CHAPTER I

INTRODUCTION

Anxiety research has become a dominant topic in psychology, education and related disciplines. As a fundamental human emotion, anxiety is experienced by everyone, and its causes and effects have been investigated in many studies under a variety of circumstances. Research on anxiety has witnessed substantial progress in recent years in concept differentiation, new theoretical approaches, empirical results and psychometric research methods. Inspite of the significant advances in theory and research achieved in recent years, the psychology of anxiety does not seem to have attained scientific maturity which is characterised by the capacity to integrate data from different sources rather than constructing competing theories meant to account for the same phenomenon. In fact, anxiety has been studied from somewhat discrepant conceptual positions and methodological approaches, even though some convergences among researchers are beginning to surface.

Attempts to understand the dynamics of anxiety have taken two fundamentally different types of approaches over the last several decades. The first of these was guided by Hullian motivational concepts (cf. Spence & Spence, 1966). In this view, persons with anxiety become aroused when their anxiety response is cued by evaluative
testing situations. The anxiety that they experience contribute to an overall drive state. When drive or arousal becomes too high, behaviour becomes disorganised and performance impairments occur. Persons lower in anxiety presumably have lower drive levels in the testing situation, and thus, do not suffer the disorganisation or the resulting performance impairments. The second approach is often referred to with terms "cognitive" and "attentional" (see e.g., Sarason, 1978; Sarason & Stoops, 1978; Wine, 1971a, 1980, 1982). In this view, the impairments resulting from test anxiety (a situation-specific trait anxiety) are not based on disruptive over-motivation. Rather, they are the result of cognitive tendencies that are themselves maladaptive. These tendencies are not present or are less present among persons who are not test (trait) anxious. The relative superiority of either of these perspectives has been a source of intense argumentation (see Spielberger, Anton & Bedell, 1976). However, both the perspectives have problems of their own, which often go unnoticed (see also, Carver & Scheier, 1984).

Anxiety refers to an unpleasant emotional reaction that results from the perception or appraisal of a particular situation as threatening. If an individual in any given situation perceives environmental demands as potentially dangerous, or as exceeding his competence or
resources, the person-environment transactions will be judged stressful. Environmental demands are more likely to be perceived as threatening by an individual if future damage or loss is anticipated and no coping strategy seems to be available. In such cases, a person typically responds with anxiety.

The conceptual distinction between state anxiety (A-State) and trait anxiety (A-Trait) was suggested more than two decades ago by Cattell and Scheier (1961). Over the past two decades, this distinction has been clarified and operationalised by Spielberger (1966, 1972a, 1972b), and has proved useful in stimulating research on stress and anxiety. Much of the confusion in the anxiety literature has resulted from the failure to distinguish between state anxiety (A-State) and trait anxiety (A-Trait). According to Spielberger (1966), state anxiety (A-State) is a transitory emotional state or condition of human organism that is characterised by subjective, consciously perceived feelings of tension, apprehension, nervousness and worry, and by heightened autonomic nervous system activity. A-State may vary in intensity and fluctuate over time as a function of perceived threat. In contrast, trait anxiety (A-Trait) refers to relatively stable individual differences in anxiety proneness, i.e., to differentiate between people in the tendency to respond with elevations in state anxiety when the situation is perceived as
threatening. Because persons who are high in trait anxiety tend to perceive or appraise a wider range of situations as dangerous or threatening, they experience elevations in state anxiety more frequently than low trait anxiety individuals. High trait anxiety persons are also more likely to respond with more intense elevations in state anxiety in situations that involve interpersonal relationships which pose some threat to self-esteem.

A major contribution of Trait-State Anxiety theory is that it has helped to clarify the relationship between type of threat (physical or psychological) and elevation in A-State for persons who differ in A-Trait. Majority of Western research has confirmed that under ego-threatening conditions, persons high in A-Trait tend to experience greater increases in A-State than do persons low in A-Trait (e.g., Hodges, 1968; Hodges & Spielberger, 1966, 1969; Spielberger, O'Neil & Hansen, 1972; Lamb, 1973; Glover & Cravens, 1974; Kendell, Finch, Auerbach, Hock & Mikulka, 1976; Carlile, 1977; Wankal, 1977; Thompson, 1977; Joesting & White, 1977; Glanzmann & Laux, 1978; Grinnell & Kyte, 1979; Head, 1982; Hamann, 1982; Hohbfall, Anson & Bernstein, 1983). In contrast, persons who differ in A-Trait do not experience differential changes in A-State in reactions to physical danger situations (Hodges & Spielberger, 1966; Glover & Cravens, 1974; Spielberger, 1975; Carlile, 1977; Glanzmann & Laux, 1978). There are, however, a few Western studies that
do not lend support to this theory (e.g., Morris, 1971; Morris & Liebert, 1973; Endler & Shedletsky, 1973; Endler, Magnusson, Ekehammar & Okada, 1976).

Hobfall, Anson and Bernstein (1983), in a study conducted in Israel, showed that high A-Trait individuals manifest a significant change in A-State between conditions or varying ego-threat. This finding reflects the greater sensitivity of high trait anxious individuals to nuances of ego-threat in his environment and as such is an extension of a principle that was implicit in Spielberger's Trait-State Anxiety theory. While individual reaction to ego-threat, or even appraisal of what is ego-threatening must, in part, can be culturally determined, Trait-State Anxiety theory has been shown to be quite robust across Western cultures. It is always of interest in the search for generalisable theories of personality to find common results across cultures, in this case from the U.S. to Israel. Israel, for all its Westernisation, is still strongly influenced by Eastern-European and Middle-Eastern values. Although the present study did not attempt to verify Trait-State Anxiety theory under conditions of physical danger, a recent investigation in Israel replicated the non-differential effects of physical threat (Margalit, Teichman & Levitt, 1980). Taken together, these studies attested to the generalisability of Trait-State Anxiety theory. Such results also show that trait anxiety is primarily a dispositional measure of fear of
failure (see also, Sharma & Dang, 1977). There is only one study available in India by which the predictions of Trait-State Anxiety theory were tested. Sharma (1976) showed that there was a significant increase in A-State in persons with high A-Trait because of the task and the failure feedback. However, subjects with low A-Trait were not affected significantly (see also, Sharma, 1978a).

Individual differences in state and trait anxiety can be measured operationally by the State-Trait Anxiety Inventory (STAI), a self-report questionnaire developed by Spielberger, Gorsuch and Lushene (1970). This instrument provides a useful tool for assessing anxiety in experimental investigations and in clinical practice. The importance of the trait-state distinction for cross-cultural research is reflected in the fact that the STAI has been translated and adapted in 32 languages. Since its publication just over a decade ago, the STAI and its adaptations have been used to measure anxiety in more than 1800 studies (Spielberger, 1984).

Research on anxiety is often motivated by a desire to explain achievement variations (Sharma, 1978b). Anxiety is generally regarded as at least partly responsible for performance impairment but findings are, by and large, inconsistent. However, it is generally assumed that observed performance impairment is due to higher levels of
anxiety in those who experience more task-related stress. The methodology of studying individual differences cross-sectionally, or experimenting at two points in time (anxiety first, performance later) does not meet the requirement for revealing more complex and long-term causal relationships. Individual differences in anxiety may be acquired by subsequent exposure to a failure at tasks perceived as subjectively important, and previous performance may lead to more or less anxiety with respect to later performance. There is a plethora of theories and experimental studies concerned with the effects of anxiety on performance (see Ploeg, Schwarzer & Spielberger, 1984, 1985). However, large research on anxiety-performance relationship has been guided by Drive theory (Spence & Spence, 1966). Much of the available evidence, based on bivariate research, supports the contention that high anxiety persons perform most tasks less successfully than their low anxiety counterparts in a variety of learning contexts (e.g., Nottelmann & Hill, 1977; Deffenbacher, 1978, 1980; Ploeg, 1979; Boor, 1980; Sieber, 1980; Wine, 1980; Morris, Davis & Hutchings, 1981; Morris & Engle, 1981; Deffenbancher & Hazaleus, 1985). In Indian context, similar results have been reported by Nijhawan (1972), Sharma and Wangu (1976), Deshpande (1978), Gupta and Gupta (1980), Upmanyu, Upmanyu and Vasudeva (1980), Contractor (1981), Sharma and Sud (1982). The majority of studies that related anxiety with paired-associates
learning have also provided similar evidence (e.g., Mohsin, 1972; Mijhawan, 1972; Rabindradas & Narayanan, 1977; Glanzmann & Laux, 1978; Paul, 1980). However, there is also some evidence to show that anxiety does not significantly affect paired-associates learning (Weiner & Schneider, 1971; Carrillo & Marine, 1984).

Significantly inferior anagrams performance has also been shown in the case of high anxiety children (Stinke, 1973; Deffenbacher, 1977; Nottelmann & Hill, 1977; Nottleman & Kennedy, 1977; Blum & Barbour, 1979; Goldklang, 1982; Carver, Peterson, Pollansbee & Scheier, 1983; Prabha, 1984). Experiments have also shown that high anxiety subjects perform less well on problem solving tasks than their low anxiety counterparts (Sinha & Singh, 1959; Phillips, Martin & Meyers, 1972; Ravichandra & Vazir, 1974; Dey, 1978; Bruch, 1978, 1981). However, these effects seem to vary with the nature and difficulty level of the anagrams or problem solving tasks.

There is also good empirical evidence of an interaction of the expected type between anxiety and difficulty with high anxiety subjects performing much worse than low anxiety subjects on difficult but not on easy tasks (e.g., Deniels & Hewitt, 1978; Moreno, 1978; Srivastava, Seth & Mrinal, 1980; Jain, 1981). One of the inadequacies of such studies is that task difficulty has typically been manipulated in ways which can not readily
be related to contemporary theoretical conceptions. Moreover, these bivariate studies disregard the operation of other relevant variables such as stress, cognitive capacity, etc. For example, the variable of stress (generally ego-stress) has been used to arouse differential levels of state anxiety in high and low trait anxiety subjects, and to explore the resulting possibility of its differential effects on performance. This approach is consistent with Spielberger's (1975) contention which regards trait anxiety as reactive, remaining latent until activated by a certain stress situation, and high A-Trait subjects are assumed to be susceptible to ego-involving situations. The effects of such stresses along with anxiety on performance have been documented by Hogan (1971), Glover and Cravens (1974), Ravinder (1977), Deffenbacher (1978), Heuser (1978), Schmolling (1978), Dych, Vallentyne and Breen (1979), Zarantonello, Johnson and Petzel (1979), Morris, Davis and Hutchings (1981), Tayler and Tayler (1982). But there is some evidence that is contrary to the findings cited above (Allison, 1970; Feehley, 1970; Etaugh & Gruffam, 1973; Murphy, 1980). In view of some evidence in the literature that the relationship between anxiety and performance is being obscured by an anxiety X intelligence interaction (e.g., Denny, 1966; Katahn, 1966; Spielberger & Smith, 1966; Gaudry & Spielberger, 1970, 1971). Spielberger (1966, 1972)
extended the Drive theory to incorporate the individual differences in intelligence, and took into account the variables such as difficulty of the learning tasks, stages of learning and type of performance measure. The primary hypothesis from which the extension proceeds is that the difficulty of learning task will depend upon the intelligence level of the subjects. Spielberger has made predictions regarding the effects of anxiety on easy, moderately difficult and difficult tasks (see Gaudry & Spielberger, 1971). For instance, he predicts that for a learning task of intermediate difficulty, high anxiety would facilitate the performance of high IQ subjects while leading to performance decrements in subjects with lower intelligence. Evidence supporting this extension of Drive theory is scarce because of the traditional reluctance of experimental psychologists to come to grip with the individual differences. Some support to this extension of Drive theory is now available (e.g., Gaudry & Spielberger, 1970; Limann, 1977; Skaalvik, 1977; Ravinder, 1977; Sharma, Dang & Spielberger, 1985). However, studies by Katak, Durlak and Synder (1971), Stutler (1973), Bejtelsmit (1978) did not support this extension of Drive theory. In any case, there are studies that provide evidence of some type of anxiety X intelligence interaction vis-a-vis performance. However, the exact pattern or nature of the interaction varies (Verma & Nijhawan, 1976; Kanekar, 1977; Kanekar, Neelkantan &
D'Souza, 1977; Limann, 1977; O'Rourke, 1978; Sethi & Sud, 1980; Sharma & Rao, 1983a, 1983b; Ploeg & Hulshof, 1983). Thus, the need for a multivariate approach to the study of anxiety-performance relationship is evident to test the generality of this extension of Drive theory across cultures, more especially to the oriental cultures.

1-1 PRESENT STUDY

The present attempt is aimed at the following research questions:

i) To empirically test the predictions of Spielberger's (1966, 1972, 1975) Trait-State Anxiety theory under conditions of ego-threat as contrasted with the conditions of reassurance on high school girls and boys of Himachal Pradesh. Additionally, the study has been directed toward testing the generalisability of this theory to the high school girls and boys who differ in cognitive capacity (intelligence).

ii) To empirically test the predictions of Spielberger's (1966, 1972) extension of Drive theory to include individual differences in intelligence. Specifically, the possible interactive effects of trait anxiety, intelligence and stressor conditions have been investigated on three learning tasks of moderate difficulty (paired-associates, anagrams and problem solving) in case of high school girls and boys studying in Himachal Pradesh and Punjab.