

# BEHAVIORAL CORRELATES OF THE NUTRITIONAL STATUS IN THE PRESCHOOL CHILDREN

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BY

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**1990**

***TO***

***The soul of my beloved parents, who had helped  
me grow , and whose love and strength have  
sustained me over years.***



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The Candidate

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## ABBREVIATIONS

|        |                                       |
|--------|---------------------------------------|
| AMA    | arm muscle area                       |
| BSID   | Bayley scale of infant development    |
| CPM    | Coloured progressive matrices (PM)    |
| DNA    | Deoxy ribonucleic acid                |
| DL     | Discrimination learning               |
| DSF    | Digit span forward                    |
| DSB    | Digit span backward                   |
| DS     | Digit span                            |
| FI     | Fat index                             |
| FRer   | Free recall                           |
| HES    | Health examination surveys            |
| HT     | Height                                |
| IR     | Incorrect response                    |
| IQ     | Intelligent quotient                  |
| LDCs   | Less developed countries              |
| MDI    | Mental Development index              |
| MAC    | Mid arm circumference                 |
| mg/l   | milligram / litre                     |
| µg/l   | microgram / litre                     |
| ng./dl | nanogram / decilitre                  |
| NAS    | National Academy of Science           |
| NCHS   | National Centre for Health Statistics |
| NRC    | Nation Research Council               |
| ORG.   | Organization                          |
| PM     | Primary memory                        |

|       |                                                             |
|-------|-------------------------------------------------------------|
| PEM   | Protein energy malnutrition                                 |
| RBP   | Retinol binding protein                                     |
| RNA   | Ribonucleic acid                                            |
| SM    | Secondary memory                                            |
| STM   | Short term memory                                           |
| SES   | Socioeconomic status                                        |
| Vig   | Vigilance                                                   |
| WISC  | Wechsler Intelligence Scale for Children                    |
| WPPSI | Wechsler preschool and primary school<br>intelligence scale |
| Wt.   | Weight                                                      |
| WHO   | World Health Organization                                   |

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## INTRODUCTION AND AIM OF THE WORK

The problem of malnutrition has traditionally been the concern of public health experts, although in recent years many psychologists have become concerned with the effects of malnutrition on human behavior. The relation between malnutrition and mental development is of special importance because about 300 million preschool children, or 60 percent of the total preschool population of the world suffer from mild to moderated protein-caloric malnutrition (Behar, 1968). The impact of nutritional status on behaviors is a complex issue that usually occurs in conjunction with other factors. The complexity of this issue emphasizes the need for large efforts to be directed towards the characterization of sensitive methods to assess the impact of nutritional status on behavior.

Many of the psychometric studies of malnutrition and mental development have compared infants hospitalized for malnutrition with controls at home. As a result the level of malnutrition has been severe and the experience of hospitalization has been confounded with the effects of malnutrition.

The availability of several criteria to assess the nutritional status might raise the possibility to demonstrate the existence of a relationship between the

nutritional status perse and behavior. These criteria formulate a combination of anthropometric, biochemical and dietary measures. The choice of several sensitive behavioral tests is as well important for this purpose.

In Egypt, several surveys (National survey, More & better food) have shown the prevalence of malnutrition as well as anemia among preschool children. The impact of both malnutrition and anemia was previously shown among infants & school aged children (Birch et al, 1970, & Caputo et al, 1970 and others). Studies among preschoolers are scarce. Besides the methods used to assess of behavior are not yet standardized for age as well as for the Egyptian communities in particular.

#### Aim of The Work

The aim of this study is to explore the relationship between nutritional status and behavior for a group of preschool children. The impact of social status on behavior is also considered.

Seven tests are going to be used to assess for behavior of the children that cover, intelligence, memory and learning, thinking and problem solving and attention. The impact of nutritional and social parameters on each of these is evaluated.

# *REVIEW OF LITERATURE*