CHAPTER I
INTRODUCTION

The importance of formal and stylistic components of behaviour as determinants of verbal responses on personality assessment procedures has received increasing consideration in recent years with respect to psychological theory, research methodology, and empirical study (Barnes, 1956; Berg, 1967; Couch & Keniston, 1960; Edwards, 1953). Rapidly cumulating evidence now points to the likelihood that responses by many individuals on such measures may be governed less by the specific content of the items, and more by response characteristics such as the response set tendency, operant acquiescence, and the use of social desirability, each largely intrinsic to the respondent himself. To the extent that these extraneous stylistic variables are part of the subject's response, measurement of the content dimension presumably being tapped by any given instrument is sharply restricted. But there are numerous evidences which suggest the wide scale popularity of projective and self-report inventory techniques to the measurement of personality traits (Nunnally, 1967; Rabin & Haworth, 1960). From the measurement point of view, these techniques, however, have not escaped repeated attacks of the psychometricians (Vernon, 1973). The psychometric weaknesses inherent in these techniques, therefore, have led the psychometricians
to come up with an alternative method of personality assessment. The past years have witnessed several such alternative approaches which include the picture association method (Rosenzweig, 1945), the conflict resolution method (Kohlberg, 1963, 1969), the projectometric method (Sandven, 1975), and the projective-inventory method (Puhan 1982; Puhan & Rath, 1981). These methods utilize structured stimuli with an aim to achieve greater objectivity, reliability, efficiency, validity, etc. in a projective based test situations. Of all, the projective-inventory approach to personality measurement seems to have more potentials of a valid approach as it hopes to combine the positive psychometric aspects of both projective and self-report inventory approaches (Puhan & Rath, 1981; Rath, 1986), which alone seems to be a feasible solution for the social desirability contribution to the inventory scale scores. Recent studies in the area have revealed that social desirability factor contributes significantly less to the social responsibility, dependence-proneness, aggression (Puhan & Roy, 1985) femininity, dominance, and sociability (Patnaik, 1985) projective-inventory scores compared to its contribution to the equivalent self-report inventories. However, further investigations using other traits are needed before this new method can be recommended as a valid method for measuring personality traits. The present study, therefore,
attempts to examine the usefulness of this method by demonstrating minimal contributions of social desirability factor in an adjustment projective-inventory.

**Controversial Issues in Adjustment and Personality Assessment**

The systematic study of the whole man is undertaken in two inseparable fields, identified as the adjustment and personality. Adjustment and personality are unifying concepts because they include the various subordinate process of motivation, emotion, and cognition. For example, adjustment is accomplished through the exercise of cognitive activities such as perception and thought processes by which the person has transactions with the world about him. But these processes are not the person (Lazarus, 1961). Therefore, it is difficult to consider one without the other.

The term personality assessment refers to any procedure which aims at describing a person's characteristic behaviour by categorizing him with respect to some communicable dimension or dimensions (Taft, 1959). Several controversies, however, are found to exist in the area of adjustment and personality assessment. Therefore, any attempt to appraise a measurement procedure essentially requires clarifications of these controversial issues. One such controversy relates to the use of the terms like "assessment" and "measurement".
The connotation of the term 'assessment', according to Pervin (1975), refers to a procedure for collecting many kinds of information about an individual in order to obtain a meaningful understanding of his personality. On the other hand, the term 'measure' refers to recording of a specific piece of behaviour. In this sense measurement of personality traits is concerned with a limited aspect of behavioural dispositions. Since the present study attempts to describe adjustment, perhaps use of the term measurement would be more appropriate.

The second controversy in the area of personality assessment relates to the definition of personality traits. Personality assessors like Edwards and Abbot (1973), and Traft (1959) have preferred to use of the term like trait (i.e., components) rather than the term personality (i.e., whole person) in relation to personality measurement. The term 'trait' is used as a synonym for attribute or characteristic behaviour. Trait, following Nunnally (1970), may be defined as a measurable dimension of behaviour through its dichotomous categories or continuous finer gradations. Perhaps Vernon's (1953) definition of trait as any characteristic in which people differ or vary from one another states realistically that personality measurement is concerned with measuring traits (individual differences) rather than personality (whole person).
The third controversy in the area is known as trait-state controversy. Edwards and Abbot (1973) have explicitly stated that personality attributes are considered more enduring than momentary disposition called states. Therefore, the measurement of traits (enduring dispositions) are more justifiable than measurement of states (momentary dispositions).

**Leading Methods to Measure Personality Traits**

Various methods have been developed in the past to measure personality traits. These methods or approaches to personality measurement simply refer to the ways or means for describing personality characteristics of a person. The wide scale popularity of projective and self-report inventory measures (Nunnally, 1967; Rabin & Haworth, 1960) clearly suggest the supremacy of these methods in the area of personality assessment.

It has been pointed out earlier that the projective-inventory approach (Puhan, 1982; Puhan & Rath, 1981) attempts to combine the positive aspects of the two leading approaches (i.e., projective and self-report inventory) to the measurement of personality traits. Therefore, the characteristic features of both the projective and self-report inventory methods would be highlighted here.
Projective Methods to Measure Personality Traits

In projective techniques, the subject is presented with ambiguous stimuli and is required to interpret or impose some meaning to it. The Rorschach Inkblot Test (Rorschach, 1942; First published in 1921), for example, consists of ten cards with inkblots on them. Each of these blots depicts symmetrical but ill-defined forms. According to Brown (1970), the use of "inkblot" as stimuli illustrates an important aspect of projective testing i.e., ambiguity and unimportance of item content. The only requirement of the stimulus is that it be unstructured but capable of having structure imposed on it. In interpreting the Rorschach responses, the assessor emphasizes the way in which the responses or percepts are formed in the determinants of the response, and in its content. In all cases, therefore, there is the assumption of a correspondence between the way an individual forms the percepts and the way he generally organizes or structures stimuli in his environment. The other details of projective methods and various types of projective techniques may be found elsewhere (e.g., Murstein, 1963; Sechrest, 1968).

Self-Report Inventory Methods to Measure Personality Traits

Self-report inventory methods involve exclusively verbal enquiries relating to behaviour under measurement.
The inventories often include statements or questions dealing with interests, beliefs, and values which the individual answers about himself (e.g., Yes or No, True or False) that can be later scored and analyzed objectively. The Minnesota Multiphasic Personality Inventory (MMPI: Hathaway & McKinley, 1951; Dahlstrom, Welsh, & Dahlstrom, 1972), for example, involves 550 statements (items) to which the subject is required to respond "true" or "false", depending on whether the item is or is not characteristic of him. The details of all the personality inventories may be found in the Personality Test and Reviews (Buros, 1970) and The Seventh Mental Measurements Year Book (1972).

From measurement point of view, an evaluation of these methods are always centered around certain psychometric requirements (e.g., reliability, validity, etc.) which they claim to have achieved. Before an attempt is made to evaluate the Projective-Inventory Measures, perhaps, it would be necessary to know what these psychometric considerations actually mean in personality assessment contexts.

**Psychometric Requirements of Personality Measures**

**Reliability**

Reliability is the accuracy or precision of a measuring instrument. In psychometric sense, the concept of
reliability indicates the extent to which individual differences in test scores are attributable to "true" differences in the characteristics under consideration and the extent to which they are attributable to chance errors (Anastasi, 1982). All the methods of reliability testing (e.g. test-retest, parallel forms, split-half, Kuder-Richardson Methods) attempt to identify the sources of error variance by evaluating the consistency or agreement between two sets of scores which are derived independently. Several factors have been identified by psychometricians which may make responses to personality measures as inconsistent or unreliable in nature. These include, lack of standardised test administration procedure (Sechrest, 1968), unreliability of scoring, and low motivation of the subject which may occur due to long or difficult test items.

Validity

Validity of measurement pertains to the nature of the traits measured by a set of operations. Because it is a broad problem area, validity has been given some what different definitions (Ghiselli, 1964). Sometimes validity refers to the degree to which a set of operations measures the traits it is supposed to measure and sometimes it refers to the determination of the traits actually measured by a set of operations. Some definitions of validity require statistical descriptions of the degree of
relationship between variables, and others involve judgement about the nature of the traits being measured. Therefore, it is very difficult to evolve a formal definition of validity. However, psychometricians have recognised mainly three procedure for validity testing, such as, criterion-related, content, and construct validation (Standard For Educational and Psychological Tests, 1974). Criterion-related validity is sometimes referred to as "predictive validity" and is investigated by determining the degree of relationship between test scores and a criterion measures. Content validity requires that the test represents the behavioural domain from which the test items are sampled. Construct validity involves the accumulation of evidences to define more precisely the nature of the trait being measured by the test. In this procedure, in the absence of a definite criterion, the investigator is supposed to use some theoretical-logical framework as criterion (Cronbach & Meehl, 1955). In other words, construct validation requires gradual accumulation of information relating to the trait under consideration.

There are several methods for construct validity testing such as developmental analysis, correlations with other test, factor analysis, method of internal consistency, and experiments on the effect of selected
variables on test scores (Cronbach & Meehl, 1955). All these methods, therefore, attempt to demonstrate validity of traits rather than the test behaviour or the scores on the criterion. In this sense, construct validity seems to reflect one aspect of the theoretical-logical consideration of validation i.e., "what a test measures". But validity also implies "how well does a test measure" (Anastasi, 1976) a particular trait. Therefore, the theoretical-logical assumption also implies that validity must show "what the test does not measure". Perhaps the complete characterization of a test is possible by taking into account of the two questions, such as "what a test measures" and "what it does not measure". In an attempt to answer these questions, Campbell and Fiske (1959) have proposed the convergent-discriminant approach to test validation. This procedure attempts to show that a test not only correlates highly with certain variables with which it is theoretically correlated (convergent validity), but also that it does not correlate significantly with other variables from which it should differ (discriminant validity). In order to achieve the dual criteria of convergence and discrimination, Campbell and Fiske (1959) have proposed a systematic measurement design which is known as multitrait-multimethod procedure. This procedure requires an assessment of two or more unrelated traits by
two or more methodologically independent measures. The obtained correlations among them are then organized in a matrix. For satisfactory convergent validity, correlations between methodologically independent measures of the same trait should be higher than the correlations between two traits measured by the same method. But if the correlation between independent measures of the same trait is found to be less than independent measures of different traits, then the convergent validity is doubtful. Similarly, evidence of discriminant validity is found when the correlation between two traits measured by the same method is less than the correlation of either of them measured by different methods. But if two traits measured by the same method correlate more highly than when either of them is measured by two different methods, the discriminant validity is doubtful.

Finally, it needs to be pointed out that validity alone does not guarantee the psychometric merit of a measure. Reliability is concerned with the congruence among responses measured under maximally similar stimulus conditions (Campbell, 1960; Campbell & Fiske, 1959). Validity, on the contrary, requires the convergence between responses to maximally different independent stimulus conditions or measures. So a test can be reliable without being valid, but it can not be valid if it is unreliable.
The subtleties involved in these two concepts imply that tests are not valid or invalid, rather that they have degrees of various kinds of reliability and validity.

Other Psychometric Requirements

The other psychometric requirements of personality test involve objectivity in scoring, standardization of the testing procedure, establishment of the norms, testing feasibility, and efficiency. All these considerations usually demonstrate objectivity of a test.

Objectivity in scoring. Scoring of a test means assignment of a particular weight to a response according to some rule. There are many ways of assigning weights to the responses. Complex scoring system, for example, generally involve a graded scale system (e.g., the Strong Vocational Interest Blank) whereas in a simple scoring system a "true" response is assigned "one" and a "false" response is weighted "zero" (e.g., The California Psychological Inventory).

Sechrest (1968) has stated that the most common system of weighting a response is to use arbitrary unit weights based on an assumption of single monotonic relationship between the number of positive responses and the characteristics being measured. So depending on the nature of the item and direction of its discriminative quality weighting system may be reversed i.e., "zero" for
a "true" response and "one" for a "false" response. Complex scoring system often provides opportunities for error and may mislead the test developer in the test construction process (Guilford, 1975). This observation suggests that the simpler the scoring system (i.e., 0 or 1) the more useful it is in the long run. It appears, therefore, that developing a simple scoring system rather than a complex one, a test can attain more objectivity (Sechrest, 1968).

Standardization of the testing procedure. Objectivity in a test may also be achieved by standardizing the testing conditions. Standardization in testing procedure includes setting out the exact materials, oral instructions to the subjects, time limits, preliminary demonstrations, ways of handling queries from subjects, standard interpretations of the test scores, and every other details of the testing situation.

Establishment of norms. Standardization also ensure objectivity of a test by providing a norm. Norm in a personality test indicates the performance of the typical or average individuals (Anastasi, 1982). So norm provides a basis for a comparison of an individual's test scores.

There are mainly two types of comparisons such as normative and ipsative. In normative comparison, an
individual's raw scores are transferred to the standard score and then compared against the scores of the group. In ipsative comparison, the frame of reference is the individual himself. In Edwards Personality Preference Schedule (EPPS), for example, the strength of each need of an individual is expressed in relation to his or her needs. Normative comparison, however, is the usual practice for evaluating an individual's scores.

It may be noted that establishment of norm is one of the means of attaining objectivity in a personality test. So if a technique is found to fulfill other psychometric requirements like objectivity in scoring, standardization testing procedure, reliability, validity, and subsequent establishment of norms, the measuring technique can claim more objectivity and is preferable than any other less objective test.

**Efficiency and Feasibility.** Efficiency of a test refers to the speed of testing process (time consideration) as well as the scope of testing a large number of subjects in a single sitting. Feasibility of a test is assessed by the cost involved in the administration of a test. If trained personnel are needed to carry out testing, scoring, and interpretations, it certainly makes the test expensive.
Appraisal of Leading Methods Against the Psychometric Requirements

In the foregoing section, the basic psychometric considerations required for a personality measure have been described. Appraisal of the projective and self-report inventory methods, therefore, need an evaluation in the context of these basic psychometric requirements.

Projective Methods in the Context of Psychometric Requirements

The psychometric advantages of projective measures of personality are pointed out by Murstein (1963, 1965, 1968). Both Murstein (1959, 1965) and Purcell (1956) have shown positive relationship between the subject's responses to projective tests and his actual behaviour. Wallace and Sechrest (1963) have reported considerable evidence of construct validity for projective measures. Some studies showed that subject's responses to projective tests do not correlate significantly with social desirability scale values (Reynolds, 1964; Reznikoff, 1961; Rozynko, 1959; Siller & Chipman, 1963; Whitman & Schwartz, 1967). Critics of the projective techniques however always highlight the low predictive and criterion (convergent) validity of the projective measures. But the few studies mentioned above dealing with social desirability effects on projective measures, clearly, suggest satisfactory discriminant
validity of this method.

The major criticism against projective measures is that these measures lack sufficient reliability (Entwisle, 1972; Murstein, 1963; Weinstein, 1969). The other psychometric weaknesses of projective measures refer to the lack of objective scoring system (Voigt & Dana, 1964) and lack of standardized testing situations. It also involves subjective interpretation of the scores (Baughman, 1951; Krumholtz & Farquhar, 1957; Vernon, 1973). All these disadvantages of projective measures have made the approach unreliable and nonobjective in nature.

Self-Report Inventory Methods in the Context of Psychometric Requirements

Exhaustive reviews on validity studies of self-report inventories have been done by Buros (1970), and Edwards and Abbott (1973). These studies on inventories have shown positive relationship between inventory scores and some criterion measures. But in most of the cases, the correlations between responses to self-report inventories and criterion scores are found to be affected by some irrelevant variables (Edwards & Abbot, 1973; Mischel, 1968). These includes social desirability (Edwards, 1957; Taylor 1959; Sperber & Spanner, 1962; Gorman, 1963), acquiescence or the tendency to answer "true or yes" (Couch & Keniston, 1960; Messick & Jackson, 1961), deviation or the tendency
to give unusual or uncommon responses (Berg, 1967), response style (Fiske & Pearson, 1970), response bias (Rundquist, 1966; Braun & Constantini, 1970), item ambiguity (Goldberg, 1963; Harris & Baxter, 1951), and item stability (Jones & Goldberg, 1967). These studies simply indicate convergent validity of the inventory method. The consideration of discriminant validity of all the inventories, however, have not yet been established (Puhan, 1982). No way has yet been suggested which can reduce the social desirability affect to an appreciable level. However, projective-inventory approach (Puhan, 1982) has been found to be the most appropriate method for reducing the social desirability factor in personality measurement (Patnaik, 1985; Puhan & Dash, 1985; Puhan & Roy, 1985). As all the above controversies and criticisms are also found in the adjustment measurement, it would be interesting to see how social desirability affects the scores on adjustment scale which follow the model of the projective-inventory.

Trindall, (1959) brings the adjustment measurement under three categories such as, questionnaires and inventories, ratings by adult judges, and systematized direct observation. Thus social desirability, response style, response bias, and acquiescence also effect the adjustment measurement. Apart from these above variables,
there are some other extraneous variables such as, chronological age, mental age, and months of residence in the institution which have also been found to influence the adjustment scores (Trindall, 1959).

Trindall has conducted many studies for determining the significance of different adjustment techniques which were governed with above extraneous variables. The details of Trindall's (1959) findings and conclusions are giving below:

1. He found that techniques purporting to appraise adjustment status when applied to some population do not produce result that are closely related. This would imply that a global concept of adjustment, based on present day tests, is limited in usefulness. Assessment of adjustment by one technique has little predictive value in terms of results which might be secured by using another technique.

2. Evaluative studies, where claims are made in regard to change in adjustment status, should report several indices of adjustment. If it can be shown that there has been a significant change brought about in adjustment as measured by various techniques, more confidence can be placed in these results.

3. There is a need for clear definitions within the concept of adjustment.

4. Differences among techniques, within the same general
type of adjustment assessing measures, point out the need for refinement of present techniques. The addition of more and more varieties of adjustment assessing techniques validated through comparison of results established by existing techniques, serves to complicate rather than clarify the existing situation.

The reviews by Buros (1970, 1972) have reported moderate or high reliability of self-report inventories. Several other psychometric advantages of inventory method such as flexibility of administration, amenability to interpretation by mechanical methods, objectivity in scoring, etc. are reported by Lanyon (1974). These practical considerations, perhaps, have gained priority over their validity considerations (Sundberg, 1977). An excellent summary of these appraisals of projective and inventory methods is given by Fuhan (1982) which appears in Table 1.

Need to Develop Alternative Methods

The psychometric weaknesses of the projective and inventory methods (see Table 1) and Trindall (1959)'s findings, therefore, have prompted the psychometricians to develop alternative methods which would be theoretically advantageous and at the same time psychometrically sound. Therefore, in the past, several alternative methods have been suggested by the measurement experts all of which
### Table 1

**Approaches to Personality Measurements in Psychometric Requirement Contexts**

<table>
<thead>
<tr>
<th>Major Approaches</th>
<th>Psychometric Requirements</th>
<th>Reliability</th>
<th>Others</th>
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<tr>
<td></td>
<td>Validity</td>
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<td></td>
<td>(High correlation between behaviour and response)</td>
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<tr>
<td>Projective</td>
<td>Appears hopeful</td>
<td>Low</td>
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<td></td>
<td>(Has never been properly studied)</td>
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<tr>
<td>Self-Report Inventory</td>
<td>Low</td>
<td>High</td>
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<td></td>
<td>(In discriminant sense)</td>
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seem to utilize structured projective stimulus situations with an aim to achieve greater reliability, validity, objectivity, etc.

**Motive Analysis Method**

Perhaps the 'Test of Insight Into Human Motives' developed by Sargent (1944) represents one of the earliest attempts for a projective-based psychometrically sound approach to personality measurement. The test consisted of 15 items called "armatures" describing persons in a conflict situation to which the subject is asked to write or state what the leading characters in the situation did and why they did it, and also how he or she feels. Task oriented rather than self-oriented responses are emphasized in the instructions. Though the test suggests a new method, reviews of the studies on this approach suggest an unimpressive test-retest reliability, validity, and insufficient standardization research (Jessor, 1959).

**Picture Association Method**

The stimulus situations in the Picture-Frustration Test (Rosenzweig, 1945) consist of a series of 24 cartoon like pictures, each depicting two persons involved in a mildly frustrating situation. The subject is shown these cartoons one after another and is asked to write the first reply that comes to his mind in the blank sheet provided in each
The picture-association method attempts to measure a person's direction and type of aggression. Under the direction of aggression comes extraggession (E-A), in which aggression is turned on to environment; intraggession (I-A), in which it is turned by subject upon himself; and finally, imaggression (M-A), in which aggression is simply evaded in an attempt to gloss over the frustration. It is something like extraggession turns aggression out, intraggession turns it in, and imaggression turns it off (Rosenzweig, 1975). Under types of aggression come obstacle-dominance (O-D), in which the barrier causing the frustration stands out in the responses; ego-defensive (E-D), in which a subject's ego appears to defend itself, and finally; need-persistence (N-P), in which the solution to the frustrating problem is emphasized by pursuing the goal despite of the obstacle (Rosenzweig, 1975). The scoring of the subject's response therefore follows nine possible scoring factors (3 direction x 3 types).

Split-half reliability studies on the Picture-Frustration test are found to be very low (Lake, Miles, & Earle, 1973). Studies in consistency of the scoring categories have also been found to be very low (Taylor & Taylor, 1951). A review of validity studies by Rosenzweig and Adelman (1977) suggests good criterion related.
construct, and pragmatic validity of this test. This suggests that the subject to project himself on a structured stimulus, but due to its low reliability, the method in strict psychometric sense can not be claimed to be an objective method. The evidence of low consistency of scoring categories (Taylor & Taylor, 1951) indicates that the objectivity inherent in the theoretical formulations have not been reflected at the scoring level.

Conflict Resolution Method

The Conflict Resolution Method proposed by Kohlberg (1963, 1964, 1969) and his associates (Rest, Turiel, & Kohlberg, 1969) is used to measure individual's moral judgement. The test consists of nine stories or dilemmas each of which is followed by several questions relating to the activities of the characters therein. The subject is required to answer these questions in the form of "yes - no" type which are supported by their descriptive reasoning.

A review of Kohlberg's method by Kurtines and Grief (1974) states very discouraging evidence of reliability and validity. Moreover, most of the studies have indicated that nonobjective administration and complicated scoring procedures have caused low reliability and validity of conflict resolution approach to the measurement of personality. It is evident that by providing a structured projective situation, Kohlberg's method appears to be a
good alternative method but its efficiency as a measuring technique can not be established if one has to consider the psychometric requirements of a test.

Projectometric Method

As pointed out by Puhan (1982), psychologists' attempt to develop a projective-based psychometrically sound alternative method for measuring personality traits is perhaps best reflected in the projectometric method proposed by Sandven (1975). The projectometric test involves a "descriptive stimulus" followed by two different "response situations". The subject is given eight alternatives to choose a response from. It involves a rationally developed scoring key which runs from 0 to 6 depending on the nature of the response. Sandven used his projectometric situations to measure four variables such as coreaction, feeling of security, educational attitude, and motivation for school achievement. The encouraging split-half reliabilities for these four methods as well as the evidence of construct validity for the projectometric method have been reported by Sandven (1975).

Like all other alternative methods, the projectometric method too face certain difficulties. First, it seems that an attempt has been made in these tests to make a distinction between "stimulus situation" (i.e., event) and a "response situation" (i.e., reaction). This distinction
appears to be confusing since both the situations help in evoking subject's response (Puhan, 1982). The second criticism against this method may be directed to its scoring procedure. Sandven's use of complicated scoring system (i.e., assigning an weight according to the nature of response) can not be more advantageous than that of simple dichotomous scoring system (Brown, 1970; Ghiselli, 1964). The third criticism relates to the validity of projectometric approach. Swensen (1977) has pointed out that while validating this method Sandven did not use any existing measures of the traits in question as criterion.

The most important point to be raised here is that like all other alternative methods the projectometric method also does not make any attempt to show that it is not affected by social desirability variable (Edwards, 1970) and other type of response sets. Of all, Projective-Inventory Method (Puhan, 1982; Puhan & Rath, 1981; Rath, 1986) seems to carry greater potentials for a good alternative method as it attempts to combine the advantages of both projective and self-report inventory approaches to the measurement of personality traits.

**Projective-Inventory Method**

Proposed by Puhan (1982), the projective-inventory method attempts to develop a series of projective based structured situations like in Kohlberg (1963, 1969)'s
moral judgement scale which incorporates with the scoring and other psychometric advantages of the inventory methods. The basic objective of the projective-inventory method has always been to minimize the social desirability (Edwards, 1970) contribution to scale scores (Puhan, 1982).

Puhan and Rath's (1981) honesty scale consists of seven short stories each depicting several characters directly interacting in real like situations. The stories are so written that the characters in general and their activities in particular supposedly represent different points on the continuum of trait under consideration (Puhan, 1982). Each of the stories is followed by a number of statements concerning the roles played by the characters therein. The statements are written in both positive and negative directions with which the subject is required to "agree" or "disagree".

The basic assumption underlying the stimulus situation according to Puhan and Rath is that "if a subject approves an activity which is dishonest, then he himself is more likely to be a dishonest person than the person who disapproves it. Likewise, if the subject agrees to an honest activity, it is more likely that he himself is an honest person than the one who disagrees with it" (Puhan, 1982). It is obvious that the stimulus situation (story) allows the subject to project himself through his approval
or disapproval to the activities supposedly reflecting the trait under consideration. Therefore, the stimulus situation may be considered to be projective in nature, on the other hand, the story suggests the possibility of constructing a number of statements regarding the activities of the character. It is then possible to item analyse the statements before selecting meaningful statements under each story. Besides, the vast number of dichotomous reactions (i.e., agree or disagree) following each story may be scored by a logically or empirically developed objective scoring key (e.g., 0 and 1). The structured nature of the stimulus situations suggests that the test could be administered under a standardized condition and the responses to the items (statements) can latter be scored even by untrained personnels. These advantages clearly indicate the psychometric merits which are associated with the inventory methods. Therefore, the projective-inventory approach seems to have the potential for achieving all the psychometric requirements (e.g., objectivity, efficiency, feasibility, etc.). In its exploratory stage the criterion validity and Kuder-Richardson reliability coefficients of this approach were found to be .24 and .51, respectively (Puham & Rath, 1981). Above all, since the method is basically projective in nature, it is hoped that subject's response to projective - inventories would be more or less free from social desirability effect and other types of response sets
Aft has been indicated by several investigators (Eron, 1950; Reynolds, 1964; Reznikoff, 1961; Rozynko, 1959; Siller & Chipman, 1963; Whitman & Schwartz, 1967). All these considerations seem to suggest that the projective inventory method has greater possibility of achieving psychometric requirements than the other existing alternative methods.

The projective-inventory method to personality assessment largely depends on the psychometric quality of the scales which may be developed following this approach. An examination of the scales developed by this method would suggest cautious optimism about this new model of personality assessment. For example, in a carefully planned study, Banu (1981) administered social responsibility, dependence-proneness, and aggression projective inventories with corresponding criterion inventories and rating scales to 114 post-graduate students in three separate sessions. The inter-correlations of the three traits by the three methods arranged in a multitrait-multimethod matrix revealed satisfactory discriminant validity for all the projective inventories. In another study, following the projective-inventory model, Patnaik (1985) has also successfully developed scales for measuring femininity, dominance, and sociability traits. In addition to the above six scales, the projective-inventory method has also been proved useful
in developing scales for jealousy (Das, 1982), tolerance (Mishra, 1982), and self control (Samal, 1982) traits. However, more research developing scales following the projective-inventory method may not necessarily suggest that it is an useful model for personality assessment. Therefore, it is obvious from above discussion that the basic objective of the projective-inventory method has always been to minimize the social desirability (Edwards, 1970) contribution to scale scores which has been a nagging problem with conventional personality scales. In fact, the projective-inventory method seems to have capitalised on this probable advantage. However, in support of above assumption, very few studies (e.g., Puhan & Roy, 1985; Pattanaik, 1985) have been done. It was earlier stated that the projective-inventory method has also been proved useful in developing scales for measuring different traits of personality but the reliability and validity were not determined for most of these newly developed projective-inventories. Only Banu (1981) made an attempt to determine the convergent and discriminant validity for a set of newly developed projective-inventories. It needs to be pointed out that only validity does not guarantee the psychometric merit of a measure. A test can be reliable without being valid, but it can not be valid if it is unreliable (Pervin, 1975). Thus all the newly developed projective-inventories seem to lack of reliability studies.
The above appraisals, therefore, suggest further investigation for determining the reliability, validity, and contribution of social desirability factor to the scales developed following the projective-inventory method. Besides no attempt has so far been made to develop scales other than personality ones following this new method on which the contribution of social desirability factor could be observed. The present study, therefore, intends to develop a scale of adjustment following projective-inventory method. The areas of adjustment under investigation could be health, home, social, and emotional. The reason for selecting the areas of 'adjustment' was that if this personality domain which is more amenable to social desirability effects could be meaningfully assessed following projective-inventory approach, the traits with neutral connotations could be measured with greater success. Thus the results of this study could provide a lower-bound estimate of the success of projective-inventory approach.

Statement of the Problem

Above detail discussion indicates that the contribution of social desirability factor in personality inventory scores is widespread, and at the same time, is almost impossible to control. It, therefore, remains as the single most important factor affecting subject's responses.
to all sorts of personality inventories. Munnally (1970) has of course recommended that these effects may be ignored on the ground that they have no consequences on relative scores and, in turn, on individual differences which concerns measurement psychologists. This view, however, appears to be sceptical and intends to diffuse the challenge created by the social desirability effects on inventory measures. After all, such an effect can never be constant in nature, rather it is likely to vary from person to person. In that case, an individual's unaffected relative position in the context of social desirability contribution would at best be a wishful assumption.

The other and perhaps the most important danger of social desirability effect on inventory scores is its implication for a measure's validity in Campbell and Fiske's (1959) convergent and discriminant sense. This validity just does not need a scale to correlate with criterion (convergent validity), it also must not correlate with variables which it is not supposed to correlate with (discriminant validity). Social desirability effects on inventory-type personality measures are so widespread that one often wonders whether they measure the trait under investigation or social desirability. Social desirability therefore seems to have put a stumbling block for a constraint-free use of most of these inventories. Such a
situation definitely widens the gap between an individual's actual behaviour and his reported responses. A reinterpretation of the prevailing high correlations between social desirability and inventories suggest an unsatisfactory discriminant validity for the latter because they measure variables they should not measure. This very important point, however, has been systematically ignored by the psychometricians and others alike (Puhan, 1982).

Social desirability factor has been nagging problem for the validity of all kind of inventories. As suggested by Puhan (1982) projective-inventory method appears to have potentials for eliminating this problem. This has now been empirically demonstrated in a series of studies by Puhan and his associates (Puhan & Dash, 1985; Patnaik, 1985; Puhan & Roy, 1985). The correlations of the social desirability scale with three projective inventories and the self-report inventories for social responsibility, dependence-proneness, and aggression were found to be .31, .33, and .18 and .86, .81, and .51, respectively in Puhan and Roy's (1985) study. Similarly in the study of Patnaik (1985), the correlations of social desirability scale with three projective-inventory measures for femininity, dominance, and sociability were .01, .18, and .00 and with the three corresponding CPI scales the correlations were .13, .19, and .12, respectively. Wide differences in the
correlation values could of course partly be explained by the difference in the number of subjects used in these two studies (Puhan & Dash, 1985). But these differences could also be settled by conducting another well-planned study. Besides, in the above studies, social desirability's contribution has been observed in personality scales. It would, however, be interesting to see how social desirability contributes to the adjustment projective inventories. The present study, therefore, attempts to examine the social desirability effect on a set of adjustment projective-inventories. It is assumed that this effect would be significantly less in adjustment scales developed following projective-inventory method compared to that in corresponding scales developed following self-report inventory method.

In order to achieve the above objectives, a three-stage investigation appeared necessary. In the first study, a test battery of adjustment, was developed following the model of projective-inventory method. This newly developed adjustment projective-inventory contained four subscales for measuring four important areas of adjustment such as health, home, social, and emotional. In second study, an attempt was made to determine the reliability and validity of these newly developed adjustment projective-inventories. In a crucial third study, an attempt was made to determine the contribution of social desirability factor (Edwards, 1970) to the adjustment projective-inventory scores.