agement has spent much time and money to determine the attitudes of workers Measuring, developing, and changing attitudes constitute a major problem for personnel men and psychologists—one of extreme importance to the safety professional

• **Learning processes.** Finally, there should be concern with learning processes Learning has gone on from the first day of birth, and in all of the topics previously mentioned, it has played a major role One cannot understand motivation, attitudes, emotions, or even individual differences without some consideration of the learning process involved in bringing them about

Many topics with which the industrial psychologist is concerned cannot be covered in this chapter Some of them play a direct part in the success or failure of sound personnel procedures in industry, but they are not all directly related to safety, or fall within the assigned duties of the safety professional They may, as part of the regular personnel procedure, contribute indirectly to safety in the shop

Individual differences, motivation, emotions, attitudes, and learning are bound up with accidents Because the safety professional must work with them directly, they are important enough to discuss separately

Individual Differences

When a chemist analyzes a chemical compound, he can accurately specify its exact nature and composition When he uses this compound, he knows exactly what behavior he can expect The action and reaction of this sample is usually the same as other samples of the compound he has analyzed

When the psychologist studies human behavior, he is not dealing with the same degree of certitude as is the chemist The psychologist does not know the composition of the agent he is dealing with—in many instances, in fact, he has very little knowledge of his subject's past history

In addition, the behavior of one person is not the same as the behavior of another person Person A in the sample is not equivalent to person B, in the way 1 cubic centimeter of H_2SO_4 equals all other cubic centimeters of H_2SO_4

The known fact that people differ has been referred to as the "personal equation" or, *more commonly*, "*individual differences*" The personal equation presents many problems for the safety director and supervisor The case is not all hopeless, for within the framework of individual differences, certain general patterns common to all men do exist

For example, all behavior is motivated Regardless of what the individual does, he does it for some purpose Generally, the purpose is a reduction of some basic underlying tension which must be resolved The degree and nature of this tension depends in part upon his individual values and his internal perceptions More about motivation later

Here is another example Even though each child develops at his own rate and to different levels of efficiency, each crawls before he walks, forms words before sentences, etc

The general model used to describe such modes of development is the following

$$B = F\,(S, E)$$

Behavior (B) is a function (F) of the present situation (S) and all previous experiences (E) Whether or not an employee works safely depends (*a*) upon his present situation—is he rushed? fatigued? in poor health?—and (*b*) his past experiences—did he avoid accidents in the past? What amount of training does he have? In our general model, the E variable could be termed the individual's personality

Factors contributing to personality

The personality of the individual is his total make-up, the sum of all his traits and experiences To a large extent, personality can be expressed as some function of heredity and environment What an individual inherits from his parents will set the upper limits of the individual's personality For example, a person can have no more "native intelligence" than that which he inherited from his parents However, whether or not he ever reaches this upper limit depends upon his environment and the interaction of other traits The individual who inherits a great potential intelligence, but is extremely lazy, may never reach his potential On the other hand, the child who does not inherit a great intellect, but is extremely studious, may surpass the former in terms of "IQ"