

BAR-ILAN UNIVERSITY

**Language and Drawing: Differences in  
Children's Graphics Interpretation in  
Reference to their Inhibition Scale**

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# **Abstract**

## **Introduction**

Language and drawing are symbolic systems used for representation. Language provides for phonetic representation, where the subject is derived of the meaning related to a collection of sounds. Drawing provides a graphic depiction and the subject is derived of the meaning related to a compilation of lines. Children begin to relate representational meaning to their drawings in their third year of life. The aim of the study was to examine the correlation between the representation – meaning that the child relates to his drawing and between the child's level of inhibition. The study found that a high level of inhibition would lead to a high level of representation, seeing that by holding back his initial reaction; the child will revert to thinking and using a variety of options and symbols, thus creating a richer and more detailed graphic representation. The study further found that a correlation would be found between the child's language and the level of his graphic representation. This study can contribute a great deal to understanding the cause of inhibited reactions in early childhood. Previous studies found that a high level of inhibition in children is related to higher cognitive skills, better social skills and improved adaptive capabilities.

## **Method**

The study observed 46 children, 19 boys and 27 girls between the ages of 2-3 years, with no known developmental problem attending different kindergartens in the center of Israel. The subjects were randomly selected. The study assessed several aspects of the children's lingual level: lingual comprehension (PPVT), listening comprehension and oral expression (ITPA). In addition, the subjects completed a test that examines inhibition (day night test) and a digit memory evaluation. At first, each subject was given an A3 sheet of paper and a blue marker. They were then asked to prepare a random drawing. Upon completing the drawing, the subject described his drawing. Based on the answer, the subject was asked what he drew when relating to two specific broken lines (i.e.: ^) and two specific straight lines (i.e. --). The subjects then underwent the PPVT, ITPA, day night test and digit memory assessment. The evaluations were performed in stages at WIZO kindergartens, in an isolated and quiet room, individually with each child. Several sessions were conducted at the kindergarten, each session up to 30 minutes in order to achieve optimal attention from the child, the subject. Pursuant to previous studies, the children were evaluated on the referential representational responses (i.e. "This is a banana") provided for all kinds of lines as well as on the differences between referential answers on broken vs. straight lines.

## **Research Hypotheses and Results**

The first research hypothesis was that a positive correlation would be found between the child's memory and inhibition level and between the level of representation applied to his drawings. This hypothesis was partly proven. Upon examining the

correlation between these measures, a significant correlation was found between memory and spontaneous representation, i.e. the better the grade achieved in the memory evaluation, i.e. better memory, the greater their spontaneous drawing representations. The second hypothesis was that a correlation would be found between the child's lingual level and the level of graphic representation. This hypothesis was also partially proven. When examining the correlation between these measures, a significant correlation was found between the PPVT, which tests language comprehension, and between the spontaneous representations expressed in the subject's drawings. In other words, the higher the PPVT grade, i.e. where their language comprehension was better, they presented more spontaneous representations in their drawings. The third hypothesis was that there would be a difference in the cognitive measures – PPVT, ITPA, memory and day and night – achieved by the younger and older children. This hypothesis was fully disputed. As opposed to the research hypothesis, no significant differences were found between the various groups. The fourth research hypothesis was that differences would be found between the boys and girls regarding the various representational metrics. This hypothesis was fully disputed. Nevertheless, among the girls, different correlations were found between the representational metrics and the lingual metrics by which a higher level of representation was related to higher scores on the inhibition and language tests. The fifth research hypothesis was that differences would be found between the younger and older groups as related to the different representational metrics. This hypothesis was also disputed in full. As opposed to the research hypothesis, no significant differences were found between the younger and older groups. Nevertheless, the older group presented correlations between the representational metrics and the memory and language metrics.

#### Discussion and Conclusions

The results demonstrate the existence of certain correlations between representational development in children 2-3 years old and their memory, inhibition and language skills. These correlations are more significant among girls and the older age group. Based on the findings, one can assume that enhancing the expressive-lingual capacity will improve metrics of drawing representation and perhaps vice versa, drawing can be used and related to as a lever for developing the child's cognitive and lingual skills.