

# Speech Motor Behavior in Children, Age Ranging from 2.5 - 6.0 Years

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The aim of the test was to study the speech motor behavior of children in the age range of 2.5 - 6.0 years.

Here in the present study speech motor behavior is viewed in terms of a motor skill just like any other motor skill of other parts of the body. For eg. walking. All the general motor behavior acquires precision with increase in age and practice, the behavior becomes more and more organized in space and time and less generalized responses are seen. The organism responds more accurately to the particular situation (Connolly, 1979). These changes appear as the hardwiring to the particular anatomical substrate becomes complete i.e. the maturation and myelination of neural connections takes place, (Netsell, 1986). Speech behaviour when viewed as a motor skill should be able to confirm with above rules of general behaviour. It was also aimed to reveal any possible relation that might exist between the speech and its related non-speech cognate activities. Here the demarcation between the speech and non-speech activity is that, the speech motor act was elicited as a true speech syllable where as the non-speech counterpart was considered in terms of the same movement of the structure used in speech, without a speech component. For example- lifting tip of tongue to the interdental position which could be taken as the counterpart of the speech behaviour /t/ or any of the similar sound.

The results have been summarized in the chart indicating development trends.

It is also noticed that the speech and non-speech functions for each structure have a definite positive correlation. There may be a few exceptions to this rule where a negative correlation or just a tendency towards a positive correlation is seen. The exceptions seems to only indicate the limitations of the study in terms of sample size, instructional set backs, complexity of the activities which may not have suited the younger age groups, non-use of assistive devices for holding jaws in fixed position, drawbacks of elicited imitation response paradigm and last but not the least the testing condition. The noise distraction, time of testing and motivation of children could not be controlled. The younger children could have been tested over two to three sessions to hold their attention and motivation steady. Albeit, such inherent limitations that do exist in the study, there are certain obvious implications which cannot be overlooked.

1. Clinical utility - for speech and articulation therapy. It is just not enough to train the articulators in terms of non-speech motor acts, with the view that this goal will help speech productions by strengthening the respective muscles. Rather the speech and non-speech motor acts should be trained simultaneously so that one facilitates the development of the other. This is in accordance with the partial positive correlation found between the two motor functions.
2. Speech Motor Age - Helps in finding the child's speech motor age of functioning for each of the speech producing anatomical structures. Thus giving a base line to start therapy for the individual.

3. If the clinically speech deviant population is studied, it would probably give further information on the various diagnostic categories. This in turn would help in therapy.
  4. The fact that though the individual isolated functions may not have reached a steady performance, the coordination and sequencing of these structures (F) have evidenced steady level of performance. Hence, further studies to check the feasibility of initiating speech therapy with co-ordination and sequencing activities than training of isolated structures may be undertaken.
  5. Therapy goals \_ Target behavior in articulation therapy once elicited should be subjected to continuous practice and repetitions to achieve adult level of functioning.
  6. In case articulation therapy has to be provided to a child below 4 to 5 years of age, keeping in view the results of this study, selection of phonetic placement as a method of correction for this age group may not be always advisable. This view has been supported by Van Riper in 1978 also. This is because in our findings all the children of this age group showed a detriment of performance in almost all activities especially the non-speech motor acts. And phonetic placement method depends a lot on non-speech motor activity i.e. in terms of positioning of the articulation.
- Finally in view of all the results obtained and implications speculated it seems to comprehensively indicate promising outcomes.