
ab = English & Urdu (combined MOI), j = Urdu & Arabic (MOI) * = p < .05

The Chi-square analysis shows a significant effect of mother-tongue compatibility with medium of instruction and speech-language pathology.

Table 7
Relationship between the education at the religious institution (Madressah) and speech-language pathology: (df = 4)

| Educational Institutions | Grades on Speech Language Pathology Assessment Scale | | | | | Chi-square |
|--|--|---------------|---------------|---------------|--------------|------------|
| | Very mild | Mild | Moderate | Severe | Very Severe | |
| Liberal Educational Institutions | 28.57 (2/7) | 14.28 (1/7) | 28.57 (2/7) | 14.28 (1/7) | 14.28 (1/7) | |
| Normal Institutions (Public/Private) | 14.28 (9/63) | 31.75 (20/63) | 28.57 (18/63) | 17.46 (11/63) | 7.93 (5/63) | 18.14* |
| Religious Institutions (Madressah) | 0 (0/23) | 17.39 (4/23) | 17.39 (4/23) | 26.08 (6/23) | 39.13 (9/23) | |

* = p < .05

The Chi-square results in Table 7 shows a significant effect of education in religious institutions with speech-language pathology.

Discussion

In terms of the stated objectives, overall results of the present study supported two of the hypotheses pertaining to proactive mother-child verbal transactions, and madressahs' education, while the other hypotheses remained deficient of the required support for the hypothesized variables, like mother-father tongue compatibility (monolingual families) and medium of instruction.

In the context of psychological correlates, the present research study has attempted to develop an important area pertaining to proactive mother-child verbal transactions. The concept of verbal transactions implies that the early social environment is critical for language development (Robert & Glucksberg, 1977). The underlying inference is that in order to develop normal language, the child must have an emotionally satisfying relationship with the mother / mother figure or mother substitute (Bloodstein, 1984). Any denial or deprivation of this relationship may cause detrimental effects on the normal language development of the child. The most clear-cut example of psychosocial deprivation is physical isolation of a child from all social contacts, more commonly referred to as maternal deprivation. Studies have shown that its effects on early development are far-reaching. They include retarded growth, increased susceptibility to disease, higher infant mortality, and delay in general maturation, which includes the acquisition of language (Robert & Glucksberg, 1977). Analysis of the results of the present study duly support the relationship between proactive mother-child verbal transactions and speech language development. It can safely be assumed that children with developmental language difficulties tend to reveal a few speech-language difficulties, such as late onset of language, restricted use and comprehension of words, limited length of their utterances, and failure to grasp grammatical rules needed to produce and understand language at a level appropriate to age.

The research hypothesis stating that the mother-father tongue compatibility (monolingual families) was positively related to speech-language development as compared to bilingual families, was not supported. The inference may therefore lead to the conclusion that there is no significant difference between monolingual and bilingual families with regard to speech-language development (see Table 8). However many studies have suggested that bilingual students may have an edge over students who are monolinguals (Hakuta and Garcia, 1989; Lambert & Peal, 1989; Lindholm, 1991). Generally, it has been

observed that speakers having capability of expressing themselves in two or more languages demonstrate greater jumpstart in situational adaptability. The combinations and permutations of words / vocabulary that they usually possess provide them with a wider repertoire of linguistic possibilities for dealing with situations they encounter because of their multiple-language abilities. Also, this allows them to handle situations with greater innovation and versatility (Lindholm, 1991). Mehdi (2002) however, has maintained that there was always the possibility that children exposed to two different languages might experience speech delay if their linguistic exposure is unevenly distributed. To support this conjecture she further explains that a young child can experience hesitation and confusion, especially when it comes to communicating in the language to which he or she has been inadequately exposed. In order to prevent this from happening, she suggested that children should be provided with a proactive environment, wherein they can develop association with each of the parents speaking a different dialect and language pattern. This would necessitate on an environment where one parent would speak the native language with the child while the other the second language (Mehdi, 2002).

The hypotheses in the present research did not uphold the assertion that the mother-tongue incompatibility with the medium of instructions (MOI) was related to speech-language pathology. Medium of instructions vis-à-vis bilingualism has always been considered as one of the decisive factors in school achievement of the children and possibly speech language pathology. It is generally expected that children exposed to two different languages might experience speech delay if their linguistic exposure is unevenly distributed (Mehdi, 2002). Apprehensions have been vocalized that the medium of instruction which is adopted (Urdu, English or Arabic) poses a threat to the regional learners having their mother tongue different from that of the prevalent medium of instruction at their educational institution (Mansoor, 2001). In the present research study, it was claimed that monolingualism was positively related to speech-language development. In other words, the test results supported the null hypothesis that claimed incompatibility of mother-tongue vis-à-vis medium of instruction which was not positively related to speech language pathology. However, there is much evidence to suggest that children who are bilingual are not at an intellectual disadvantage as compared to children who are monolinguals. To support this further, there has been a growing body of research that suggests that people who speak more than one language may well have some cognitive advantages over monolinguals

(Lindholm, 1991). In the perspective of bilingual / cross-linguistic and cross-cultural impact on the communication disorders, some important studies have been carried out by Hakuta & Garcia (1989), Lambert and Peal (1972) and Lindholm (1991). These studies suggest that bilingual students actually have an advantage over students who speak just one language. For example, speakers of two languages show more cognitive flexibility. They have more linguistic possibilities available for dealing with situations they encounter because of their multiple language abilities. In turn, this permits them to solve problems with greater creativity (Lambert & Peal, 1972). Bilingual students are also better aware of the rules of language and they may understand linguistic concepts more readily (Hakuta & Garcia, 1989).

In the context of existing parallel education system in Pakistan, which includes both Urdu and English Medium of instruction and the madressah educational system, which includes Arabic and Urdu languages. The hypothesis seeking relationship between the children studying at the religious institutions (madressahs) and susceptibility to speech-language pathology provides important indicators on the environmental conditions that exist in these educational systems. This suggests what remedial measures may be taken to overcome the delays in speech-language development. The data collected, however, shows that the children studying at the religious institutions (madressahs) display greater susceptibility to speech-language pathology. In the perspective of educational system prevalent in Pakistan, the hypothesis stating that children studying at the religious institutions (madressahs) do not display greater susceptibility to speech-language pathology is of utmost importance.

Educational system in Pakistan is plagued with a number of dichotomies like out-dated curriculum, faulty methodology, defective examination system, low budgets, etc (Abbas, 2003). Of all these, parallel Urdu / English medium schools (medium of instructions) and the madressahs system mainly characterized by Arabic and 'Dini Ulum' (religious knowledge) have recently caught attention of government authorities and the intelligentsia. While the Urdu / English medium institutions have government prescribed syllabus, the madressahs have 'Dars-i-Nizami' taught by 'Maulvis' (religious teachers / scholars; the equivalent of priests in religious seminaries) (Rehman, 2003). Generally, critics of madressahs are of view that the method of teaching at these seminaries is characterized with a typical harassment, fear of authority (Maulvis) and strict discipline. Some of them want the students to be

indoctrinated in a 'Munazra' style (debate), loaded with emotive tone; more rhetoric and less substantive. The critics are of strong conviction that unnecessary and excessive scolding and pounding of students in madressah has induced a feeling of worthlessness among students and shaken their self-confidence. Moreover, critics allegedly blamed madressah for indulgence in ever increasing incidence of homosexuality. (Abbas, 2003). Due to strong hold and authoritarian attitude of some of the religious teachers, a child studying in the madressah may develop anxiety, tension and physiological abnormalities. His / her emotional, physical, social and psychological development is arrested due to various types of anxiety, tension, depression and aggression which in a way may help explain the adverse effects on the speech-language development of the students studying at these madressah (Shahid, 1992).

The conclusion as to the susceptibility of children to speech-language disorders in view of the environmental conditions that exist in our madressah system needs a cautious approach with due skepticism. Ironically, the environmental conditions, that have been cited for being responsible for speech disorders at madressahs, are also prevalent in Urdu / English Medium Schools, though with varying degrees. While cognizant of the environmental conditions that are present in both the parallel systems, labeling the madressah only for the negative outcome would be an oversimplification of the fact. The supporting data in this study, therefore, needs a more detailed scrutiny through subsequent researches in speech-language pathology with larger sample size, to ascertain the validity of this assertion. The future research in this area may involve cohort studies, so that the exact contours along with the complexities of the speech-language pathology could be ascertained for better prognosis.

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