

ON GENERAL LAWS AND THE MEANING OF MEASUREMENT IN PSYCHOLOGY

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1. Introduction

Lately the statistical methods of psychometrics have been severely criticized in psychological quarters. Thus Skinner [1] maintains that if order is to be found in human and animal behavior, then it should be extracted from investigations into individuals, and that psychometric methods are inadequate for such purposes since they deal with groups of individuals. And as regards abnormal psychology Zubin [2] states: "Recourse must be had to individual statistics, treating each patient as a separate universe. Unfortunately, present day statistical methods are entirely group-centered, so that there is a real need for developing individual-centered statistics."

In a recently published book [3] I have developed three models for reactions to certain attainment tests and intelligence tests. Within the very limited areas covered, these models represent an attempt to meet this challenge. In fact, each model specifies a distribution function for the potential responses of a given person to a given stimulus of a certain set of allied stimuli, and this distribution function depends upon a parameter characterizing the person and a parameter characterizing the stimulus. The models have a remarkable property in common that renders it possible, in the analysis of the data, to detach the personal parameters from the stimulus parameters, and vice versa. And furthermore, we may check the adequacy of the model itself independently of both sets of parameters.

The present paper is concerned with a rather large class of models sharing this *separability property*, and also with some of the implications of this type of models.

2. A model for tests in oral reading

Let me begin with a description of two of the above mentioned models which pertain to static situations, leaving the third one, which is dynamical, for another occasion.

A large number $\nu = 1, \dots, n$, of children were given a few tests, $i = 1, \dots, k$, in reading aloud and on each occasion the number of misreadings was counted.