

# PSYCHOMOTOR DEVELOPMENT OF CHILDREN FROM MULTIPLE PREGNANCIES

## A Psychological Evaluation

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*Psychological examinations were made in 56 children from quintuplet, quadruplet, and triplet pregnancies. The psychomotor development of these children from multiple pregnancies did not, as a rule, differ much from the one of singletons, although the multiple pregnancy was more inclined to cause lesions of the central nervous system. Out of the 56 children examined, 25 were found to develop properly.*

*It is necessary to examine the development of each child separately, taking into consideration its health condition in the neonatal period and its specific environment which effect the individual development and may be the cause of disturbances, as well as of mental differences not only in children from the same pregnancy but even in MZ twins.*

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The problem of the psychomotor development of children from multiple pregnancies has often been taken up by the psychologists. Twins were the subject of studies, but no psychological studies on triplets have become known.

### MATERIAL AND METHODS

The present report concerns investigations on the development of children from multiple pregnancies, born in the past 15 years, i.e., in 1957-1972 in the Danzig province. The investigations, including examinations from the viewpoint of many medical disciplines, embraced 56 children, derived from 1 set of quintuplets, one set of quadruplets, and 18 sets of triplets.

The methods of psychological examination included: clinical interview, observation of behavior, and intelligence tests adapted to the child's age (Wechsler Scale for Children, Terman-Merrill Scale, Psychocattell Scale, Brunet-Lézine Scale, applied in a complementary way).

The material obtained by the examinations was analysed from the point of view of the psychomotor development attained by the children, and the attained level of development was evaluated. Disturbances of the intellectual and emotional sphere, disturbances of behavior and of the dynamics of neural processes, were found by these examinations and were assessed in the light of etiology: injuries to the structure and function of the central nervous system, or functional disturbances caused by a detrimental action of the environment. The psychomotor development of MZ twins was also compared.

### RESULTS

#### 1. *Psychomotor Development in Early Childhood*

The analysis of interviews and the results of test examinations permitted to find an arrest of the pace of psychomotor development in early childhood, i.e., up to the age of 3 years.

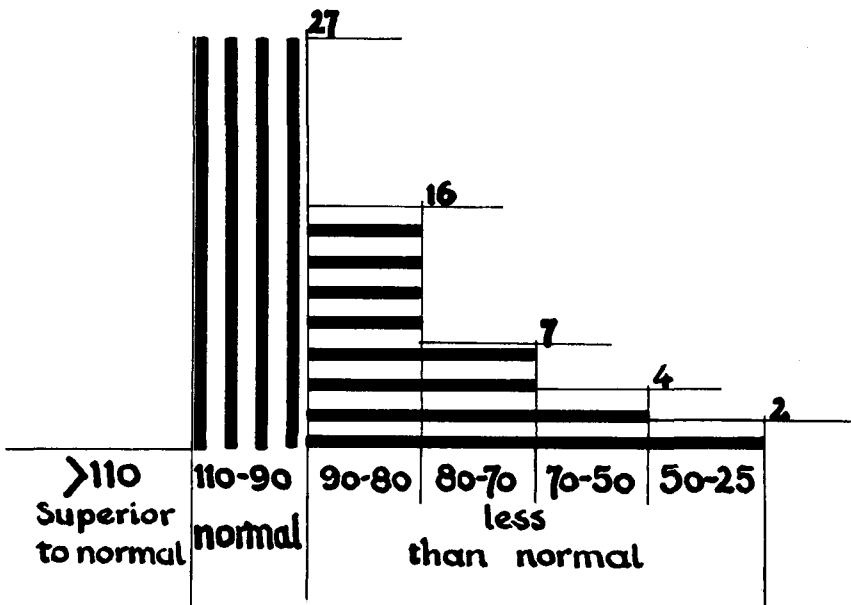


Fig. 1. Intelligence Quotient in 56 children from multiple pregnancy

This retardation involved 19 children, i.e., one third of the whole group: 8 of these displayed simultaneous disturbances of motor and speech development, whereas disturbances of motor development only were found in 6 children, and speech disturbances only in 5 children.

This high number of cases of arrested psychomotor development has to be set in connection with the necessity of a long time for making good for the deficiencies caused by the "poorer start" of children from multiple pregnancies, who were often born premature (32 children) and with low weight.

Following up the further fate of these children it was found that only 3 of them completely made up for the arrest. The cases of arrest in the development of speech were found to be the most portentous for further development, as none of the 5 children was exhibiting normal mental development at the time of the examination.

Summing up it ought to be remembered that the development of the children investigated continues, and there are opportunities for making up for the deficiencies, particularly in the younger children.

## 2. Personality Troubles

By interview, observation, and test examinations, various kinds of personality troubles were found in 31 children, i.e., in over one half of the sample. The troubles included: intellectual sphere, in 29 children; emotional sphere, in 14 children; and behavior, in 11 children.

They rarely occurred as isolated disturbances, but usually appeared simultaneously in syndromes.

### 2.1. Troubles of the intellectual sphere

As shown in the Figure, among the total number of 56 children, 27 showed a normal mental development, whereas in 29 (over 50%) the mental development was delayed. In the latter group mental underdevelopment was found in 6 children.

The children on the border of normalcy and mental deficiency were also numerous, being 23, i.e., nearly 50%, while usually their number is evaluated at 10-20% of the population. Among the children with a normal mental development, none exceeded the limit of average intelligence (IQ above 110).

When these results are interpreted, it ought to be taken into account that:

- (1) Many of the children examined are at present in a stage of intensive psychophysical development
- (2) The environment also exerts an influence on the level of mental development: the mediocre or poor living conditions of 39 children, and the disadvantageous psychopedagogical conditions of a majority of the families investigated, play a role.
- (3) Lesions of the central nervous system are probably the fundamental cause of the retardation of the mental development of so great a number of children; these lesions were brought about by disadvantageous factors of the perinatal period, frequent in multiple pregnancies.

Out of 30 children attending school, 16 had difficulties in learning; of them, 4 repeated their grade and 1 interrupted school attendance. In this number, 15 cases are children with arrested mental development.

### 2.2. Emotional troubles

Emotional troubles were found in 14 cases, i.e., in 25% of the 56 children. The troubles appeared either as a single symptom, or as a syndrome of symptoms. Most often occurred:

- nocturnal enuresis, 10 children
- thumb sucking, 5 children
- mutism reactions, 5 children
- anxiety attitude, 5 children
- stammering, 3 children
- night terrors, 2 children

In psychiatry these symptoms are classified as neurosis symptoms.

### 2.3. Behavioral troubles

In the group of 56 children, 11 displayed various behavioral troubles. Excessive sensitivity, a propensity towards reacting with fits of anger, stubbornness, and negativism, were found in all these children, aggressive behaviour in 2 of them, and proneness to stealing in 1 child.

All children from 5 out of 20 multiple pregnancies analysed developed normally; all children of 8 pregnancies showed personality disturbances, whereas part of the children of 7 pregnancies developed normally, while another part of them showed disturbances. When the group of children without disturbances (25 cases) was compared with the

group of children with troubles (31 cases), it was found that there were much less injuring factors acting during the development of children who showed no deviations from the normal condition at present.

### *3. Comparison of the Psychomotor Development of MZ Twins*

MZ twins were born in 7 cases from 20 multiple pregnancies (of 1 quadruplet and 6 triplet pregnancies).

In 4 cases an ideal uniformity of physical and mental traits was found: the differences in quotients, e.g., varied within the limits of 1-2 points, also for the pace of psychomotor development in early childhood, as well as for the personality troubles appearing.

In 2 cases, an ideal concordance of the mental level being present, differences concerning the appearance of emotional troubles occurred in 1 of the children, in whom diverging, disadvantageous conditions had arisen in the perinatal period.

Only in 1 case an absolute diversity of the mental level and behavior was noted. Mental deficiency and serious character defects were in connection with serious disturbances of the way in which labor went on, and of the neonatal period. The other child from this pregnancy, who had suffered no lesions, develops normally.

### CONCLUSIONS

1. It was not found that the psychomotor development of children from multiple pregnancies differs as a rule from that of singletons, in spite of the widespread opinion that the children from multiple pregnancy are inferior.
2. It is therefore necessary to analyse the development of every child separately, taking into account the conditions specific for himself only during childbirth and early childhood (i.e., the conditions on which individual development depends) and the disturbances of this development, this also being a source of mental differences among children from the same pregnancy.
3. The conditions of the education of children from multiple pregnancies are also only seemingly identical. Each of the children, occupying a certain position in the family, experiences a somewhat differing set of environmental stimuli.
4. Because of the same genetic equipment, MZ twins are prone to a parallel development. However, the differing life history of everyone of them models their mind differently. The greater the differences of the conditions of their development in ontogenesis, the greater the diversity of their personalities.