

Trait Anxiety or Foreign Language Anxiety and their Effects on Learners' Foreign

Language Proficiency and Achievement

FOR REFERENCE

NOT TO BE TAKEN FROM THIS ROOM

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In partial satisfaction of the requirements for the degree of

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in

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by

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ABSTRACT

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by

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The present investigation concerns itself with how trait anxiety on one hand and foreign language anxiety on the other affects learners' level of foreign language proficiency and achievement. One hundred and seventy seven Turkish learners of EFL enrolled in the English language program for freshmen at Beykent University (Turkey) took part in the study. Data collection was conducted by means of self-report scales consisting of items translated from Horwitz and colleagues' Foreign Language Class Anxiety Scale (FLCAS), the Turkish version of the Spielberger's Test Anxiety Inventory (TAI) and the State-Trait Anxiety Inventory (STAI). Subjects' level of foreign language competence was determined employing a standardised proficiency exam, the Michigan Test of English Proficiency, as well as subjects' final course grades. Subjects' responses, which were sought in subsequent administrations in two successive semesters, were subjected to quantitative analyses (Pearson correlation, a series of one-way ANOVAs, and the relevant post hocs). The subjects' levels of test anxiety were controlled so that the data of highly test anxious subjects could not confound the results of the foreign language anxiety measure. The findings support the view that foreign language anxiety is a distinct, situation specific form of anxiety, not necessarily related to trait anxiety, which is a general personality characteristic.

KISA ÖZET

Sürekli Kaygı ve Yabancı Dil Kaygısının Öğrencilerin Yabancı Dil Yeterliliklerine Etkileri.

Hatice Sarıgül

Bu araştırma bir yandan sürekli kaygının diğer yandan ise yabancı dil kaygısının öğrencilerin yabancı dil yeterliliklerini, başarılarını nasıl etkilediklerini incelemek amacıyla gerçekleştirildi. Örneklemi ingilizceyi yabancı dil dersi olarak görmekte olan 177 Beykent Üniversitesi birinci sınıf öğrencisi oluşturdu. Türkçe'ye çevrilmiş olarak Horwitz ve arkadaşlarının yarattığı FLCAS (Yabancı Dil Sınıfı Kaygısı Envanteri) ve Spielberger'in TAI (Sınav Kaygısı Envanteri) ve STAI (Sürekli – Durumluluk Kaygı Envanteri) veri toplama işlemi için kullanıldı. Öğrencilerin yabancı dil başarı ölçüsü olarak standardize bir sınav olan Michigan İngilizce Yeterlilik Sınavının sonuçları ve öğrencilerin ilk dönem ingilizce dersi geçme notları ele alındı. Örneklemden müteakip iki dönemde alınan veriler istatistiksel analizlere (Pearson korelasyonu ve Varyans analizi gibi) tabi tutuldu. Örneklemde sınav kaygısı seviyesi gözlem altında tutuldu ve böylece yüksek sınav kaygısı olan öğrencilerden alınan verilerin yüksek yabancı dil kaygısı bildiren öğrencilerin verilerini bulandırması önlemlendi. Sonuçlar yabancı dil kaygısının sürekli kaygıdan bağımsız, duruma özgü bir kaygı türü olduğu görüşünü destekler niteliktedir.

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Chapter 1: INTRODUCTION

Language is a means to communicate in social contexts, to express one's needs, ideas, and emotions. In line with the world developing into a global 'village' and the ensuing social contexts requiring international communication, people have felt more and more pressure to learn foreign and second languages. Furthermore, learning languages has become a requisite to keep track of developing science, global job opportunities, and personal needs and interests. Even though interest in the complexities of language acquisition and use dates back over 2000 years (Fromkin and Rodman, 1993), it is still an issue of great current value.

A considerable body of research has examined how language learning and acquisition takes place. Indeed, Second Language Acquisition research has extensively queried the universal characteristics of second language acquisition (SLA), that is, the contribution of learner-external factors (social factors, input and interaction) and learner-internal factors (language transfer, cognitive processes, and linguistic universals) to SLA. Likewise, increasing attention has also been devoted to individual learner differences, resulting in the detection of a myriad of individual learner variables: Age, sex, previous experience with language learning, proficiency in the native language, personality factors (self-esteem, extroversion / introversion, risk-taking, sensitivity to rejection, empathy, inhibition, tolerance of ambiguity), language aptitude, attitudes and motivation, emotional arousal, anxiety, general intelligence (IQ), cognitive styles, learner strategies, and memory are individual difference variables in language learning drawn from Scovel (1978), Larsen-Freeman and Long (1991), Skehan (1989), and Altman (reported in Ellis, 1994).

A range of individual learner variables was analysed by Gardner, Smythe, and Brunet (1977) in a study concerning the effects of a five-week intensive French program on high school students. The findings reveal that intensive language training may lead to both positive and negative changes in individual learner variables; in this particular study it was seen that the students tended to become more ethnocentric, less interested in foreign languages and less integrative in their reasons for their language study, more motivated to learn French, more prone to make use of the opportunities provided to speak French, and less anxious in the French classroom situation. These results suggest that while some students may become more comfortable with the language, others' hostility towards language learning may be exacerbated as a result of intensified speech experience. In contrast to the variable effects of an intensive language program, attitudinal characteristics present one of the individual learner differences that has demonstrated a relatively consistent relationship to second language achievement (Gardner, Smythe, and Clément, 1979). Besides attitudes, emotional arousal was regarded as a potential determinant of one's success in a foreign language. Scovel (1978) provided an account of several studies analysing physiological reactions of individuals in different states of emotional arousal. He reasoned that increased emotional activity had negative effects on people's ability to perform demanding physical activities at optimal levels of success. As applied to the field of language learning, he pointed out that while language learning is mainly a cerebral rather than physical activity, it was related to athletic skills, in particular the neuromuscular task of speaking. Hence, he emphasised the necessity of research into the relationship of emotional arousal and success in foreign language performance. Affective states, that constitute a further

factor leading to individual differences, are complex and dynamic in nature. They are reported to influence the ability to concentrate on learning, in addition to having an impact on the rate of SLA as well as the level of achievement. A factor triggering change in affective states is believed to be experience (Ellis, 1994). Research has provided abundant evidence for the view that learners, in particular adults, often have to struggle with affective barriers – or filters, as Krashen (1982) names it – in their language learning classrooms (Brown, 1973; Chastain, 1975; DeKeyser, 1993; Ellis, 1994; Gardner, Smythe, & Clément, 1979; Gardner, Tremblay, & Masgoret, 1997; Horwitz, Horwitz, & Cope, 1986; Kleinmann, 1977; MacIntyre & Gardner, 1991a, 1991b, 1991c; MacIntyre, Noels, & Clément, 1997; Noels, Clément, & Pelletier, 1999; Samimy & Rardin, 1994; Schumann, 1975; Williams, 1991).

In spite of the recognition that affect seems to play a crucial role in language learning, early research failed to render consistent results. Some studies investigating anxiety concluded that language anxiety and language achievement appeared to be in a negative relationship (Clement, Gardner, and Smythe, 1980), while others claimed they are in no relationship or put forth a positive relationship (Chastain, 1975; Kleinmann, 1977, Scovel, 1978). The fact that relevant studies' results were mixed and confusing is partly attributable to differential and vague definitions of affect and the lack of appropriate instruments for measurement (Horwitz, Horwitz, and Cope, 1986). Initially, affective variables had been defined as everything but cognition interfering with language learning as Scovel (1991) brought to light. He drew attention to the imprecise definitions of affective variables in general and anxiety in particular. It was not before the development of a reliable and valid measure of foreign language anxiety by Horwitz and colleagues (1986) that research examining

language anxiety and its relationship to language achievement consistently demonstrated moderate negative relationships.

Irrespective of the difficulty in operationalising affective variables, second language researchers such as Brown (1973), Ellis (1994), Larsen-Freeman and Long(1991), agree on the importance of affective variables in explaining second language acquisition. Indeed, researchers have announced the existence of substantial links among affective measures and second language achievement (such as Chastain, 1975; Gardner, Tremblay, and Masgoret, 1997; Schumann, 1975). Schumann (1975), for instance, suggested that affective variables may play a more important role than does biological maturation in problems associated with adult second language acquisition.

An apparent manifestation of the significance affective variables play in language acquisition and learning can be seen in the fact that humanistic approaches to language teaching (such as Suggestopedia, Community Language Learning, the Silent Way, the Natural Approach) acknowledge the significance for a learner to feel secure, free of discomfort or stress to be able to focus on the learning task at hand. Bergin and La Fave (1998) stress the significance of supportive emotional climate and support self-determination and autonomy. They further emphasized that with regard to emotions, both motivation research and the whole language philosophy of instruction focus on learning tasks that engage in personal interest and on experiences and assessment that avoid promoting anxiety.

A. ANXIETY

Among other affective variables that have been scrutinised, anxiety is one that seems to have stimulated particular interest in the fields of language acquisition and learning.

Sieber, O'Neil, and Tobias (1977) pointed out that the first possible effect of anxiety on instruction is prior to processing. Anxiety may, in some manner, reduce or restrict the effectiveness of input. This may occur when the anxious students' ability to attend to the material presented is reduced and nominal stimuli fail to become effective since the student is less able to represent input internally. The second route by which anxiety can affect instructional outcome is by working on the processes transforming the input information and generating a solution to the problem. (p.225)

However, prior to delving into anxiety and its relation to language acquisition and learning, a review of concepts of anxiety and subcategories of anxiety is in order.

The first major contributions to our knowledge of anxiety stem from Pavlov (1938), Skinner (1938) and Watson's (1924) 'stimulus-response' concept as articulated by Keable (1997). According to this concept certain stimuli, when associated with fear, could elicit an anxiety response. One of the examples provided is the likelihood of a child responding with anxiety whenever she sees a dog after experiencing being bitten by a ferocious dog, even if the dog does not actually bite again. The child has learned to associate the dog (stimulus) with the fear (response) of being bitten. Keable points out that anxiety seemed to have a protective function as it could

become a learned response to a danger signal (conditioned stimulus) recognised to foretell a harmful situation (unconditioned stimulus).

In contrast to this perspective about anxiety, Dollard and Miller maintain (cited in Keable 1997) that anxiety is not simply due to the pairing of a stressful event with a previously neutral one; instead it was thought to be attached to cues associated with the arousal of and an attempt to fulfil important interpersonal needs. In their work, the function of internal conflict and defence mechanisms was emphasized. They postulated that anxiety developed 'drive' properties and functions as a motivating force to gain relief or security in a similar way to primary drives, like hunger or pain avoidance. Nevertheless, anxiety is seen as a secondary drive because, unlike a primary drive, it is not innate; it has been learned or acquired as a result of the individual's experiences. Similarly, McReynolds (1976) differentiates "primary anxiety" from "secondary anxiety". However, he believes that the former, that is, anxiety that inevitably occurs under certain limited and prescribed conditions simply because the organism is made that way, takes place in addition to the latter, referring to conditioned anxiety.

Moreover, McReynolds (1976) distinguishes four common usages of anxiety: a) the affective, b) the motivational, c) the behavioural, and d) the physiological conceptions of anxiety. In his attempt to clarify these, McReynolds first referred to anxiety as a "personal, phenomenally experienced feeling of distress and anguish" (p. 36). He further declared that for most people anxiety is something that feels bad in that "it hurts, even though it cannot be localised like a toothache or easily identified, like various tastes or colours" (p. 37). The second common application of the concept

of anxiety brought up in daily language is the motivational perspective. This view implies that anxiety is an unpleasant state, which needs to be reduced or avoided. An example for this notion is provided: "I am anxious to see the film" (p.37). Even though this view is conveyed, the author stresses that this postulate was a methodologically misleading one. The next usage of anxiety, the behavioural one, is related to several publicly observable bodily characteristics, such as biting nails, pacing the floor, tremors in the voice, and alike. These characteristics are considered to be mirroring inner feelings of anxiety. Further, a range of physiological functions, such as autonomic and biochemical variables are regarded to be reflections of anxiety. Out of these four ways of conceptualising anxiety his preference is the first one, "that of anxiety as a dysphoric quality of felt experience" (p.37), which he considers to be the most basic one. Spielberger's (1972) widely known and used definition of anxiety also focuses on the aspect of feeling: "Anxiety is an unpleasant emotional state or condition which is characterised by subjective feelings of tension, apprehension, nervousness, worry, and an arousal of the autonomic nervous system" (p.482).

Irrespective of which exact definition of anxiety researchers preferred, they all corroborate on that it is frequently accompanied by certain characteristics. Sarason enumerates these as follows:

1. The situation is seen as difficult, challenging, and threatening.
2. The individual sees himself as ineffective, or inadequate, in handling the task at hand.

3. The individual focuses on undesirable consequences of personal inadequacy.
4. Self-deprecatory preoccupations are strong and interfere or compete with task-relevant cognitive activity.
5. The individual expects and anticipates failure and loss of regard by others (1980, p. 6).

In addition to these characteristics, anxious individuals constantly exaggerate the level of threat in a given situation. The cognitive model of anxiety as described in Keable (1997) associates this exaggeration of threat with the following three reactions:“ a) increased autonomic arousal, b) reduced ongoing behaviour, and c) selective scanning of environment for further threats” (p.34).

To conclude this section, it is indispensable to point out that it is normal for every person to feel anxious at certain points in time; however, a distinction between ‘normal’ people experiencing certain amounts of anxiety and ‘clinically’ anxious people has to be made. May, as quoted in Keable (1997), maintains “neurotic anxiety develops when an individual is unable to deal with normal anxiety at a time of crisis in his growth as a person” (p.66).

A. 1 STATE – TRAIT Anxiety:

To be able to reach a sound understanding of the construct anxiety one needs to be aware of the existence of a dichotomy dividing anxiety into two different classes, anxiety as a state and anxiety as trait:

“An anxiety state (A-state) is evoked whenever a person perceives a particular stimulus or situation as potentially harmful, dangerous or threatening to him. A-States vary in intensity and fluctuate over time as a function of the amount of stress that impinges upon an individual. The term anxiety is also used to refer to relatively stable individual differences in anxiety proneness as a personality trait. Trait anxiety (A-Trait) is not directly manifested in behaviour, but may be inferred from the frequency and the intensity of an individual’s elevations in A-State over time. Persons who are high in A-Trait ... are disposed to perceive the world as more dangerous or threatening than low A-Trait individuals” (Spielberger, 1972, p. 248).

The concept of the state-trait model proposes that persons high in A-trait have a greater tendency to perceive situations as dangerous or threatening than persons who are low in A-trait, and thus they are expected to respond to threatening situations with state anxiety elevations of greater intensity (Kendall, 1978). Thus, trait anxiety refers to stable personality differences in anxiety proneness. It is not manifested directly in behavior, rather it is inferred from the frequency and intensity of the individual’s anxiety states. (Sieber, O’neil, and Tobias, 1977). Anxiety states, on the other hand, are transitory and evoked when the individual perceives a stimulus as

potentially harmful to him; otherwise, the level of state anxiety is low (Sieber, O'neil and Tobias, 1977). Furthermore, people with high trait anxiety are more concerned with the evaluation of their performance than with the details that are intrinsic to the performance itself.

In 1970 Spielberger and friends developed the State-Trait-Anxiety-Inventory (Henceforth referred to as the STAI). This inventory was designed to determine people's levels of state anxiety felt in specific situations, under certain conditions, as distinguished from their levels of trait anxiety, that is, their tendency to experience anxiety throughout a wide miscellany of situations. Even though the STAI was initially developed to investigate anxiety in normal adults, Öner (1990) remarks that later experiments revealed that it was also an appropriate measure for high school students and individuals with psychiatric disorders and physical illnesses.

Studies have revealed that higher trait anxious students experienced higher state anxiety than their low trait anxiety peers, regardless of test difficulty (Head and Engley, 1991). Further, Head and Engley (1991) claim that even though test difficulty does not prove to affect state anxiety significantly, perceived difficulty levels varying from the actual levels of test difficulty can probably explain state anxiety variations. Although it is seen that state anxiety is usually low when a task is easy and high when a task is difficult, Tobias (1977) indicated that difficulty level has been inadequately defined. Tobias stresses the significance of empirically defining levels of test difficulty (Head and Engley, 1991).

As is widely acknowledged, anxiety research was basically divided into these two different conceptions of anxiety; as either a general anxiety trait, which has an

impact on behaviour regardless of situation and time, or anxiety states which derive from experiencing specific situations (Skehan, 1986). However, some researchers went even further and created a further division into a category for situation specific anxiety in which people only get anxious in relation to particular situations, which may be seen as trait anxiety restricted to a certain context (MacIntyre and Gardner, 1991b). The rationale for distinguishing state anxiety from situation specific anxiety draws on the fact that in state anxiety assessment the subjects do not attribute their anxiety to any specific source while they do so in situation specific anxiety studies. Other researchers such as Green and Rogers (1996) and Kendall (1978) also viewed the situational component as vital for predicting state anxiety reactions.

It has been argued that differential state anxiety reactions occur mainly in two stress situations: a physical danger situation and an evaluation stress situation, which were the foci of an investigation Kendall (1978) carried out. The basic hypothesis was that the trait anxiety measure corresponding to the situation would be the best predictor of the state anxiety aroused in that situation. The analyses indicated that the difference scores of the high trait-level subjects were greater than those of the low trait-level subjects when the situation trait measures were congruent with the stress, but not when the subjects were divided into high and low groups on the basis of the STAI A-Trait. The findings of previous research had found the STAI A-Trait to be related to state anxiety in evaluation stress situations. However, this finding was not replicated in Kendall's study. A speculation accounting for these unexpected results blames the STAI A-Trait measure for lacking situational specificity. The use of a nonsituational, unidimensional trait measure (STAI A-Trait) did not predict differential state anxiety reactions in this particular study. Nonetheless, the results support the utility of the

state-trait distinction. It is demonstrated that traits are predictive of anxiety states when the trait measure is congruent with the evocative situation (Green and Rogers, 1996; Kendall, 1978):

“whilst a relatively stable predisposition towards anxiety is an important factor in the processing bias towards threat-related stimuli, the threatening content of each situation is also an important variable” (Green and Rogers, 1996, p. 352).

Kendall (1978) cites studies revealing that stressful situations of an ego-threatening nature were found to evoke greater increases in state anxiety for high trait anxious than for low trait anxious subjects. In contrast to situations involving physical danger, where state anxiety reactions could not be related to the level of trait anxiety.

Hence it appears that besides state and trait anxiety, situation specific anxiety deserves consideration.

A. 2 TEST ANXIETY, an example for situation specific anxieties:

The existence of test anxiety was detected by a pioneer study conducted by Cannon (1929) who discovered that metabolic changes induced by stress related to academic evaluation lead to secretion of sugar into the bloodstream (cited in Spielberger, Gonzales, and Fletcher, 1979). Brown is mentioned as having designed the first scale for identifying test anxious students in 1938 and having found that subjects who were excited before examinations had the tendency to do slightly poorer than those who were calm before the examination. As far as concerns the field of SLA, research found that test anxiety was also an issue as it was verified that ESL tests could be debilitating to a substantial segment of language learners (Madsen, 1982).

Spielberger (1972) defined test anxiety as a situation-specific form of trait anxiety and developed a new psychometric instrument, the Test Anxiety Inventory (TAI). Sarason's studies refer to test anxiety as being individual differences in anxiety proneness in test situations (1980).

Sarason (1980) claims that the characteristics inherent in anxiety can become associated with situations through repeated experience and cause situational anxiety to manifest itself. Her description reveals anxiety as a state featured by self-focused attention. This self-focused attention, in turn, can be a first step for more elaborated cognition about oneself, such as attributions, self-evaluations, and expectancies in stressful or demanding situations (Schwarzer, 1986). Indeed, concerns about one's 'self' seem to be a major issue regarding test anxiety. Test anxious persons are inclined to be more self-centred and self-critical and also more likely to display

personalised self-derogatory worry responses in examination situations, and it is observed that an increased level of self-awareness is accompanied by perceived helplessness (Sarason, 1980). Öner (1990) states that test anxious people are likely to have low self-esteem and behave defensively. She further asserts that individuals with high test anxiety do not conceive of examinations as the sole source of threat to their 'self', but also, speaking in groups, asking and answering questions, participating in discussions, reading aloud are perceived to be threatening to one's 'self'.

Not only do highly test anxious students engage in negative self - appraisal, but also they do care what others think of them. In other words, fear of negative evaluation by others is associated with test anxiety. Highly test anxious subjects proved to be considerably worried about what the examiner would think about them (Sarason, Hill, and Zimbardo, 1964).

Evaluational stressors are a further factor, which play a role in the extent to which test anxiety is experienced. Sarason (1980) points out that highly test anxious individuals do not perform any worse than their non-anxious counterparts provided that they are reassured that no negative evaluation of their performance will be made. Research confirms this observation, Sarason and Stroops (1978), for instance, (as reported in Sarason 1980) found that highly test anxious subjects performed at significantly lower levels than did others when the evaluational implications of performance were stressed. It is further noted that as a result of her research, Luria (the renown Russian psychologist) concluded that academic examinations evoked intense emotional reactions in some students whom she classified as 'unstable'.

According to her classification, the 'stable' students were those who could manage the stress imposed by the examinations (Spielberger, Gonzales, and Fletcher, 1979). Moreover, the complexity of the task is stated to be a direct predictor of the bearing evaluational stressors have on highly test anxious individuals' performance (Sarason, 1980). The more complex and demanding tasks are, the stronger is the influence test anxiety exerts on performance. The importance of task complexity is confirmed by Madsen (1982) who speculated that the high levels of anxiety generated by the reading test, as opposed to the other kinds of tests he scrutinized, appeared to stem largely from the complexity and difficulty of the items. It was suggested that beyond the lexical and syntactic challenge of the key sentences (stems), the complexity of the distracters appeared to have caused anxiety. Baumeister and associates (1994) report that highly anxious subjects performed generally poorer than non-anxious subjects, consistent with many other findings of performance decrements under anxiety. However, they found that in increased stress situations in which the significance of the evaluation was emphasized and time limits set, highly anxious subjects increased their speed while decreasing accuracy, and non-anxious subjects, in contrast, favoured accuracy over speed.

In addition to task complexity and evaluational implications, several other factors have been identified to affect people's levels of test anxiety. Madsen (1982) cites some studies that present evidence that persons with certain cultural traits may be more susceptible to anxiety on a given language test than others are (Scott and Madsen, 1980; Barabantz, 1970; Bronzaft et al., 1974). In his study it was seen that Japanese speakers registered higher state anxiety than did Spanish speakers. Also the relationship between sex and anxiety as well as proficiency level and anxiety are

mentioned. It was found that female subjects were more inclined toward the high anxiety rating.

Another variable that was examined is subjects' ethnic background. For instance, Dion and Toner (1988) report that the results of their investigation comparing undergraduate students from Chinese, Anglo, South European, North European, and Eastern European ethnic origins' levels of test anxiety revealed significant differences. In particular, the test anxiety experienced by the Chinese group was clearly higher than the others'. The researchers presume that this might be accounted for by the Confucian ethic with its emphasis on education and scholastic excellence placing students of the Asian background under considerable psychological pressure to succeed which in turn leads to increased test anxiety. Hence it seems possible to speak of a combined effect of ethnic background and ethical values on levels of test anxiety experienced.

An alternative type of situation specific anxiety, social anxiety, shows resemblance to test anxiety. Social anxiety can be conceived as comprising

- a) negative self-evaluation,
- b) feelings of tension and discomfort, and
- c) tendency to withdraw in the presence of others.

(Wine, 1980)

A constituent of social anxiety, audience anxiety, the feeling of discomfort when performing in front of an audience, can lead to an inhibition of speech. This is the point in which social anxiety is similar to test anxiety, as the individual is afraid of

being examined and analysed by others; both kinds of apprehension share this aspect of evaluation anxiety (Wine, 1980). However, a distinction exists, in that test anxiety exists with respect to written examinations while social anxiety is broader in scope. Hence it is argued that in the case of oral exams and any other tests performed in public, test anxiety as well as social anxiety would be adequate variables to be taken into account (Schwarzer, 1986).

B. COGNITIVE PROCESSING:

Even though Scovel (1991) presented the fallacy that affective variables were not related to cognition, it is now widely accepted that language anxiety plays a role in cognitive processing.

1. Self-focused Attention

Eysenck (1979) maintained that cognitive activities related to anxiety interfere with the quality of one's performance: the processing system not only deals with task-relevant information, but simultaneously has to deal with task-irrelevant information (the individuals' worry¹ and cognitive self-concern) which claim space in the processing system. Expressed in a different way, this means that learners with high levels of anxiety are involved in a 'dual-task' in which their attention is divided both among the task-relevant information and their self-concerns, whereas learners with low levels of anxiety are involved in a 'single-task' (i. e. solely processing task-relevant information). Madsen (1982) supports this view: he hypothesized that students who are anxiety prone will not be evaluated as accurately on stressful tests as those who are not anxiety prone reasoning that anxiety-prone individuals engage in more task-irrelevant activities while taking a test. Tobias (1986) as well as other researchers (Keable, 1997; Öner, 1990; Sarason, 1980, Schwarzer, 1986; Spielberger, Gonzales, and Fletcher, 1979) corroborate on the view that anxious

¹ Sarason (1986) defined 'worry' as distressing preoccupations and concerns about impending events (p.21), Wells (1994) found that worry was predominantly verbal rather than imaginal, "it was also rated as more realistic, less involuntary, harder to dismiss, more distracting, and of longer duration than intrusive thoughts" (p.95).

persons tend to engage in self-directed, derogatory cognition rather than focusing on the task itself.

2. Facilitating versus Debilitating Anxiety

Horwitz and colleagues (1986) note that anxiety is distracting to language learning and production. However, it has been recognized that some anxiety may actually help performance (Alpert & Haber, 1960; Chastain, 1975; Horwitz, Horwitz, and Cope, 1986; Kleinmann, 1977; Madsen, 1982; Scovel, 1978; Williams, 1991).

Keable (1997) mentions Heckhausen (1975) who distinguishes between the 'hope of success' (HS) and 'fear of failure' (FF) motives. He posits that FF subjects often do better than HS subjects on difficult tasks and that some choose consistently higher risk goals than HS subjects. He states that when performance deficits do occur, this is due to anxiety about the possibility of failure and not task difficulty. This can be regarded as a further example demonstrating that some anxiety, as expressed by FF motives, can lead to more favorable results than a more confident, non- or low anxious approach, as signalled by HS motive. A further example illustrating the different results rendered by facilitating versus debilitating anxiety is cited by Compton (1999). She refers to a study by Rodriguez (1995) conducted on English teacher trainees, the findings indicate that students who exhibited facilitative anxiety succeeded 94 % of the time in their language classes and those who exhibited debilitating anxiety succeeded only 50% of the time.

Eysenck (1979) explained the phenomenon of ‘facilitating anxiety’ (as labelled by Alpert and Haber, 1960) by accounting for individuals’ putting increased amounts of effort into learning or performance when they are anxious, leading to success. Thus, up to a certain level, anxiety is said to facilitate learning. However, if individuals’ anxiety surpasses that level, enhanced effort cannot help any more, and therefore, anxiety starts to impede learning and / or performance². Stated differently, Eysenck (1979) claims that anxious individuals will compensate for the increased cognitive demands by increased effort made to study and that

“the extent to which anxiety either facilitates or impairs performance is determined by the extent to which high-anxiety subjects compensate for reduced processing effectiveness through enhanced effort” (p. 365).

The curvilinear relationship between anxiety and performance, as detected by Smith, Sarason & Sarason (1982), supports the division of anxiety into “facilitating” and “debilitating” anxiety. Scovel (1991) illustrates the different functions of the two anxieties as follows: “facilitating anxiety motivates the learner to ‘fight’ the new learning task”, hence giving the student an emotional tendency to approach the task, whereas “debilitating anxiety motivates the learner to flee”(p.22) and thus, to avoid the challenge.

Keable (1997) supports the view of anxiety and performance operating in a curvilinear fashion providing an account of ‘the inverted U concept’. This proposes that there is an optimum drive level, according to the difficulty of the task, and that

² The difficulty related to this classification lies in determining the threshold level, i. e. distinguishing the levels at which anxiety is supposed to be facilitating and when it becomes debilitating.

as the drive level increases in anxiety, learning ability diminishes. On complex learning tasks, highly anxious subjects resort to behaviors that are irrelevant to the task, thus reducing competence. Optimal performance is obtained in the middle ranges of anxiety.

Scovel (1978) states that a

“good performance ... in language learning, especially the social act of speaking, depends on enough anxiety to arouse the neuromuscular system to optimal levels of performance, but, at the same time, not so much that the complex neuromuscular systems underlying these skills are disrupted”
(p.138)

He draws a parallel between facilitating and debilitating anxiety on the one hand and the sympathetic and the parasympathetic autonomic nervous system on the other, in that the two parameters complement each other: One arousing, the other one depressing, each working together to keep the organism working in harmony with its ever-changing environment. In other words, he claims that in the normal learner facilitating and debilitating anxiety work in tandem, serving simultaneously to motivate and warn the individual as one tries to learn an ever-changing sequence of new facts about the environment.

Wine (1980) refers to the drive theory and the prediction that facilitating anxiety may be operating with relatively easy subject matter and debilitating anxiety with more

difficult content. He draws attention to the point that precisely what level of difficulty is required for anxiety to provoke debilitating effects is not known.

3. Trait Anxiety and Genetic Predisposition, Physiological Activity, or Cognitive Functioning?

Eysenck (1997) analysed the roles of heredity, individual differences in physiological activity, and the cognitive system, all of which have been emphasised in theories aimed at accounting for individual differences in trait anxiety.

The evidence provided suggests that approximately 30 percent of the individual variance in trait anxiety is due to genetic factors.

Tomarken and colleagues (as cited in Eysenck, 1997) initially found no difference between their high and low trait anxiety scoring subjects' basal salivary cortisol levels, which is one of various measures of physiological activity. However a second analysis in which the low anxiety scorers were divided into 'low anxious' and 'repressor' groups³, revealed that high anxious subjects had significantly higher salivary cortisol levels than the low anxious ones; signalling that individuals' differing levels of trait anxiety have an effect on their physiological activity. It was concluded that "the failure to discover consistent relationships between trait anxiety and physiological responsiveness is due mainly to the high level of responsiveness of repressors" (p.7). This indicates that there are two rather different types of

³ Subjects with low scores on social desirability as well as on trait anxiety were categorised as truly low-anxious, whereas those who scored high on social desirability but low on trait anxiety were classified as repressors (Eysenck, 1997, p.6).

individuals who obtain low scores on questionnaire measures of trait anxiety, namely 'truly low anxious' individuals and 'repressors'.

According to Eysenck's theory of trait anxiety, the most important function of anxiety is to facilitate the early detection of impending danger in potentially threatening environments. Hence people differing in the level of trait anxiety should also differ in their pre-attentive and attentional functioning. As mentioned in Eysenck (1997), individuals high in trait anxiety possess a range of cognitive biases, the selective attentional bias, interpretive bias, and negative memory bias, which are applied to ambiguous or threat related stimuli. Eysenck (1991) found that subjects high in trait anxiety selectively allocate processing resources to threat-related rather than to neutral stimuli, that they tend to interpret ambiguous stimuli in a threatening fashion, that they are high in distractibility, and that they have a negative recall bias. Another study by Stewart and colleagues (1998) examined whether a cognitive bias favoring the processing of threat cues existed only in clinical subjects or also in nonclinical subjects high in anxiety sensitivity⁴. They found that the selective processing of threat cues is not restricted to high anxiety sensitive subjects with diagnosed clinical anxiety disorders, but also exists in high anxiety sensitive individuals from the nonclinical population. Similarly, Logan and Goetsch (1993) also present evidence for the existence of attentional bias for threat cues. In their study employing dichotic listening tasks, it was seen that anxiety-disordered subjects identified more threat words in the disregarded message and that it took longer for them to react to threat words than to non-threat words. Also the nonclinical subjects were found to direct their attention to threat cues more than to neutral stimuli. A

⁴ Anxiety sensitivity refers to "a tendency to respond fearfully to the experience of anxiety due to beliefs that anxiety symptoms signal catastrophic personal consequences" (Stewart and associates, 1998, p.106).

remarkable tendency for clinical subjects to exhibit attentional bias to specific threat cues and for nonclinical trait anxious subjects to display bias to general threat cues was observed. Furthermore, the researchers claim that attentional bias could be alleviated with treatment, even when it does not specifically target attentional bias.

However, cognitive bias is not the sole cognitive influence on anxiety; instead, emotions are preceded as well as followed by cognitive 'appraisals' (Lewis, 1997). Hence, a cycle of reciprocal causation seems to exist: Initially, the cognitive appraisal of a given situation raises emotions that then adjust the existing system, focusing attention, retrieving memories, and specifying expectancies and plans. This results in a new, adjusted cognitive system forming the grounds for further appraisal, triggering further emotion, and updating cognitive organisation all over again.

Green and Rogers (1996) support the view that even though trait needs to be examined on its own as to the processing biases 'applied'. They go even further asserting that not only individuals' levels of state anxiety, but also the threatening content of each situation is an important variable that need to be taken into consideration. They also maintained that high levels of trait anxiety are not a prerequisite for state anxiety effects to occur. Likewise, Eysenck (1997) reports several studies revealing that the cognitive biases depend interactively on trait anxiety and on the current level of state anxiety or arousal.

As far as concerns language learning and trait anxiety, Skehan (1986) pointed out that some studies frequently draw a connection between situational anxiety and more general anxiety which he reasons to be an indication of a specific language learning

anxiety to be recurrently related to a more generalized trait. Hence he seems to claim that it is difficult or even impossible to isolate language anxiety from personality traits.

4. The Age Factor

Shumann (1975) cites Stengal's (1939) four possible sources concerning anxiety and the influence of age:

The first source is related to the correct naming of objects and ideas, as finding the correct words to reflect one's ideas may be difficult. While this seems to be a major problem for adult learners, child second language learners are claimed to be at greater ease to use wrong words and to form new expressions if required. Next, the fact that words in a second language might carry visual images that differ from the visual images carried in the first language may cause confusion or misunderstandings. Again this is more relevant to adults who have developed visual images for words in their mother tongue. Moreover, feelings of insufficiency may lead to a sense of shame and hurt learners' narcissistic views. And the final source regarding anxiety with respect to age is the fear of appearing comic. Stengal compares using a new language with wearing a fancy dress, he claims that

"exhibitionistic impulses and their repression can alternately encourage and inhibit the acquisition of a new language. A child however is relatively free from such conflict because the second language for him is a method of play and thus impulses to communicate in that language are a source of pleasure. The child does not fear fancy-dress; he enjoys wearing it" (Schumann, 1975, p.212).

Schumann further stated that the natural factors with a potential to induce ego flexibility and lower inhibitions are conditions making the learner feel less anxious and accepted, and helping to form positive identification with speakers of the target language. He also mentions that Curran observed that many people when attempting to learn a second language experienced anxiety and felt threatened.

There are several indications in the literature, for instance Guiora and colleagues (1972), that language learning difficulties after puberty may be related to the social and psychological changes an individual undergoes at that age.

It is suggested that social and psychological maturation seem to be at least as important as neurological maturation in accounting for difficulties in adult second language learning. Unlike biological maturation, however, social-psychological maturation is alterable. As suggested in Schumann's paper (1975), provided that the desired conditions are presented, the initiating factors (i. e. attitude, motivation, empathy, ego permeability, inhibition, etc.) in the adult can be alleviated to permit successful second language acquisition. Correspondingly, in both samples examined by Gardner, Smythe, and Clément (1979) a clear decrease in French classroom anxiety and French Use anxiety could be observed. The study investigated 65 American and 89 Canadian students' responses regarding 24 different variables including 'Need Achievement, Ethnocentrism, French Class Anxiety, Interest in Foreign Languages, etc.' and their relation to French achievement. The statistical analyses revealed that three factors could account for the main differences in subjects' levels of achievement: Integrative Motive, French Achievement, and

Anxiety. The authors emphasised the significance of age. The Canadian sample consisted of subjects of which 51% were 17 years old or younger while the American sample consisted of 66% of 26 years old and older and a considerable difference in the extent to which the students reported anxiety was observed.

To conclude this section, it can be said that the younger the learners are, the less susceptible they are to experiencing detrimental degrees of anxiety.

C. LANGUAGE ANXIETY as distinct from other anxieties:

The significance of language anxiety:

The significance of language anxiety was accentuated to the point that the intensity of anxious reactions to language learning may cause students to postpone required foreign language courses, and that in very extreme cases students may even give up their majors in favour of different majors which do not require foreign language study. Consequently, language anxiety is predicted to have long lasting effects as it can play a crucial role in determining students selection of their careers (Chastain, 1975; Horwitz, Horwitz, and Cope, 1986; Richardson and Woolfolk, 1980; Young, 1991). The magnitude of language anxiety is even more evident considering the high proportion of students who are suffering from it: alarming levels of anxiety were reported in post-secondary students enrolled in foreign language courses. It was estimated that approximately 25%-50% of the students enrolled in higher education experienced anxiety at debilitating levels (Campbell & Ortiz ; 1991). It is not only the extent to which language anxiety is seen to exist, that is astonishing, but also its far-reaching effects. In 1992 Gardner, Day, and MacIntyre examined the effects of both integrative motivation and anxiety on language learning in a controlled environment, and found a tendency for students who were anxious about French to have lower degrees of motivation to learn than those who were not anxious. However, the effects of language anxiety are not only confined to individual learner variables. Von Wörde's (1998) investigation of subjects' perspective on foreign language anxiety rendered results which corroborate with other studies in suggesting that anxiety can negatively affect the language learning experience in numerous ways and that reducing anxiety seems to increase language acquisition and learner motivation. Although the focus of Gardner's studies (as cited in MacIntyre and

Gardner, 1991b) was not on anxiety, the results consistently indicated that “anxiety was one of the best predictors of success in the second / foreign language” (p. 96). Moreover, it was observed that students scoring lower in anxiety outperformed the higher-scoring ones in the ratings of a range of language tests employed (Madsen, Brown, and Jones; 1991), revealing a significant effect of anxiety on the performance on language tests. Further support for the substantial impact of anxiety comes from Sanchez-Herrero and Sanchez (1992) who emphasized that “one aspect of behavior, which seems most evident when seeking an explanation of a student’s performance in a foreign language is the subject’s anxiety” (p.961). However, the effects of anxiety are not restricted to testing situations, instead, anxiety is revealed to have a negative impact on the learning (input and processing) as well as the production (output) of French vocabulary (MacIntyre and Gardner, 1989).

Language anxiety an independent form of anxiety?

In spite of a general consensus on the view that anxiety is a crucial factor in determining success in second / foreign language learning, few empirical studies have so far been able to establish a clear picture of how anxiety affects language learning and performance. Today, language anxiety is viewed in two differing perspectives.

It is, in one view, a manifestation of other more general types of anxiety such as ‘Communication Apprehension’ (Clement, Gardner, & Smythe, 1980; Daly, 1991; Eysenck, 1979; MacIntyre & Gardner, 1989, 1991a; Scovel, 1991; and Skehan, 1986).

For instance, MacIntyre and Gardner (1989) found a weak relationship between general trait anxiety and second language proficiency and hence argue that foreign language anxiety should not be equated with general trait anxiety. But still they do not perceive of language anxiety as a distinct form of anxiety. Instead, based on their factor analysis, they suggest that foreign language anxiety may be part of a larger construct, namely 'Communicative Anxiety'. Thus, they see language anxiety as a subcategory of a broader conception of trait anxiety. Concurring on the view that language anxiety is not an independent construct, but taking a slightly different stance, Skehan (1989) pointed out that some studies

“frequently make links between situational anxiety and more general anxiety, suggesting that while it is valuable to have indicators of a specific language learning anxiety, this may often be related, to some degree, to a more generalized trait” (p.117).

Hence he seems to claim that it is difficult or even impossible to isolate language anxiety from personality traits.

The challenging view about language anxiety endorses that it is a distinctive form of anxiety expressed especially in response to language learning (Aida, 1994; Campbell & Ortiz, 1988; Cheng, 1998; Crookall & Oxford, 1991; Ellis, 1994; Foss & Reitzel, 1991; Horwitz, Horwitz, & Cope, 1986; Kim, 1998; Kitano, 1998; Kunt, 1998; Madsen, Brown, & Jones, 1991; Melendez, 1997; Palacios, 1998; Powell, 1991; Price, 1991; Samimy & Rardin, 1994; Steinberg & Horwitz, 1986; Tobias, 1986; Von Wörde, 1998; and Young, 1986, 1991). Horwitz and friends (1991)

support the view that foreign language anxiety should not be confused with trait anxiety, conceptualising foreign language anxiety as “a distinct complex of self-perceptions, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning process” (p. 31). Support for this view is presented by Schumann (1975) who cited the results of a study by Gardner (1974) revealing that students who experienced substantial anxiety in the French class were not as proficient in French as those who were relaxed. Interestingly, it was not simply a generalized anxiety that produced this result. General Classroom Anxiety and Audience Anxiety were also considered, but it was only anxiety directly related to the French class that was observed to depress French achievement.

Self-expression and emphasis on speaking:

The vulnerability of the adult language learner’s self-concept and self-esteem may be a potential, if not primary, source of foreign language anxiety. Mature persons can express their thoughts easily in their first language; however their limited range of communicative choices, and their lack of fluency in the second language may inhibit genuine communication in that language. The fact that language is used for self-expression makes learning a language different from learning any other academic subject like math (Horwitz, Horwitz, and Cope, 1986; Samimy & Rardin, 1994; Tobias, 1978). An emphasis on spontaneous speaking in the foreign language class seems to be one of the most salient triggers of language anxiety. As Horwitz and associates (1986) note, speaking in the foreign language appears to be the most anxiety-provoking aspect of foreign language learning. Indeed, studies reveal that anxious students are less likely to volunteer answers and participate in class than

their non-anxious peers (Ely, 1986; MacIntyre and Gardner, 1991a). Even in cases where they do participate, they tend to avoid difficult linguistic structures; their word production is likely to be smaller; their speech in general is inclined to be less complex and interpretive than that of their more relaxed peers. Likewise, Steinberg and Horwitz (1986) found that subjects who were exposed to an anxiety inducing situation tended to avoid the interpretive messages, focusing strongly on the more concrete ones, noticeably more than those who were exposed to a relaxed condition. Thus, anxiety was uncovered to influence the communicative strategies subjects attempted to use in their foreign language class. MacIntyre and Noels (1996) suggested that communicative demands of the second language (L2) create the highest levels of language anxiety. Whereas most of the strategies studied in this investigation did not include a communicative demand, the ones that did (such as “start L2 conversations”, “look for L2 conversations”, “encourage myself to speak when afraid”) seemed to be the most anxiety-provoking strategies. In the same way, presenting oral reports was discovered to be the only activity considered anxiety-provoking by a large majority of students (Koch and Terrell, 1991). Support for these results came from MacIntyre, Noels, and Clément (1997), who found that compared with more relaxed students, anxious students tend to communicate less information. In addition, anxious students tend not to express themselves as well as more relaxed students. Thus, they conclude that anxiety relates to both what the participants say and how they say it. Furthermore, Cheng (1998) and Yan (1998) agree that second language class anxiety is a more general type of anxiety about learning a second language in a formal education context with strong speaking anxiety element while second language writing anxiety turned out to be a language-skill-specific anxiety.

Self-confidence and perception of competence:

An essential influence on levels of language anxiety is rooted in the learners' level of self-confidence. An issue Onwuegbuzie and associates (1999) examined was, among others, whether self-perceptions were related to foreign language anxiety. They discovered that perceived scholastic competence and perceived self-worth contributed significantly to the prediction of foreign language anxiety. A further study in support of the significance of learners' self-views by Aida and colleagues (1993) was reported in Aida (1994). Even though the differences detected in this particular study were not statistically significant, a pattern was evident: among the more anxious students those with high self-esteem seemed to be handling their anxiety better than those with lower self-esteem, resulting in higher scores on both course grades and oral skills grades. As Keable (1997) confirmed, it is not external difficulties that create emotional states such as anxiety. Instead, the individual's own thoughts and beliefs about these difficulties produce the negative emotions. Indeed, self-esteem appears to be associated with academic achievement. It is uncertain whether high self-esteem produces good grades or vice versa, but causality probably operates in both directions. Also the 'self-fulfilling' prophecy suggests that a person's beliefs have a strong impact on how well he will perform often in spite of the actual abilities. A two-way street operates between achievement and self-concept. Achievement leads to higher self-concept and higher self-concept results in higher achievement (Chastain, 1975; Kunt, 1998; Silvestri and Dantonio, 1996; Young, 1991). Young (1991) argues that those students that start out with a self-perceived low ability level in a foreign or second language are the likeliest candidates for language anxiety. For some learners it appears to be their competitive nature and their perception of their own progress that lead to anxiety (Ellis, 1994). Bandura's

model of self regulation mentioned in MacIntyre, Noels, and Clément (1997) suggests that the perception of competence and the belief that one can control desired outcomes constitute critical components of one's expectations for success at a given task. Bandura has emphasized that perceptions of control (i. e. competence) determine the amount of effort expended in pursuing a goal. If expectancies are high, then one will expend greater effort, with greater likelihood of success. If on the other hand expectancies are low, one expends less effort, with concomitantly less success. Emotional tension, or anxiety, results from low self-efficacy evaluations. Kitano (1998) supports these findings. She found that subjects' anxiety was higher as they perceived their speaking ability, in particular, to be less sufficient than that of peers and native speakers. MacIntyre, Noels, and Clément (1997) draw attention to two biases that might be operating in the L2 learning situation: 'self-enhancing' and 'self-derogation' biases. The former stems from a need to increase feelings of personal satisfaction and self-worth. Accordingly, individuals view themselves and their behaviour in a positive light. In fact, they may become unrealistically optimistic. It is expected that self-confident learners show a self-enhancing bias. Self-derogation, on the other hand, more commonly happens to highly anxious or depressed individuals, who have little faith in their capacities and their ability to control the environment. In fact, Foss & Reitzel (1991) used a relational model of communication competence relating perception, anxiety and competence and argue that self-perceptions of competence are crucial indicators of the extent to which native speakers as well as ESL students succeed in managing their anxiety. Equally, MacIntyre, Noels, and Clément (1997) found that L2 language anxiety, perceived L2 competence, and actual L2 competence inter-correlated. They found that anxious students tended to underestimate their competence relative to less anxious students, who tended to

overestimate their competence. They further cite a study by Gardner, Lalonde, Moorcroft, and Evers (1987) which found that Grade 12 students who dropped out of their French program after the summer break did not differ significantly from the continuing students on objective proficiency measures. However the drop-outs were significantly more anxious in French class and had significantly more negative self-evaluation of their speaking ability, despite evidence of little actual attrition. They concluded that self-evaluations not only indicate proficiency but also probably assess some affective construct. They found that 'self-enhancement' occurred in less anxious students and 'self-derogation' in more anxious students. Differentiating between the self-derogation and self-enhancement biases provides an avenue for understanding how higher levels of language anxiety endure. Highly anxious students do not perceive their competence to be as high as a more objective analysis reveals it to be. The arousal of anxiety probably makes some students more reluctant to speak. If language learners do not choose to communicate, they cannot re-assess their competence. Thus begins a vicious cycle, wherein the anxiety level remains high because the anxious student does not accept evidence of increasing proficiency that might reduce anxiety. Further, more frequent speaking would probably increase the students' actual level of competence. In this context one can best view the link between anxiety and proficiency as reciprocal (MacIntyre, 1995; Young, 1991).

Proficiency:

Further, the learners' level of foreign language proficiency seems to be a factor influencing levels of language anxiety. It was observed that the students' stage of instruction appeared to influence the reactions to the tests under examination (Madsen, Brown, and Jones, 1991). Oral questions, for instance, seemed to be rated

more positively as students developed greater oral proficiency. Similarly, Koch & Terrell (1991) argued that students' reactions depended on their levels of proficiency. Young (1986) raised this issue in her study to examine whether anxiety had an influence on oral interview performance. The results of the study initially found a significant negative correlation between the Oral Proficiency Interview (OPI) and anxiety, providing reason to think that as anxiety increases, oral proficiency decreases. However, as proficiency score values were controlled, the initially found significant differences disappeared. This led to the conclusion that ability seems to be the more significant variable affecting the OPI scores in an unofficial administration. It is hypothesized that if during an official administration of the OPI, anxiety were to correlate significantly with the subjects' oral performance, this would probably be due to test anxiety rather than to anxiety from speaking in a foreign language. As she explains, a situation that somebody conceives of as being difficult or threatening leads to test anxiety. She speculates that test anxiety would most likely have a greater impact on subjects with lower levels of oral proficiency. She questions whether "it is anxiety which causes low levels of proficiency"- as Krashen's Affective Filter Hypothesis claims (Krashen, 1982) - or if low levels of proficiency lead to high levels of anxiety. In line with this, Au (1988) suggested that "failure to control for the level of language proficiency in research studies involving affect is a serious methodological weakness." Conversely, Kitano's (1998) findings contradict most of the above mentioned evidence in that the average anxiety levels of advanced and intermediate-level subjects were higher than those of elementary-level subjects. Thus, the more proficient subjects expressed higher levels of anxiety than the less proficient ones. Despite a tendency to believe that a relationship exists between

foreign language proficiency and foreign language anxiety, research examining this issue has not been able to present a consistent picture as yet.

Different test types:

Madsen, Brown, and Jones (1991) found significant differences in their students' reported levels of anxiety according to varying test types. They conclude that there are major differences caused by different types of tests and that this anxiety may lead to a biasing effect against certain types of students. Madsen (1982) maintains that a consistent finding has been the dramatic contrasts between the amount of state anxiety generated by various types of language tests.

Miscellaneous:

Other sources of language anxiety Young (1991) mentions are learner beliefs about language learning, instructor beliefs about language teaching, instructor – learner interactions, classroom procedures, and language testing. She notes that evidence suggests that these sources of language anxiety are interrelated and may partly be an outcome of unnatural classroom methods. Melendez (1997) identified three factors that accounted for Puerto Rican subjects' foreign language anxiety: face, affinity, and group membership. Face is the positive social value a person implicitly or explicitly claims for himself, it is an image of self circumscribed in terms of approved social images (Wenzhong and Grove, 1991). Negative behaviour on the part of the teacher appears to be a source of oral English language anxiety in the classroom. In a further study by Gardner, Smythe, Clement, and Gliksman as reported by MacIntyre and Gardner (1991a), it was found that French class anxiety played a greater role as the

subjects (grades 7 to 11) progressed to higher grades. These results support the significance of the 'age factor'.

Sufficient evidence is provided to reveal that anxiety is a significant factor in second language acquisition: "Anxiety (its presence or absence) is best seen not as a necessary condition of successful second language learning, but rather as a factor that contributes in differing degrees in different learners" (Ellis, 1994, p.483).

D. The “Linguistic Coding Deficit Hypothesis or Language Anxiety?” Debate

Despite the fact that the concept of language anxiety has been acknowledged by a considerable body of research and researchers, one particular view presents a rather different stance and has caused a notably heated discussion about the issue. To get a more thorough insight into language anxiety, it is deemed indispensable to delve into both sides' arguments:

Ganschow and Sparks (1995, 1996) claim that those individuals who are highly anxious do not necessarily have particular difficulties related to language. Instead, they argue that those individuals who have specific language strengths would experience foreign language learning as less anxiety provoking and that this would make language learning easier for them. Moreover, they claim that anxiety in foreign language classrooms may be a result, rather than a cause, of a significant number of foreign language learning problems. More specifically, the Linguistic Coding Difference Hypothesis⁵ (henceforth referred to as LCDH) speculates that inefficiency in the phonological, syntactic, and semantic codes, rather than affective variables such as attitude and motivation, causes individual differences in foreign language learning. Affective differences are thought to result from native language difficulties and to further impact on foreign language learning.

As opposed to the LCDH, MacIntyre (1995a) contends that although it is indisputable that anxiety can be provoked by experience of difficulty in learning the language, this is not to insinuate that anxiety plays no role in contributing to such difficulties in the first place. He states that Sparks and Ganschow (1993) do not

⁵ Originally this was the ‘Linguistic Coding Deficit Hypothesis’.

dispute the existence of a relation between affective variables. However, the bases on which they criticise affective variables lead to debate; they propose that native language aptitude is an alternative to affective explanations and that affect is simply a “manifestation of aptitude” (p. 94).

Sparks and Ganschow base their claims on the findings of several studies they carried out. One of their studies (1993) was aimed at comparing successful and unsuccessful female college students in foreign language courses. No significant differences between the groups' levels of intelligence or measures of semantics were observed (reading comprehension and vocabulary) whereas significant differences were found in phonology and syntax. They further found that although the intelligence quotients of the students were in the average to superior ranks, testing in the areas of oral and written language revealed subtle phonological, syntactic, and / or semantic coding difficulties. A pattern emerged suggesting that difficulties in phonological coding had an immediate and significant impact upon their performance in the foreign language classroom; while the 'semantic codes' of language did not appear problematic. The findings supported the authors' speculation that the foreign language difficulties of a group with documented language learning problems may not be related to lack of motivation or anxiety, but instead may stem from difficulties with their native oral and written language. They concluded that higher levels of anxiety reported by students with language deficits might be a natural consequence of being asked to perform language learning tasks in a new and unfamiliar linguistic coding system.

In a further study, Ganschow and associates (1995) explored foreign language classroom anxiety in relation to native oral and written language and to foreign language aptitude. The hypothesis was that there would be differences in native oral and written language and foreign language aptitude performance between students with different levels of foreign language anxiety. The results demonstrated that low anxiety students exhibited better native language skills (oral and written) and foreign language aptitude than their high anxiety counterparts, even though they were comparable in cognitive ability and academic performance. High anxiety students showed only average skills on the same measures.

MacIntyre (1995a) claims that Ganschow and Spark's LCDH presents language anxiety to be merely an unfortunate 'side effect', and fails to give anxiety due credit and attention. Hence, he conducted a study aimed at revealing that language anxiety is not merely a side effect, but a significant factor. The findings of this study suggest that situations which provoked state anxiety led to performance deficits on second language tasks, however no performance deficits were seen in situations which were not anxiety inducing. He claims that active interference⁶ appears to be the result of state anxiety and that this interference can occur at any stage of the learning process. He argues that this is strong evidence supporting the view that anxiety arousal can cause individual differences in second language learning.

Sparks and Ganschow have a series of criticisms related to the impact of affective variables on language learning. In 1993, for instance, they assaulted both affective variables and language learning strategies as explanations for individual differences

⁶ "Active interference" refers to the interference caused by anxiety through creating a division of attention, i.e. attending to task-relevant and task-irrelevant information simultaneously.

in language achievement. Their criticism of language learning strategies was that the strategies extend into other domains of cognitive functioning and hence imply general intellectual failings rather than specific language learning difficulties. MacIntyre and Gardner (1991a) defy this by pointing out that there are numerous studies with strategies that could apply to numerous learning domains, but also others which are highly specific to language learning, and still others that are specific to particular stages of language learning. Hence Sparks and Ganschow's criticism of language learning strategy research is overgeneralised. Further they draw attention to the fact that the training in phonetic coding advocated by Sparks and Ganschow (1993) might be considered strategy training.

A further criticism Sparks and Ganschow (1993) proposed is that affective variables are typically measured using self-report questionnaires and that such methods generally have measurement problems. MacIntyre (1995a) on the other hand, claims that highly reliable and valid measures of language-related affective measures have been developed, such as Gardner's (1985) Attitude/Motivation Test Battery and Horwitz and colleagues' (1986) Foreign Language Classroom Anxiety Scale.

Yet another criticism by Sparks and Ganschow (1993) suggests that affective variables are "unrelated to language" and that only variables specific to language learning can be used to explain problems. This was referred to as the "assumption of specificity", but as MacIntyre (1995a) pointed out, with it Sparks and Ganschow seemed to be using "language" to refer to the purely linguistic aspects of language. He challenges this criticism with the counter argument that measures like Gardner's (1985) Attitude Motivation Test Battery, Oxford's (1990) Strategy Inventory for

Language Learning (SILL), Horwitz and colleagues (1986) FLCAS, and similar measures are all specifically related to language learning experiences. Though they may not measure purely linguistic variables, they are certainly language related. MacIntyre and Gardner (1991b) argue strongly that in the case of language anxiety the assessment of anxiety must specifically refer to that arising in language learning contexts in order to obtain consistent correlations between anxiety and language learning. They claim that this is, essentially, the assumption of specificity. Further they maintain that, rather than posing a problem, the fact that affective variables are not measures of pure linguistic processing is most welcome.

A criticism of Sparks and Ganschow's model (1991) put forth by MacIntyre (1995a, 1995b) is related to the fact that their theory (LCDH) focused exclusively on cognitive ability factors in terms of the coding of linguistic stimuli. Consideration of social factors involved in language learning, such as classroom interaction with teachers and other students, the degree of exposure to the language in the community, ethnolinguistic validity, motivation, attitudes, intergroup relations, and contact with the target language community is lacking. Additional cognitive factors are neglected as well, such as the amount of effort invested in language study, the students' expectations for success, and perhaps most importantly, language learning strategies that might lessen the impact of native language deficits. In short, the linguistic coding deficit hypothesis neglects the context in which language learning occurs and ignores the potential for social context to influence cognitive processes. As the LCDH does not recognise the language learning context, it is considered incomplete by MacIntyre. He states that aptitude, cognition, anxiety, and language learning behavior function in a recursive, cyclical pattern. Thus aptitude can

influence anxiety, anxiety can influence performance, and performance can influence anxiety. And as Sparks and Ganschow (1993) also allowed for the possibility that students can be trained to increase their phonetic coding ability, aptitude can also be influenced. The interesting questions arising from this interplay have less to do with whether one variable affects the other and more to do with when those effects occur. MacIntyre (1995a) criticises them for taking an “either/or” stand (p.95).

Moreover, he stresses that he does not say that the LCDH is mistaken. He agrees that native language aptitude shapes the boundaries within which language learning can occur and that it is sensible to believe that these limitations will correspondingly apply to second languages. However, his standpoint is that the inclination to attain one’s maximum potential as a language learner is to a certain extent determined by anxiety and other affective variables. He claims strongly that affect is more than a manifestation of language aptitude.

Even though it is apparent that Ganschow and Sparks (1996) do not believe in the causal effect of affective differences on individual differences in language learning, they admit that anxiety measures such as the Foreign Language Classroom Anxiety Scale (henceforth referred to as FLCAS)⁷ by Horwitz, Horwitz, and Cope (1986) might help to identify students at a higher risk of anxiety. This might make it possible to provide those students with timely remedial intervention, and hence, to help them develop the necessary skills for learning languages. This would in turn reduce their levels of language anxiety.

⁷ For detailed information about the FLCAS, consult “Materials” section, p. 59.

Hence, an analysis of the two perspectives reveals that the former position, the LCDH, advocates that affective variables have only a minor influence on language learning and that language aptitude is mainly determining individuals' levels of success; while the other position claims that there is more to language learning than phonological and syntactic coding, and that affect is a principal factor. Although research has resulted in evidence for both views in their own rights, no conclusive findings have been obtained. Nonetheless, considering that language learning takes place in a social context, the latter position seems to be more comprehensive and hence more plausible. This might also be the rationale for Ganschow and Sparks (1993) to express a positive attitude towards locating students with high levels of anxiety.

E. Hope for Reducing Anxiety?

In view of the fact that language anxiety seems to exert influence on a pervasive basis, an essential facet of this phenomenon to be explored is whether or not language anxiety can be decreased.

Several researchers have carried out investigations which support the standpoint that language anxiety might be manipulated. Palacios (1998), for instance, conducted a study which revealed that 14.49% of the variance in FLCAS scores was claimed to be due to environmental factors for subjects at the Spanish 1 level and 5.76 % for those at the Spanish 2 level. Hence, revealing that, especially at lower stages of language learning foreign language anxiety was apparent. In the same vein, Keable (1997) emphasized that it could be clinically observed that once a client manages to make even a small achievement, the vicious circle of dependence, apathy, low self-esteem and further anxiety, is broken.

Gardner, Smythe, and Clément (1979) drew attention to the different effects an intensive foreign language program may have on high school students: Whereas the findings of one study suggest that individuals may become less interested in foreign languages and more ethnocentric, other results indicate that an intensive speech experience may decrease anxiety in the French as a second language classroom situation, enhance motivation to learn French and to make increased use of the opportunities to speak French. Thus it appears that the manner in which an intensive language program is carried out may lead to desired outcomes or not.

A series of suggestions to reduce anxiety in the language classroom are provided by Price (1991). She claims that particularly students' fears of public embarrassment must be given attention. Similarly, the findings of Aida's (1994) study support the importance of teachers' responsibility to decrease classroom tension through creating a friendly, supportive atmosphere that can help reduce students' fear of embarrassment of making errors in front of peers. Kim (1998) also found that subjects in the communicative setting experienced higher levels of anxiety than those in the traditional setting. This suggests that increased emphasis on communicative performance may have caused students to experience fear of public embarrassment more than in a traditionally led class.

However, not only the setting in which language learning occurs has a bearing on students' levels of language anxiety, but instead, the types of activities, tasks the students are asked to perform may also be of significance. Indeed, Koch & Terrell (1991) conducted a study with the intention of identifying the activities and techniques of the Natural Approach that contribute to lower levels of anxiety. However, the results were mixed. For some of the activities there was almost no response indicating that they were anxiety provoking. For others, the responses were not so convincing: some activities, which were rated to be comfort-producing by a great deal of students, were also considered to be anxiety-provoking by a sizeable group of students. The students' responses also reveal that familiarity with activities and techniques may result in lower anxiety, but nevertheless several activities and techniques met with mixed reactions even after considerable exposure and experience. The researchers concluded that there are no intrinsically "good" or "bad"

instructional techniques, that they “are ‘useful’ or ‘not recommended’ for certain students at particular levels of language acquisition, instead” (p. 124).

Moreover, it is suggested that if, in line with MacIntyre and Gardner’s (1989) contention, language anxiety is a state which develops through experiencing the language learning situation, “the problem is not so much in the student, but in the language learning experience, i. e., the methodology” (Young, 1991, p.429). Thus, the potential to influence language anxiety is underlined, which, in turn, reveals the necessity for further research about language anxiety.

Horwitz and associates (1986) also disclose the view that language anxiety is not a perpetual, unalterable phenomenon with their call to language teachers to “recognize, cope with and eventually overcome, debilitating foreign language anxiety as a factor shaping students’ experiences in foreign language learning” (p.133).

CHAPTER 2: THE PRESENT INVESTIGATION

Kunt (1998) examined the beliefs of 882 Turkish subjects studying in North Cyprus. She found that these subjects had beliefs about language learning different from those of other subjects in previous studies. These subjects also reported lower levels of foreign language anxiety than subjects in other studies. Hence, it might be speculated that the levels of anxiety subjects experience might be influenced by their cultural backgrounds. Further evidence about the significance of socio-cultural contexts in which studies are carried out comes from Gardner and Lambert (1972), who emphasised the fact that one of the most impressive findings of their investigations about attitudes and motivation were setting – to – setting contrasts and the basic distinctiveness of each socio - cultural context (p. 142). A range of studies about the aspects of motivation have been conducted in different contexts such as Indian high school students learning English, American high school students learning Spanish, Chinese second language students learning English, Japanese students learning English as a foreign language, and Chinese graduate students in the United States learning English as reported in Kennedy (1996). Conversely, studies about language anxiety have mostly been carried out in the U. S. A., examining American subjects learning a language other than English, or foreign subjects learning English as a Second Language (ESL). It appears that research with a focus on anxiety has so far mostly neglected other cultural contexts.

In addition to the cultural background of the language learner, the context in which a language is learned, in terms of whether the language to be learned is a foreign or a second language, is of essential value. Hence, I believe, research scrutinising the

issue of anxiety in EFL contexts might render interesting results not necessarily in tune with those of ESL contexts.

Scovel (1978) hypothesizes that anxiety is more directly implicated in the formal activation of language learning than in the informal enterprise of language acquisition. Hence this study focuses on the learning of a foreign language in a formal context.

As can be seen from the preceding account, language anxiety is a rather complicated concept that has been investigated with different foci. Even though there is a consensus on anxiety influencing language learning to a degree, there is still an abundance of questions regarding the magnitude of influence and the directions in which variables are believed to affect each other.

Although research has been conducted regarding trait anxiety as well as situational anxiety, these two constructs have only rarely been investigated in tandem. In the field of computer education, for instance, Todman and Lawrenson (1992) cite studies with differing results concerning a relationship between computer anxiety and trait anxiety. Likewise, Eysenck (1997) reports several studies revealing that trait anxious people react to the same threatening stimuli more intensely if the level of stress inherent in the situation is increased. As regards communication-related anxiety, Beatty, Balfantz, and Kuwabara (1989) pointed out that the theory and research concerning the causes of the construct in question underscores the importance of the trait-state distinction. However, studies examining foreign language anxiety to date have not considered the possibility that trait anxiety in addition to foreign language

anxiety might have an impact on foreign language achievement or proficiency. Considering Eysenck's afore mentioned findings, it seems reasonable that research be carried out on the interaction between trait and situation specific anxiety, as it might be expected that highly trait anxious subjects experience greater foreign language anxiety under certain circumstances and not in others.

Therefore, it is crucial to investigate the existence of a relationship between foreign language proficiency on one hand and trait anxiety, and / or foreign language classroom anxiety on the other, as well as to examine the possible interaction between trait anxiety and foreign language classroom anxiety in the Turkish EFL context - as potential relationships might have significant implications for classroom practice, materials development, curriculum design and / or testing procedures.

Studies investigating foreign language anxiety to date have mostly used the FLCAS and drawn correlations to subjects' foreign language achievements based on their foreign language class final grades. However, considering that some teachers are more generous than others when it comes to grading their students, the extent to which these grades are assigned objectively is questionable. And even if the teacher is perfectly objective and follows strict criteria when grading, still, the assessment requires some sort of performance on the students' part which may give rise to test anxiety, another undesirable effect. The present study attempts to avoid the potential problem of rendering unreliable results because of the above mentioned issues by

using a standardized test of English proficiency instead of relying on final grades assigned by teachers – leaving no space for subjective interference in

determining subjects' levels of English proficiency, additionally employing subjects' final grades to see the extent to which the proficiency test and the grades correlate, as well as assessing the subjects' levels of test anxiety to control for any undesired side-effects caused by such.

A. Research Questions:

1. Do Turkish Beykent University (BeyU) EFL students' reported levels of trait anxiety (as determined by Öner's (1982) translated version of Spielberg's Trait anxiety Inventory) have an impact on their foreign language proficiency?

2. Do Turkish Beykent University (BeyU) EFL students' reported levels of foreign language anxiety (as determined by a translated version of Horwitz and colleagues' Foreign Language Classroom Anxiety Scale, 1986) have an impact on their foreign language proficiency?

3. Do Turkish Beykent University (BeyU) EFL students' reported levels of foreign language anxiety and trait anxiety have a combined effect on their foreign language proficiency?

4. Do Turkish Beykent University (BeyU) EFL students' reported levels of test anxiety (as determined by Öner's (1985) translated version of Spielberger's Test Anxiety Scale) have an impact on their foreign language proficiency?⁸

5. Do Turkish Beykent University (BeyU) EFL students' reported levels of trait anxiety (as determined by Öner's (1982) translated version of Spielberg's Trait anxiety Inventory) have an impact on their foreign language grades?

⁸ Actually, test anxiety is not a main factor the investigation deals with; however, taking into account that test anxiety might play a confounding role and lead to misleading results, a measure of subjects' test anxiety is taken as well. This is aimed at making it possible to discard the data of highly test anxious students from the relevant analyses if a confounding effect is observed.

6. Do Turkish Beykent University (BeyU) EFL students' reported levels of foreign language anxiety (as determined by a translated version of Horwitz and colleagues' Foreign Language Classroom Anxiety Scale, 1986) have an impact on their foreign language grades?

7. Do Turkish Beykent University (BeyU) EFL students' reported levels of foreign language anxiety and trait anxiety have a combined effect on their foreign language grades?

8. Do Turkish Beykent University (BeyU) EFL students' reported levels of test anxiety (as determined by Öner's (1985) translated version of Spielberger's Test Anxiety Scale) have an impact on their foreign language grades?

B. Hypotheses:

1. There is no significant relationship between subjects' levels of trait anxiety and their levels of foreign language anxiety.
2. There is no significant relationship between subjects' foreign language proficiency and their levels of trait anxiety.
3. There is a significant negative relationship between subjects' foreign language proficiency and their levels of foreign language anxiety.
4. There is a significant negative relationship between subjects' foreign language proficiency and their level of test anxiety.
5. There is a significant positive relationship between subjects' levels of foreign language proficiency and foreign language grades.
6. There is no significant relationship between subjects' foreign language grades and their levels of trait anxiety.
7. There is a significant negative relationship between subjects' foreign language grades and their levels of foreign language anxiety.
8. There is a significant negative relationship between subjects' foreign language grades and their level of test anxiety.

CHAPTER 3: METHOD:

1. Subjects:

The sample of the study consisted of 177 freshmen at Beykent University, a private English-medium university in Istanbul. The subjects' first language is Turkish. The males represented 62% and the females constituted 38% of the sample. The age range of the sample was between 18 and 22 years. The subjects have either had one year of 'preparatory' English classes and have subsequently passed the institutional proficiency exam to start their academic courses, or they have passed the proficiency in the first place and were thus exempt from the preparatory course. In either case, the students have English language classes in their first year, aimed at helping them cope with the academic requirements in English.

Distribution of the students according to majors:

<i>Students in % :</i>	<i>Departments:</i>
28 %	Business
23 %	Architecture
10 %	Cinema and TV
10 %	Textile Design
09 %	Maths and Computing
09 %	Graphic Design
07 %	English language and Literature
05 %	International Relations

2. Materials:

Basic approaches to measuring anxiety include (a) observations, (b) physiological techniques (such as measuring heartbeats) and (c) self-report scales (Scovel, 1978). Even though Ellis (1994) states that the typical method for data collection in naturalistic research is observation, he points to the fact that this method has not proven successful for the study of individual differences because subjects' behaviour may not reveal their psychological states and characteristics. He adds that introspective and retrospective methods are successful in this area of research.

Further, as noted in Ellis (1994), a study by Castagnaro (1992) has attempted to use physiological measures of learners' classroom anxiety and, interestingly, found sizeable and significant positive correlations between these measures and measures of anxiety obtained from anxiety questionnaires. Moreover, Scovel (1978) pointed out, that paper and pencil tests of behaviour and self-reports have an advantage over physiological techniques in that they are much more precise in focussing in on a specific affective construct. In particular, one should take into account that the same types of physiological arousal may be shared by different affective constructs, and that different people may experience the same affective state, yet may be exhibiting or experiencing varying levels of several physiological responses. McCroskey (1997) also drew attention to problems related to collecting data for constructs such as communication apprehension through observation and indications of physiological arousal. He concluded that self-report measurement was the most suitable solution, which he takes to explain why it is the most widely employed approach.

Thus, because of the relative practicality and the possibility of gathering large quantities of information in a short time, self-report scales were used in this investigation.

As Oller & Perkins (1978a, 1978b) pointed out, administering questionnaires in the target language results more in a measure of the subjects' levels of English proficiency rather than giving insight into the desired psychological constructs. Consequently, for this study the questionnaires were administered in the subjects' mother tongue – Turkish - as the aim of the scales was to assess individuals' responses reflecting their levels of anxiety and not their English proficiency. A distinct measure was employed to assess their levels of English proficiency. The Turkish versions of Spielberger's Test Anxiety Inventory and Spielberger's State – Trait Anxiety Inventory by Öner (1985, and 1982 respectively) were employed and the Foreign Language Classroom Anxiety Scale by Horwitz and colleagues was translated into the subjects' first language, Turkish.

Measures Employed:

1. Foreign Language Classroom Anxiety Scale:

A translation of the **Foreign Language Classroom Anxiety Scale (FLCAS)** by Horwitz, Horwitz, and Cope (1986) into Turkish was used. The original FLCAS was developed by Horwitz and affiliates based on conversations with American learners of French at Beginner level. This questionnaire consists of 33 items. In accordance with the researchers' claim that foreign language anxiety is related to the factors of 'communication apprehension', 'fear of negative evaluation', and 'test anxiety', the

FLCAS is constructed to assess subjects' levels of foreign language anxiety based on these components.

“Communication Apprehension (CA) is defined by McCroskey (1977) as “the level of fear or anxiety associated with either real or anticipated communication with another person or persons” (p.78). In its original conception, CA was considered as a broad-based personality-type characteristic which is relatively enduring and not subject to major fluctuations from one time to another (Beatty, Balfantz, and Kuwabara, 1989). Gudykunst and associates (1995) claim that people experience some amount of anxiety any time they communicate with each other. The special communication apprehension permeating in foreign language learning derives from the personal knowledge that one will almost certainly have difficulty understanding others and making oneself understood” (Horwitz, Horwitz, and Cope, 1986, p.127).

“Fear of Negative Evaluation” refers to “apprehension about others’ evaluations, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively” (Watson and Friend, cited in Horwitz, 1986, p.128).

Finally, since performance evaluation is an ongoing feature of most foreign language classes, “Test Anxiety” is relevant to a discussion of foreign language anxiety (Horwitz, Horwitz, and Cope, 1986).

The FLCAS consists of statements like the following that the subjects are asked to respond to on a five-point Likert scale.

1. I never feel quite sure of myself when I am speaking in my foreign language class.

2. I *don't* worry about making mistakes in language class.
3. I tremble when I know that I am going to be called on in language class.
4. It frightens me when I don't understand what the teacher is saying.

(See Appendix 3 for the Turkish form and Appendix 4 for the full scale in its original version.)

The FLCAS has been reported to be a valid and reliable tool to measure subjects' foreign language anxieties (Aida, 1994; Horwitz, 1986; Price, 1991): The scale was examined for reliability and validity by its author Horwitz (1986). The results revealed test-retest reliability over 8 weeks; the analysis yielded a significant correlation coefficient ($r = .83, p < .001$). The FLCAS has also demonstrated internal reliability achieving an alpha coefficient of .93 with all items producing significant corrected item-total scale correlation. She also examined the scale's validity and revealed significant correlation ($r = .28, p < .05$) with communication apprehension as measured by McCroskey's Personal Report of Communication Apprehension; ($r = .53, p < .01$) with test anxiety as measured by Sarason's Test Anxiety Scale; ($r = .36, p < .01$) with fear of negative evaluation as measured by Watson and Friend's Fear of Negative Evaluation Scale; the FLCAS correlated with final grades as well ($r = -.49, p < .01$). These results were supported by Price (1991) who reported that the FLCAS scores of her 106 French subjects were positively correlated with test anxiety ($r = .58, p < .001$) and public speaking anxiety ($r = .43, p < .001$). The FLCAS scores correlated negatively with final grades ($r = -.22, p < .05$), final scores ($r = -.29, p < .01$), and oral exam scores ($r = -.27, p < .05$). Even though the presented reliability

and validity measures are far from being convincingly high, they are regarded as acceptable.

A slightly different analysis was carried out by Aida (1994), who conducted a study to see whether it is possible to adapt the scale to languages other than English. She concluded that the FLCAS is a reliable tool regardless of whether the language is a Western European language or not. The factor solution of her study provided support for Horwitz and colleagues' construct of foreign language anxiety consisting of 'communication apprehension' and 'fear of negative evaluation'; however, the study did not support their claim that 'test anxiety' is another component of foreign language anxiety.

Though the Turkish version of the FLCAS has not been subjected to an analysis of its reliability or construct validity, the items were found comparable to Erkin and Erçetin's (1996) Turkish translation of the FLCAS with .4996 correlation ($p < .001$) to the Test Anxiety Inventory and internal consistency of .8984.

In the future, however, the FLCAS, needs to undergo a further process of translation – backtranslation in the cultural context in which it is used to ensure its reliability and validity in relation to local environmental and linguistic factors.

2. Test Anxiety Inventory:

Öner's (1985) translation of Spielberger's (1972) **Test Anxiety Inventory** was used (see Appendix 1) : The Test Anxiety Inventory consists of two subcategories: 'worry' and 'emotionality', the former relating to individual negative self-evaluations which affect their performance on tests, and the latter constituting the physiological arousal. The TAI asks the subjects to indicate the frequency in which they experience the situations depicted in the 20 inventory items (with 8 items addressing the 'worry' component and 12 items addressing the 'emotionality'). The scale renders three different scores: the worry score (TAI – W), the emotionality score (TAI- E), and the combined or total score (TAI – T).

Öner (1990) stated that experience revealed that university students complete their scales in 8-10 minutes. However there is no time limit restricting the time students are allowed to respond to the items. For the validity of the scoring, it is required that all items be marked. Inventories with more than two items that are not responded to will have to be discarded from analysis.

Scoring: The subjects express their levels of test anxiety by means of a four level scale: For each item there are four alternative responses:

1 almost never

2 sometimes

3 often

4 almost always

The score of each response is determined by the number assigned, hence the weighting of the scores varies between 1 and 4. Except for the first item, which is reverse, for all items (19 items altogether) the alternative ‘almost never’ weighs 1 point and indicates a low level of test anxiety. As the first item, which reads as “Sınavda kendimi güvenli ve rahat hissedirim” and was translated from “I feel safe and comfortable at exams” is inversely worded, the scoring is reverse as well: High test anxiety (i.e. 4 points) is reflected by the alternative response ‘almost never’, while low test anxiety is revealed by ‘almost always’.

Since the points assigned to each item range from 1 to 4, the minimum total test score is 20 and the maximum is 80, taking all 20 items into consideration⁹.

Öner (1990) recites Spielberger’s (1980) evidence revealing that the original American version of the TAI is reliable and valid: The items reveal homogeneous behaviour and internal reliability by means of a Cronbach alpha coefficient of over .92 and with item-total score correlation of .60. The scores of the items of the TAI prove to be consistent through test-retest and Pearson Momentus applications over a two week to 6 month period. The obtained correlation coefficients of between .81 and .62 show that the stability of scores is at a sufficient level.

As for the Turkish version, after reaching a satisfactory level in terms of language and meaning, the Turkish form of the TAI was subjected to back-translation by two bilingual American instructors who speak Turkish fluently. Kaymak (1985) revealed

⁹ For the ‘worry’ component, the points for 8 items (2, 3, 4, 5, 8, 12, 17, and 20) are added, rendering scores ranging from 8 to 32.

For the ‘emotionality’ component, the points for 12 items (1, 6, 7, 9, 10, 11, 13, 14, 15, 16, 18, and 19) are calculated, resulting in scores ranging from 12 to 48.

the reliability and validity of the Turkish TAI: First of all, it was found that the Turkish version of the TAI proved to be as reliable as its English version with Cronbach coefficients of .93, and .94. Further, as for the internal reliability of the Turkish TAI, Kuder Richardson 20 (Cronbach Alpha) coefficients varied between .89 and .73. The highest reliability coefficients were obtained from the total test scores, and it was found that the emotionality sub test revealed a slightly higher reliability than the worry sub test.

Test-retest reliability was established by test-retest correlation coefficients, which were calculated on same day and three weeks periods' administrations. The correlation coefficients were found to be over .70 and .90. Another finding was related to the scale's construct validity: The TAI scores have been correlated to trait anxiety scores and state anxiety prior to tests. Moreover, correlations of the TAI with personality measures such as the self construct inventory resulted in negative correlations between -.31 and -.56. Also, correlations between TAI and subjects' GPA (as illustrating students level of success) were analysed, and it was found that negative correlations ranged from -.43 to zero.

3. Trait Anxiety Inventory:

Öner's (1985) translation of Spielberger's (1970) **State - Trait Anxiety Inventory (STAI)** was used (see Appendix 2) : This inventory is a self-report questionnaire consisting of short statements aimed at determining people's levels of State anxiety felt in specific situations, under certain conditions, as well as their levels of Trait anxiety, that is, their tendency to experience anxiety throughout a wide miscellany of situations. Even though it was initially developed to investigate anxiety in normal adults, later experiments revealed that it was also an appropriate measure for high school students and individuals with psychiatric disorders and physical illnesses. The results of ten years of investigation have led to the contention that it may be used with adults as well with the entire range of youth.

The STAI consists of two distinct measures: The State Anxiety Inventory measures how the individual feels in a certain moment and under certain circumstances. It needs to be answered reflecting one's feelings regarding that particular situation. The Trait Anxiety Inventory, in contrast, directed at finding out whether one has a general predisposition to feel anxious in any sort of situation, at any time, requires the respondents to describe how they feel in general. The two scales are independent of each other, and hence may be used autonomously.

For this research only the Trait Anxiety Inventory, which consists of 20 items, is used. The subjects have to indicate the frequency in which they feel or behave as articulated in the provided statements. In other words this means that they mark whether they

- 1) almost never
- 2) sometimes
- 3) often
- 4) almost always

identify with the items.

Öner and LeCompte (1985) stated that there is no restriction in the time subjects are given to answer the questionnaire, that however, experience revealed 20 minutes to suffice to do both forms, the State and Trait Anxiety Inventories. As for this study only one of the two forms was used, approximately 10 minutes was set as an adequate amount of time for university students.

Scoring: As stated formerly, the items are responded to in a four level scale. Each alternative has a weighing from 1 to 4. As the measure consists of 20 items, the total scores acquired vary from 20 to 80, with a high score indicative of high levels of trait anxiety. In the case of a questionnaire having more than three unanswered items, it is considered invalid and has to be discarded from statistical analysis. The trait anxiety scale comprises two kinds of statements, 1) direct and 2) reverse ones. Direct statements express negative feelings while reverse ones express positive feelings. For direct statements, such as "I feel uneasy" a selected alternative number 4 ('almost always') weighs 4 points indicating high levels of anxiety. For reverse items like "I feel calm" the weighting is inverse, hence a selection of response number 4 weighs 1

while a selection of response number 1 ('almost never') weighs 4, and hence reflects high levels of trait anxiety. In the Trait Anxiety Inventory there are 7 reverse items¹⁰. To obtain subjects' total trait anxiety scores the direct items and the reverse items' responses are separately calculated. Then the score yielded by the reverse items is subtracted from the score yielded by the direct items. This value is then added to a predetermined fixed value, which is 35 for the trait anxiety score. The result is the individual's trait anxiety score¹¹.

As Öner and Le Compte (1985) acknowledged, the mean scores for university students' trait anxiety inventories rendered by their investigations range from 36 to 41, with the standard deviation varying between 7.5 and 11.7. It is suggested that the extent to which one's score resembles the mean scores provided in their 'norm table', the individual's level of anxiety may be considered to be close to that of the group presented. They point out that in addition to the mean scores, standard deviation needs to be taken into consideration. It is said that if a subject's score exceeds the mean score by two standard deviations, it is to be concluded that this subject's level of trait anxiety is above the 'normal' range, or 'high'.

To facilitate subjects responding to the items in an unbiased, intimate, and uninhibited manner, the questionnaires' titles (the foreign language classroom anxiety scale, the test anxiety inventory, and the trait anxiety inventory) were changed, so as not to include the word 'anxiety'. Hence, the students were asked to

¹⁰ In the original Trait Anxiety Scale they are items 21, 26, 27, 30, 33, 36, and 39; however, in the questionnaire used for this study – as the State Anxiety Inventory is not employed – they are items 1, 6, 7, 10, 13, 16, and 19.

¹¹ Expressed as a formula this would be: Total trait anxiety = total direct score – total reverse score + 35.

complete the “Beykent University, Research Inventory, Forms 1, 2, and 3” respectively.

4. Demographic Background Questionnaire:

A demographic background questionnaire is considered useful particularly when scrutinising foreign language anxiety. It might be the case that subjects who have had / or are having more exposure to English outside of the classroom context report noticeably different levels of language anxiety. The questionnaire taps questions regarding age of starting English studies, length of English studies, stays in an English-medium country, individual problem areas related to the English language, watching English channels on TV, reading English print media. (See Appendix 5 for the original questionnaire). Hence this questionnaire will provide the essential information to check that data by subjects, who have abundant of out-of-class English exposure and / or practice, do not confound the results of the study.

5. English Language Competence:

A. Proficiency: To measure their level of English proficiency the students took a form of the Michigan Test of English Proficiency, a standardized test of English proficiency.

B. Achievement: As an additional measure of subjects’ English language ability, the final grades of their English classes from the first term were analysed, to cross check the data obtained by the proficiency exam. Hence the students’ levels of English proficiency could be compared to their levels of English achievement.

3. PROCEDURES:

Data collection for this study was carried out in two main stages:

Stage 1: Questionnaire Administration:

The order in which the questionnaires were utilised is as follows:

Form Nr	Original Name of the Scales	Nr of items	Approximate Time Required
1	The test anxiety scale	20 items - Likert	10 minutes
2	The trait anxiety scale	20 items - Likert	10 minutes
3	The foreign language classroom anxiety scale	33 items - Likert	15 minutes
4	The demographic background scale	8 items	10 minutes
Total		81 items	45 minutes ¹²

As Hatch and Lazarton (1991) suggest, the demographic background questionnaire was administered after the other questionnaires to prevent subjects getting bored with easy items, which might result in their abandoning the task at hand. Even though it is not believed that the sequence in which the anxiety scales is administered would make a difference, the order is fixed so that the scales are completed in the same order. In this way, ensuring uniformity and precluding unpredicted changes in the results due to different presentation of items are achieved.

Nine weeks into the students' first semester (with 11 hours of English classes per week), their informed consent for the study was sought during a scheduled class. In

the same class, a battery of scales consisting of the questionnaires in the specified order were distributed by the classroom teachers or the investigator herself. As each scale in question comprises only a few items that can be completed in roughly 10 to 15 minutes each, they were administered at once. The subjects were reassured that their answers would be kept confidential, but it was emphasized that they needed to indicate their identities to enable the statistical analyses to be carried out as we needed to know the different scales belonging to the same individual. A further reason for asking the students to provide their names, was in their interest, so that they could benefit from the extra 5% credit for participating in the study.

Even though an application of the scales on different occasions might be favoured in terms of students getting bored or tired of them, the fact that all four scales were answerable in 30 to 40 minutes led to the preference of collecting all the questionnaire responses at one sitting in this study, predominantly to prevent attrition. The principal reason for this stemmed from the possibility that students present at one questionnaire administration might not happen to be in class for one of the other ones still to come, which would decrease the amount of data that could be subjected to statistical analysis. This, in turn would decrease the strength of the results based on the study. Moreover, the reason why the subjects were asked to complete the questionnaires in class, as opposed to supplying the subjects with the scales to be returned later on, followed Hatch and Lazarton's (1991) warning that time requirements and task boredom could discourage people from responding to inventories, and common sense knowledge that people do not tend to be eager to return questionnaires.

¹²This should basically give an idea of the time that might be needed by the subjects. However, it was observed that the students in this study completed their scales in about 25 – 30 minutes on average.

In accordance with Öner's (1990) suggestion that the investigator or the class teacher should read the instructions out loud while the students follow them silently, a page with guidelines for data collection was composed and supplied to all teachers who were involved in the questionnaire administration (see Appendix 6 for the English version and Appendix 7 for the Turkish version). As two of the teachers involved in this stage were not native speakers of the Turkish language, and as the questionnaires themselves were Turkish, the instructions were also to be given in Turkish. Hence, they were provided with the English notes and the Turkish transcript so they could use either one as long as they provided the information required.

Stage 2: In the third week of the second semester the subjects took a form of the Michigan Test of English Proficiency (Form P).

4. ANALYSES:

The data was analysed by means of the Statistical Package for the Social Sciences (SPSS, version 7.5).

Stage 1 – Preliminaries:

1.1 The reported test anxiety, trait anxiety, and foreign language anxiety scores for each subject was calculated and entered into the data analysis program.

1.2 The shape of distribution and range of the anxiety scores as well as the subjects' proficiency scores and final grades were checked by means of Q-Q plots.

1.3 Then the subjects were arranged in groups according to their scores of test anxiety, trait anxiety, and foreign language anxiety and categorised as 'low, medium, and high anxious':

A. Test Anxiety Groups: Male subjects with test anxiety scores (TA) 20 through 30 were rated as 'low test anxious', those with TA 31 through 46 as 'mid test anxious' and those with TA 47 through to 80 as 'high test anxious'; female subjects with TA ranging from 20 to 34 were rated as 'low test anxious', those with TA 35 through 55 'mid test anxious', and those with TA 56 and above 'high test anxious'¹³.

B. Trait Anxiety Groups: Subjects with trait anxiety scores (TRA) 20 through 46 were rated as 'low trait anxious', those with TRA 47 through 55 as 'mid trait anxious' and those with TRA 56 through to 80 as 'high trait anxious'.

¹³ The cut off points for the distinct categories were set in accordance with the standard score tables in Öner (1990). A score within the range of +1 to -1 standard deviation from the mean standard score was considered a normal level of TA, and hence scores above 1 standard deviation were rated high and those below 1 standard deviation were rated low test anxious. The same procedure was used for

C. Foreign Language Classroom Anxiety Groups: Subjects with trait anxiety (FLA) scores 33 through 70 were rated as 'low foreign language anxious', those with FLA 71 through 108 as 'mid foreign language anxious' and those with FLA 109 and above as 'high foreign language anxious'.

1.4 To see whether the subjects' sex and/or fields of study make(s) a remarkable difference in their levels of anxiety, English language proficiency scores, and grades, descriptive statistics and graphs were analysed¹⁴.

Stage 2 – Correlations

In accordance with previous studies examining similar constructs, and having checked the normality of the data, Pearson Moment correlations were carried out. Correlations between the differing kinds of anxiety with each other and with the proficiency and achievement (that is the final course grade) measures, as well as between the proficiency and achievement measures were sought. To take no risks¹⁵, in addition to the Pearson correlation a calculation of non-parametric correlation (Kendall's tau_b) was undertaken to see if the results rendered would be different.

TRA; for this categorisation the normative table in Öner and LeCompte (1985) was employed.

¹⁴ The results obtained from the background questionnaires were not used for any statistical analyses as the subjects' profile turned out to be very homogeneous.

¹⁵ Since some people doubt the continuity of data obtained through Likert type questionnaires, they would challenge the validity of using parametric tests such as Pearson correlation with this type of data.

The correlation obtained between test anxiety and foreign language classroom anxiety and the correlation between test anxiety and trait anxiety were used to determine whether test anxiety played a confounding role.

Stage 3 – Analysis of Variance (ANOVA):

3.1.A The subjects' foreign language proficiency scores were compared against each other to determine the influence if any of anxiety on this construct. To accomplish this, the subjects' reported test anxiety, trait anxiety, and foreign language anxiety groups were each, in turn, subjected to a one-way ANOVA to detect any significant differences in their levels of English proficiency.

3.1.B Next the subjects' final grades were compared against each other. To accomplish this, the subjects' reported test anxiety, trait anxiety, and foreign language anxiety groups were each, in turn, subjected to a one-way ANOVA to detect any significant differences in their English class final grades.

3.1.C Finally, a further set of one-way ANOVAs was carried out to examine whether the differing kinds of anxiety, test anxiety, trait anxiety, and foreign language anxiety have significant effects on each other. To do so, the subjects' total anxiety scores were used as the dependent variables while the anxiety group means were used as the independent variables. Also the effect of subjects' grades on their anxiety total scores was analysed in the same manner; for these calculations the grade group¹⁶ was taken as the independent variable.

¹⁶ For the categorisation of the subjects into grade groups: the students having a grade of 0 through 50 were rated 'low', the ones having a grade of 51 through 75 'mid' and the ones having a grade of 76

3.2 For those cases in which a significant F ratio (with α level set at .05) was obtained, a post hoc Sheffé was carried out to reveal where exactly the differences are most prevalent.

CHAPTER 4: RESULTS AND DISCUSSION

A. RESULTS

Stage 1 – Preliminaries:

1.1 The subjects' reported anxiety scores are displayed in Appendix 8.

1.2 The Q-Q plots demonstrating the shape of distribution and range of the scores under scrutiny can be seen in Appendix 9. The data obtained seems to be quite representative of a normal population. Hence, the data is presumed to fulfil the assumption of normality required for the parametric statistical tests employed.

1.3 The classification of subjects into 'low, mid, and high' anxiety groups illustrates that most subjects cluster around the 'mid' anxious groups, followed by the 'low' anxious groups with the second most incidents, and 'high' anxious groups consisting of the smallest proportion of the sample for all three anxiety types, that is, for test anxiety, trait anxiety, as well as for foreign language classroom anxiety:

FREQUENCIES

Table 1.1

FLA GROUPS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	2	1,1	1,1	1,1
	low	30	16,9	16,9	18,1
	mid	33	18,6	18,6	36,7
	Total	112	63,3	63,3	100,0
Total		177	100,0	100,0	

Graph 1.1

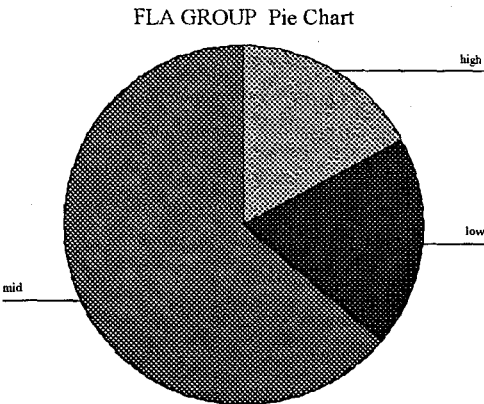


Table 1.2

TEST GROUPS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	2	1,1	1,1	1,1
	low	29	16,4	16,4	17,5
	mid	39	22,0	22,0	39,5
	Total	107	60,5	60,5	100,0
Total		177	100,0	100,0	

Graph 1.2

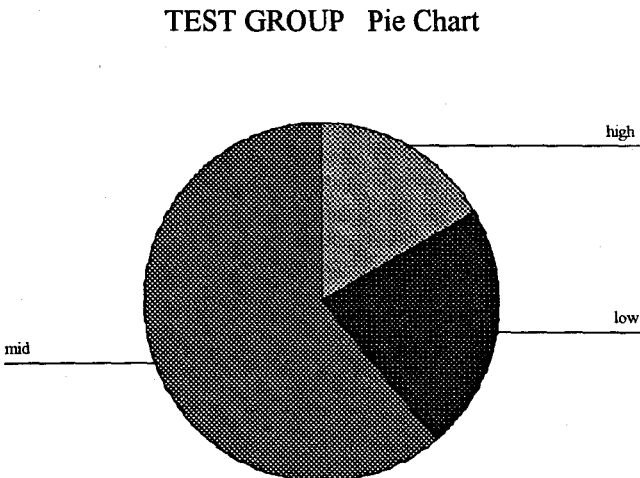


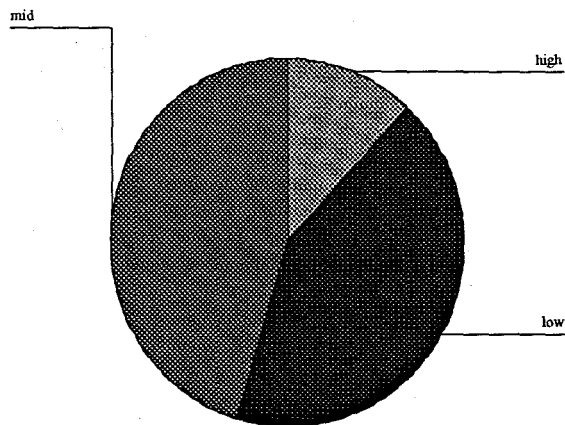
Table 1.3

TRAIT GROUPS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	3	1,7	1,7	1,7
	low	21	11,9	11,9	13,6
	mid	74	41,8	41,8	55,4
	Total	79	44,6	44,6	100,0
Total		177	100,0	100,0	

Graph 1.3

TRAIT GROUP Pie Chart



It is remarkable though, that the 'high' groups together with the 'mid' groups make up an overwhelming majority with 80% of the FLA group, 77.5% of the Test anxiety group, and 57% of the Trait anxiety group. Viewed from the opposite perspective, it comes to light that, except for trait anxiety, only approximately one fifth of the sample reported low levels of anxiety. Hence, suggesting that 57% of our subjects tend to be mid to highly trait anxious, while 77% tend to be mid to highly test anxious, and an even higher proportion (80%) tends to be mid to highly foreign language anxious.

1.4 The data has also been analysed as to detect any significant divergences due to differing sex or field of study. A detailed illustration of subjects' categorisation into

‘high, mid, and low’ levels of anxiety is displayed in Appendix 10, a summary of which is provided in the following table:

1.4.A Sex

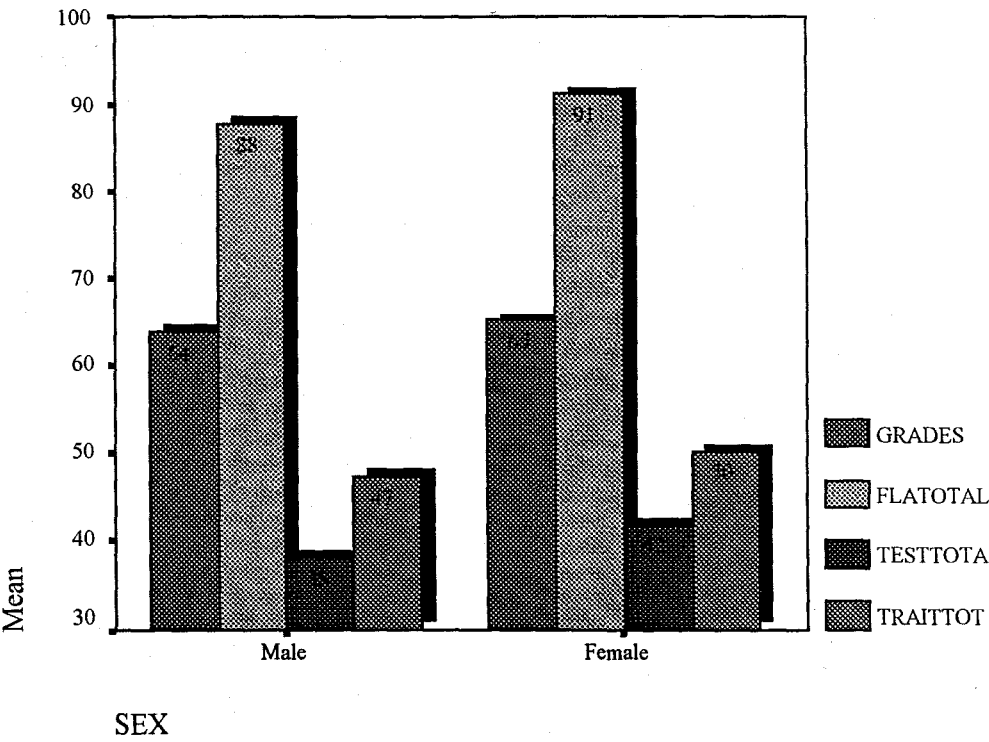
Table 2.1

Kind of Anxiety		FEMALE SUBJECTS		MALE SUBJECTS	
		Frequency	Percentage	Frequency	Percentage
FLA	High	12	18%	18	17%
	Mid	46	69%	66	60%
	Low	9	13%	24	22%
Trait	High	11	17%	10	9%
	Mid	36	54%	43	39%
	Low	19	28%	55	50%
Test	High	8	12%	21	19%
	Mid	43	64%	64	58%
	Low	16	24%	23	21%

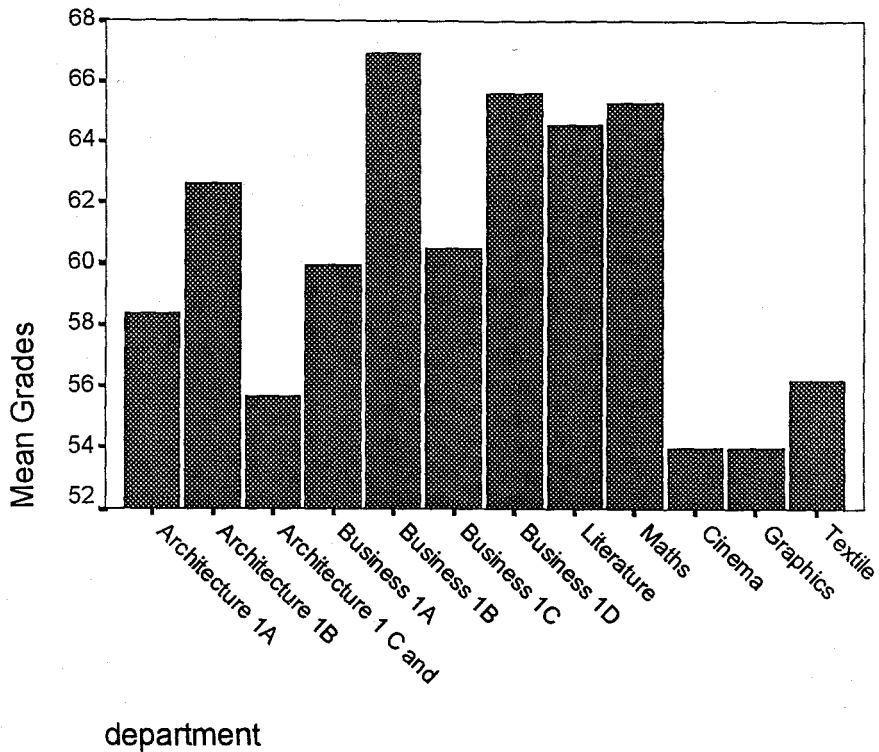
As demonstrated, except for the Trait anxiety mid (females 54% and males 39%) and Trait anxiety low (females 28% and males 50%) levels there seems to be no major differences among subjects’ levels of anxiety in relation to sex. Also, the anxiety total scores and grades do not show any major differences according to sex:

Grades, FLA total, TA total, and TRA total according to sex

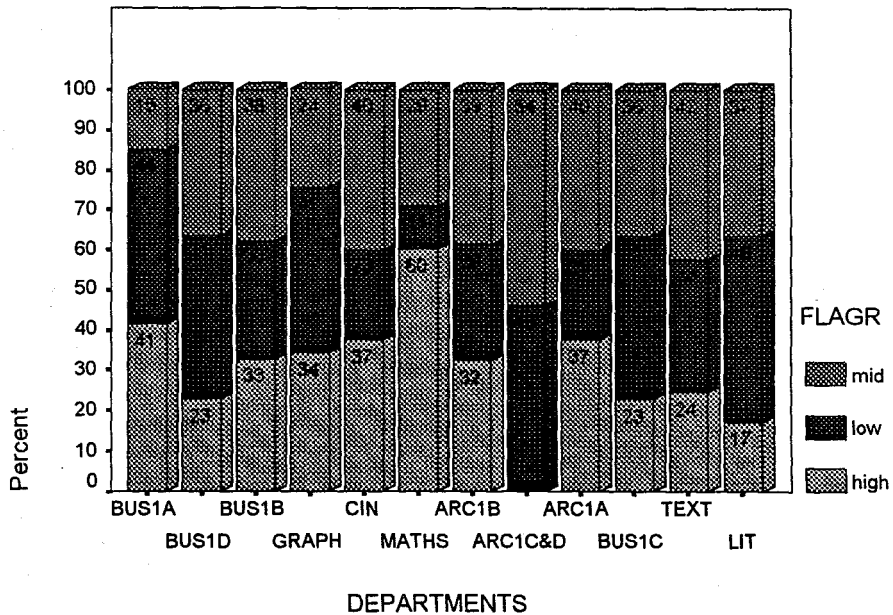
Graph 2.1



Grades according to departments (all students)
Graph 2.2



FLA groups according to departments
Graph 2.3



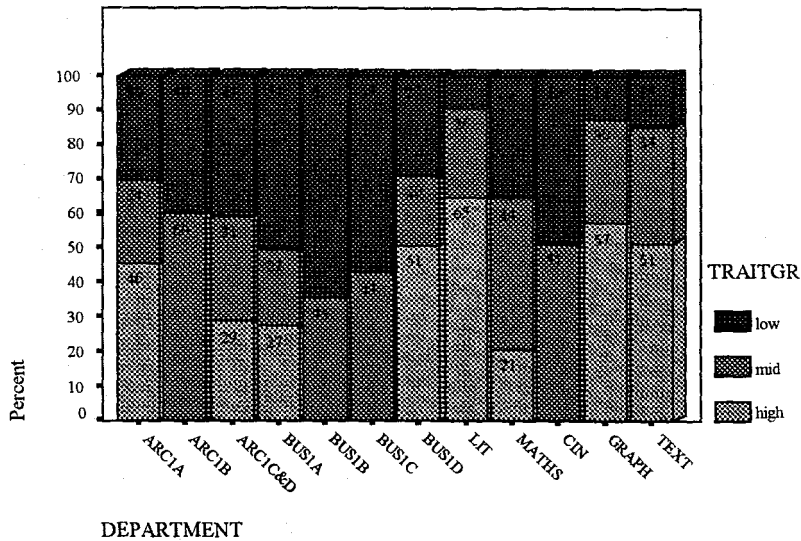
As far as subjects' distribution into groups of foreign language anxiety across departments is concerned, we observe a separation into three levels with averages close to each other. The average of subjects belonging to the low FLA group across

departments is 34.2%, the average of subjects making up the mid FLA group is 35.9%, and the average of subjects in the high FLA group is 30.1%.

The picture regarding students' distribution into the three levels of foreign language anxiety across departments looks quite even, except for the students in three departments, Maths and Computing (Maths) on one hand and Interior Architecture (Arc 1C+D), and English Language and Literature (Lit) on the other. In the interior architecture class, surprisingly, no students reported high levels of FLA, quite in contrast to the maths and computing class which reported high FLA (60%), which is far above the mean (30.1%), and low FLA (11%) far below the mean (34.2%). The English language and literature class also appears to comprise fewer students with high levels of FLA (17%). On the whole, however, since there is no obvious difference among the four business classes, the three architecture classes and the fine arts departments such as cinema, textile and graphic design, it does not look as if it is possible to draw any generalisations about subjects' levels of foreign language anxiety based on their departments.

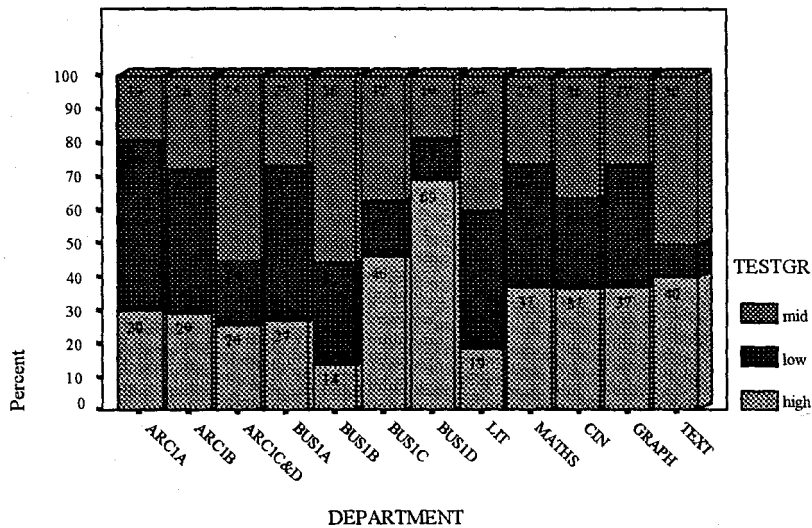
Trait groups according to department

Graph 2.4



Test groups according to departments

Graph 2.5



As for test anxiety across departments, there are again, a couple of classes that display extreme grouping in their test anxiety levels. The textile design (Text) class consists of only 10 % low test anxious subjects, 40% high and 50% mid test anxious subjects. The international relations (Bus 1D) class also exhibits only 13% of low test anxious students; however, in this class the distribution of the remainder is less

even than in the textile class, in this case (Bus 1D), we have a large (69%) highly test anxious group and a relatively smaller (19%) mid anxious group. Business 1 C and the interior architecture class (Arch 1C + D) also report a lower share of low test anxious students as compared to the other departments. The average of the low test anxious subjects across departments is 31.2%. The mid anxiety group has an average of 35%. The English language and literature class together with business 1B have the smallest share of high test anxiety students with 17% and 14% , respectively, while the average is 32%.

Stage 2 – Correlations:

An analysis of box plots revealed that the sample comprised five outliers. Thus, the correlation was first carried out with the whole sample and subsequently it was conducted without the data belonging to the outliers to see if their inclusion in the analysis makes a difference.

3.1 Correlations encompassing the whole data set

Table 3.1 Pearson¹⁷:

CORRELATIONS

		FLA total	Test total	Trait total	Proficien cy	Grades
Pearson Correlation	FLA total	1.000	.513**	.222**	-.053	-.284**
	Test total	.513**	1.000	.380**	-.170*	-.079
	Trait total	.222**	.380**	1.000	.130	.030
	Proficiency	-.053	-.170*	.130	1.000	.252**
	Grades	-.284**	-.079	.030	.252**	1.000
Sig. (2-Tailed)	FLA total		.000	.003	.514	.000
	Test total	.000		.000	.035	.298
	Trait total	.003	.000		.110	.698
	Proficiency	.514	.035	.110		.002
	Grades	.000	.298	.698	.002	
N	FLA total	175	175	174	153	174
	Test total	175	175	174	153	174
	Trait total	174	174	174	153	173
	Proficiency	153	153	153	154	154
	Grades	174	174	173	154	175

** . Correlation is significant at the 0.01 level (2-tailed)

* . Correlation is significant at the 0.05 level (2-tailed)

¹⁷ Since the nonparametric tests did not provide results any significantly different from the Pearson calculations they are not recited here. However, they can be found in Appendix 11.

3.2 Correlations after having excluded outliers (cases 20, 23, 51, 167, and 177)

Table 3.2 Pearson:

CORRELATIONS

		FLA total	Test total	Trait total	Proficien cy	Grades
Pearson Correlation	FLA total	1.000	.514**	.222**	-.054	-.300**
	Test total	.514**	1.000	.366**	-.158	-.106
	Trait total	.222**	.366**	1.000	.155	.023
	Proficiency	-.054	-.158	.155	1.000	.256**
	Grades	-.300**	-.106	.023	.256**	1.000
Sig. (2-Tailed)	FLA total		.000	.004	.516	.000
	Test total	.000		.000	.055	.169
	Trait total	.004	.000		.061	.770
	Proficiency	.516	.055	.061		.002
	Grades	.000	.169	.770	.002	
N	FLA total	170	170	169	148	169
	Test total	170	170	169	148	169
	Trait total	169	169	169	148	168
	Proficiency	148	148	148	149	149
	Grades	169	169	168	149	170

** . Correlation is significant at the 0.01 level (2-tailed)

On the whole, the correlation coefficients of the second computation turned out to be only slightly different from the ones of the first computation. However, two correlations between a) FLA total and grades, and b) Test total and proficiency were more remarkably different. In the former case, there is no difference in the degree of significance, yet in the latter case, a previous significance of .05 is lost after excluding the outliers' data.

The analysis revealed no significant correlation between any of the anxiety scores and proficiency. Proficiency only correlated significantly ($r = .256, p < .01$)¹⁸ with grades. Grades further correlated significantly ($r = -.300, p < .01$) with FLA scores as

¹⁸ Although the two analyses did not render greatly different results, only the correlation coefficients

did TA ($r = .524$, $p < .01$) and TRA ($r = .222$, $p < .01$). TA and TRA also correlated significantly with each other ($r = .366$, $p < .01$). The strength of relation for each significant correlation was computed to see the extent to which that particular relation accounts for the variance. The findings reveal that TA account for 26% ($r^2 = .2641$), TRA for 5% ($r^2 = .0492$), and Grades for 9% ($r^2 = .09$) of the FLA and vice versa. TA account for 13% ($r^2 = .1339$) of the TRA while Grades account for merely 7 % ($r^2 = .0655$) of the proficiency score and the other way round.

Stage 3 – Analysis of Variance (ANOVA):

3.1.A To see whether subjects belonging to differing levels of anxiety had a significant effect on their foreign language proficiency scores a set of one-way ANOVAs were conducted. The subjects' reported test anxiety, trait anxiety, and foreign language anxiety groups were each used as independent variables of a one-way ANOVA with English language proficiency as the dependent variable. The proficiency level of subjects did not differ significantly across levels of the FLA groups, $F(2,150) = .718$, $p = .489$. Nor did subjects' membership of trait anxiety groups have a significant effect on their proficiency, $F(2,150) = 1.626$, $p = .200$. The only anxiety grouping that seemed to have a significant effect on subjects' proficiency was test groups, $F(2,150) = 3.112$, $p = .047$. (See Appendix 12, section 1.1 through 1.3, for Output tables and post hoc calculations.)

3.1.B To find out whether there were any significant differences in the levels of differently anxious students' English class final grades a further series of one-way ANOVAs were conducted.

3.1.B.1 One-way ANOVA (Grades / FLA group)¹⁹

Table 4.1

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	1996.848	2	998.424	3.452	.034
	Within Groups	49465.267	171	289.271		
	Total	51462.115	173			

¹⁹ For post hoc results consult Appendix 12, sections 2.1 through 3.1.

3.1.B.2 One-way ANOVA (Grades / Test anxiety group)
Table 4.2

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	1593.111	2	796.555	2.731	.068
	Within Groups	49869.004	171	291.632		
	Total	51462.115	173			

3.1.B.3 One-way ANOVA (Grades / Trait anxiety group)
Table 4.3

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	664.231	2	332.115	1.121	.328
	Within Groups	50346.532	170	296.156		
	Total	51010.763	172			

The analyses displayed that Foreign Language Anxiety is the only kind of anxiety the differing groups of which have a significant effect on subjects' final course grades $F(2,171) = 3.452$, $p = .034$. Even though trait anxiety groups' effect does not even approach significance $F(2,170) = 1.121$, $p = .328$, test anxiety groups are quite close to significance $F(2,171) = 2.731$, $p = .068$.

To explore the issue of direction in reference to whether it is anxiety that causes performance deficits, or the experience of poor performance that causes anxiety, a further one-way ANOVA with FLA total scores as the dependent variable and grade groups as the independent variable was conducted:

3.1.B.4 One-way ANOVA (FLA total scores / Grade groups)
Table 4.4

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	5851.166	2	2925.583	7.607	.001
	Within Groups	65766.627	171	384.600		
	Total	71617.793	173			

The analysis reveals a quite impressive F value: $(2, 171) = 7.607$, $p < .001$ indicating that the grade groups the subjects belong to have a highly significant effect on the levels of foreign language anxiety they experience.

3.1.C²⁰ The analyses checking whether subjects' different levels of anxiety of one kind have a significant effect on the total scores of a different kind of anxiety revealed quite strong effects: it was observed that test anxiety groups have a significant effect on subjects' TRA total scores $F(2,171) = 7.371$, $p < .001$, as well as on their FLA total scores $F(2,172) = 27.061$, $p < .000$. Trait anxiety groups were also found to have a significant effect on FLA total scores $F(2,171) = 6.424$, $p < .002$, and TA total scores $F(2,171) = 16.461$, $p < .000$. Foreign language anxiety groups

²⁰ (For ANOVA tables and post hoc calculations see Appendix 12, sections 3.1 and following)

displayed a significant effect on TA total scores $F(2,172) = 247.998, p < .000$ and a nearly significant effect on TRA total scores $F(2,171) = 3.031, p = .051$.

Grade groups, however only proved to have a significant effect on subjects' FLA total scores $F(2,171) = 7.607, p < .001$, but no significant effect on either TA total scores $F(2,171) = 1.171, p = .350$ or TRA total scores $F(2,170) = .658, p = .519$.

B. DISCUSSION

Anxiety - A Widespread Phenomenon?

Scrutinising the division of subjects' into three levels of anxiety displayed that, except for trait anxiety, only approximately one fifth of the sample reported low levels of anxiety. Expressed in a different way, roughly four fifth of the sample report mid to high levels of anxiety. Hence, anxiety, especially, test and foreign language anxiety, seems to be rather prevalent and noteworthy. Therefore the findings proposing the large number of students 'suffering' from language anxiety corroborate with previous researchers' view on the significance of investigation into this domain (Aida, 1994; Campbell and Ortiz, 1988; Chastain, 1975; Horwitz, Horwitz, and Cope, 1986; Madsen, 1982; MacIntyre, 1995; MacIntyre and Gardner, 1989, 1991a, 1991b, 1991c, 1994; MacIntyre and Noels, 1996; MacIntyre, Noels, and Clément, 1997; Samimy and Rardin, 1994; Schumann, 1975; Steinberg and Horwitz, 1986; Young, 1991).

As discussed in length in the introduction, anxiety, be it test or foreign language anxiety, interferes with individuals' cognitive processing capacity as they are forced to cope with a dual task (Eysenck, 1979) in which they process task-irrelevant information, that is self-concerns and worries (Öner, 1990; Sarason, 1980), while they have to process task relevant information. This partial allocation of processing focus naturally leads to a decrease in processing capacity, and hence in subjects' performance. Thus, the fact that foreign language anxiety is observed to be quite wide spread among our subjects calls for attention and action.

Test Anxiety a Confounding Variable?

The finding that test anxiety and foreign language anxiety are observed to differ in the degree to which they exert influence on grades, as displayed by the ANOVAs, supports the belief that test anxiety does not play a confounding role in this study. The fact that the significant correlation between test anxiety and foreign language anxiety accounts for 26% of the total variance reveals that test anxiety has an undeniable effect. However, simultaneously this also indicates that 74% of the variance is related to factors other than test anxiety, which is a share large enough not to consider test anxiety as a confounding variable. Further, it needs to be born in mind that test anxiety is one of the subconstructs measured in the FLCAS; therefore, it is only natural and even desirable that there is some significant correlation between these two variables²¹.

²¹ In fact, the correlation obtained in this study ($r = .51$) is very close to the correlation obtained by Horwitz (1986) and Price (1991), when testing the validity of the FLCAS the former found a relationship of $r = .53$, $p < .01$ between the FLCAS and Sarason's Test Anxiety Scale, the latter found $r = .58$, $p < .001$.

Foreign Language Anxiety, Test Anxiety and Grades / Proficiency:

Though significant, the relationship between FLA total scores and students' grades is rather weak ($r^2 = .09$); moreover, the relation of test anxiety total scores and grades did not even turn out to be significant, contrary to what would be expected. The analysis revealed no significant correlation between any of the anxiety scores and proficiency either. Proficiency only correlated significantly ($p < .01$) with grades. Grades further correlated significantly ($p < .01$) with FLA total scores as did TA and TRA.

Proficiency / Grades – Test Anxiety:

It is puzzling that the proficiency measure did not correlate with test anxiety as the proficiency score was obtained through the application of a standardised test of English proficiency. A possible explanation for this might be that the students did not take the proficiency exam serious enough in spite of the credits they were offered. The fact that the students were to obtain extra credits for doing well on the exam, instead of its being a major part of their assessment for the course, may have led to their perception of the testing situation as being artificial. This may have prevented their real test anxiety from coming to surface and hence no significant correlation could be found. This confirms the belief that highly test anxious students do not perform any worse than their counterparts if they know that no negative evaluation of their performance will take place (Daly, 1991; Sarason, 1980). Hence, the role of evaluational stressors in determining the intensity of experienced test anxiety can be said to be demonstrated.

However, the fact that subjects' final course grades did not correlate significantly with test anxiety total scores makes the issue more complicated than it seems at first sight. Although the assessment procedure which determines the students' final course grades does not involve any traditional form of test taking as such, the students nevertheless went through a series of tasks to obtain their grade. And it was definitely clear to the students that their performance would count towards their course grade; therefore, evaluational stressors were unquestionably present. Perhaps this situation conforms to Madsen's (1982) conviction that task complexity has an important bearing on test anxiety. That is to say, even though the students were exposed to considerably stressful evaluational situations, the students' perception of the tasks as not being too complex may have resulted in the low correlation between test anxiety and subjects' final course grades. Nevertheless, it seems mysterious that no significant correlation among the proficiency or achievement measures (grades) and test anxiety was observed.

A further possibility that might account for the lack of a significant correlation between test anxiety total scores and grades might come from the type of assessment the students went through in their English course. The assessment of the students' English course did not involve any conventional forms of tests, instead, application of skills in context, such as performing the role of an interviewee, holding a presentation, taking notes from a lecture, and composing a summary were used to assign students' grades. Another factor that is related to assessment type is task familiarity. The fact that the students knew exactly what was expected from them, and had ample input about and practice opportunities for the tasks in question, might have 'prepared' them for the assessment situation. This seems to be consistent with

Madsen (1982), Madsen, Brown, and Jones (1991), and Young (1991) in their claim that test anxiety differs as a result of varying test types. Hence it seems reasonable to speculate that depending on the assessment procedure even students with moderate or high levels of test anxiety do not have to be necessarily at a disadvantage when it comes to evaluation of their knowledge and skills. In other words, if the assessment does not consist of traditional pen and paper type exams, and instead asks students to apply what they have learnt and/or to perform the skills they have acquired, this might reduce students' levels of test anxiety. This in turn would mean that there would be less interference with their ability to perform at optimal levels. However favourable such a form of assessment may appear, especially to highly test anxious individuals, it needs to be taken into consideration that audience anxiety, or social anxiety, which is broader in scope than test anxiety (Schwarzer, 1986), might in this case cause certain students to be the ones at a disadvantage.

Grades - FLA:

In fact, the observation that the correlation between FLA total scores and grades was slightly higher than that between test anxiety and grades might be explained with reference to students' higher levels of audience / social anxiety rather than test anxiety affecting their grades for the course. Since foreign language anxiety comprises communication apprehension, fear of negative evaluation, and test anxiety (Horwitz, Horwitz, and Cope, 1986), the heavy performance component of the class and its assessment might have had a negative effect on the subjects' grades. As was also detected by the ANOVA, a significant effect $F(2,171) = 3.452$; $p = .034$ of different groups of FLA seems to exist on the subjects' grades.

However, an important finding was obtained when the FLA total was taken as the dependent variable in a further ANOVA with grade group as the independent variable. At this point it was discerned that there is a highly significant effect of subjects' grade groups on their level of foreign language anxiety $F(2,171)= 7.607$; $p < .001$. Thus, the reciprocal and recursive nature of the linkage between FLA and performance (MacIntyre, 1995a; Young, 1991) is apparent.

Yet the finding that this second significant effect of grade group on FLA is bigger in magnitude suggests that it is not as much students' levels of anxiety that affect their levels of performance and success in their foreign language study, but instead, their levels of language achievement, as presented by their course grades, that have an impact on the level of foreign language anxiety they experience / report. This seems to be in line with Young (1991) who questioned whether it is anxiety, which causes low levels of proficiency or vice versa. Expressed differently, these results challenge Krashen's (1982) Affective Filter Hypothesis which put forward that low performance is a result of high foreign language anxiety; since, it transpires that it may be the experience of a failure in learning a foreign language that leads to the formation of foreign language anxiety. That is to say, that the affective filter which performs a preventive function, barring the individual from receiving adequate amounts of language input, does not have to exist in the first place; it may not be the primary cause for failing to learn or perform in a language; however, this does not rule out the later formation of an affective filter blocking successive attempts of learning.

The assumption that it might be experience that leads to language anxiety formation, rather than language anxiety leading to poor performance implies that language anxiety is neither hereditary nor stable. This, in turn, signifies that it should be possible to manipulate if not prevent it altogether. It is fairly normal that students who did well in the language class do not feel anxious about the language learning situation and as a result perform at optimal levels, whereas students who had previous negative experiences and / or low marks may have developed negative self-evaluation of their (foreign language) ability which may have developed into foreign language anxiety; this, in turn, may make their task more difficult because now they have to tackle a task that was not too easy for them in the first place, and on top of it, now they also have to deal with their negative self-thoughts and worries while trying to learn or perform a foreign language. This extra load might lead to a renewed failure increasing their level of anxiety even further, and so on. With each step this turns into a vicious circle that is really difficult to break. It is not hard to see that the two variables 'anxiety' and 'proficiency or achievement' are closely linked to each other, and that a change in one of them affects the other. The question that needs to be answered though is related to whether some people just through pure bad luck happen to have high levels of FLA and hence are determined to have a hard time learning foreign languages, or if FLA is a construct that develops as a response to outside influence, learning context, experiences, teacher - student relationship, materials used, tasks performed, and similar factors that might be manipulated to the learners' benefits.

Trait Anxiety and Foreign Language Anxiety:

The descriptive statistics reveal that 57% of our subjects tend to be mid to highly trait anxious, while 80% tends to be mid to highly foreign language anxious. Comparing the frequency of occurrence of trait anxious and foreign language anxious subjects reveals a quite remarkable difference of 57% as opposed to 80% which might be interpreted to propose that trait anxiety and foreign language anxiety are different constructs.

Not only do the descriptive figures encourage a view distinguishing trait anxiety from foreign language anxiety, but so do the results of the Pearson correlation. Although we see a significant correlation between trait anxiety and foreign language anxiety ($r = .222$, $p < .01$; $r^2 = .0492$), the relationship is rather weak. This seems to substantiate the view that foreign language anxiety is not just a manifestation of or a different label for trait anxiety, but a distinct construct instead. The finding that the correlation is not that ground - breaking reveals that people who are not highly trait anxious may have higher levels of foreign language anxiety, and vice versa. Even though the discrepancy might be in both directions, it is most likely to be in this course, that is to say, people who are generally at ease may be found to have a considerable level of foreign language anxiety²². Indisputably, this finding comes as a surprise to some people, as one would expect a rather high correlation among the two variables of concern, in that individuals with a tendency to be anxious regardless of situation would be consistent in their level of anxiety in the specific situation of foreign language study. The results obtained in this analysis, however, put forward

²² See Graphs 2.3 and 2.4 (on pages 83 and 85) revealing subjects' distribution in FLA groups and TRA groups according to departments revealing that some classes did not involve any students reporting high trait anxiety while with one exception all classes consisted of students reporting high

that even individuals who are not generally anxious may have considerable amounts of foreign language anxiety. And this in turn can be viewed as evidence that trait anxiety cannot be taken as a reliable confederate of foreign language anxiety and the same is true for foreign language anxiety being not precisely indicative of trait anxiety.

FLA Ggroups and Departments – Facilitating Anxiety, Intellectual Ability, or Language Aptitude?

The FLA grouping across departments was ascertained to be quite analogous with only a few distinguishable departments. The maths and computing class reported high FLA (60%) far above the mean (30.1%) and low FLA (11%) far below the mean (34.2%). This is particularly interesting in view of the fact that maths and computing is one of the classes with the highest average of the English class final grades (as demonstrated in Graph 2.2). Likewise, the English language and literature class is also one of the classes with a high average of grades while being one of the classes that reported only a small proportion of highly foreign language anxious students. In contrast, the interior architecture class did not report any instances of high anxiety which evokes the expectation that the students in this class must be successful language learners; however, a glance at Graph 2.2 reveals that this is a class with a rather low average of English class grades. This seems to make a case for anxiety to have a facilitating effect in that the maths students with rather high levels of anxiety performed well, while the interior architecture students with low levels of anxiety performed poorly. It can be speculated that the students with high levels of anxiety studied more seriously, or as Eysenck (1979) puts it, compensated

for the increased cognitive demand by increased effort, and as a result were successful in the course.

However, the question of how to draw the distinction between facilitating and debilitating anxiety in a classroom setting remains to be tackled. As can be seen, one class that reports high levels of FLA (in our case this is 'Maths') is one of the best performing classes together with other classes (Lit, Bus 1D) that have only a small proportion of students reporting high levels of FLA. It is actually exciting to see that a group of people with facilitating anxiety may have gathered in one department, as it is very likely that more students, who also experience high levels of anxiety and are successful in their foreign language study at the same time, are dispersed over the other departments. But these students are not visible because they get lost in the average of their class. It would probably be a rather courageous claim to maintain that students who prefer to study maths and computing seem to have a tendency to experience facilitating foreign language anxiety, yet the picture almost seems to substantiate this.

Nevertheless, it needs to be born in mind that factors other than anxiety may have caused this striking result. The situation might be interpreted in line with Ganschow et al. (1994) who draw attention to the relationship between overall intelligence and performance in foreign language class. They report that 25% of their subjects that reported high foreign language anxiety received an average of A in their foreign language classes. Perhaps, similarly, given that this is the department that demands a higher score of the university entrance exam than the other departments, it might be speculated that the maths class has performed well due to the high intellectual ability

of the students. When speaking of intellectual ability, for our purposes, logical-mathematical (Gardner, 1993) intelligence is thought of. Considering that learning a language as an abstract system (e. g. Chomsky's notion of competence) is quite similar to making sense out of or assembling the elements of a mathematical (abstract) computation, it is likely that students who are good at mathematical reasoning may also have a tendency to be good at linguistic reasoning. Yet, this has to be complimented by what Gardner refers to as linguistic intelligence (e. g. Chomsky's notion of performance). The maths students do indeed have an inclination to think that they are the most intellectually capable class of the school. This tendency in turn is quite reflective of these students' high degrees of perceived self-worth and scholastic competence. In fact, it might be just this high self-esteem that makes a difference in their performance as Onwuegbuzie et al. (1999) advocated. The researchers suggested that it is equally likely that a great deal of learners' expectations may be accounted for by foreign language aptitude and / or previous achievement as well as by anxiety.

Moreover, even if not related to students' intellectual profiles, it might be the case that language aptitude played a determining role. Hence, although the students report high levels of anxiety, their higher levels of language aptitude might have helped them perform better than others without having had to expend extra effort.

Finally, it is possible that the students' skills in Turkish provide the basic foundation for foreign language learning, along with their foreign language aptitude. In this sense, anxiety could play more of a confounding role than a determining one.

Anxiety and Sex?

The relationship between anxiety and sex was not an issue of initial interest. However, it was seen that some studies revealed deviating results for male and female subjects. Todman and Lawrenson (1992), for instance, found maths anxiety to be higher for female university students than for males. Stewart et al. (1998) found that males and females were seen to score significantly higher on distinct factors regarding concerns about anxiety. Thus arose a question regarding the possibility of drawing a distinction between male and female subjects' levels of foreign language anxiety. The results of the study confirm previous studies that failed to reveal a relation between anxiety and sex (French and Richards, 1990; Novy et al., 1995). Practically no difference was seen to exist between male and female subjects' levels of test and foreign language anxiety. The only kind of anxiety in which a rather salient difference was apparent is trait anxiety. It was observed that the male subjects, on the whole, reported fewer instances of mid trait anxious subjects and more cases of low trait anxious subjects as compared to their female counterparts. Thus we see that although the female subjects tend to be more trait anxious than the male ones, no such distinction seems to exist as regards their levels of foreign language anxiety.

Summary:

According to the results obtained from the correlations and the analyses of variance, the first hypothesis claiming that there is no relationship between subjects' levels of trait anxiety and their levels of foreign language anxiety can be rejected. There is a relationship, even though not very high; and a mutual effect of the two variables on each other with trait anxiety having a notably higher degree of significance.

The second hypothesis postulating that there is no relationship between subjects' foreign language proficiency and their levels of trait anxiety cannot be rejected. It looks as if trait anxiety does not have an effect on subjects' proficiency.

The third hypothesis that a negative relationship between subjects' foreign language proficiency and their levels of foreign language anxiety exists can be rejected, too. Proficiency did not prove to be significantly related to or affected by FLA.

The fourth hypothesis proposing a significant negative relationship between subjects' foreign language proficiency and their level of test anxiety is supported since the ANOVA revealed a significant effect ($p < .05$) of test anxiety group on proficiency.

The fifth hypothesis regarding the existence of a positive significant relationship between subjects' levels of foreign language proficiency and foreign language grades cannot be rejected as a significant correlation among the two measures of language competence was found ($p < .01$). However, the strength of the relationship did not turn out to be very high.

The sixth hypothesis denying a significant relationship between subjects' foreign language grades and their levels of trait anxiety proved to be right, as neither the correlations nor the ANOVA revealed any significant results.

The seventh hypothesis acknowledging a significant negative relationship between subjects' foreign language grades and their levels of foreign language anxiety cannot be rejected either.

The eighth hypothesis asserting that there is a significant negative relationship between subjects' foreign language grades and their level of test anxiety can be rejected even though the ANOVA rendered a nearly significant value.

CHAPTER 5: CONCLUSION AND IMPLICATIONS

A. CONCLUSION

The results obtained through this study illustrate that a large share of students reported high levels of foreign language anxiety, and that this foreign language anxiety was negatively related to their foreign language achievement. This underlines on one hand, the value of research into this construct, and on the other the necessity to sensitise teachers to this phenomenon and how to deal with it.

Further, it was demonstrated that trait anxiety and foreign language anxiety are related to each other. Nevertheless, the observation that there was no significant correlation of trait anxiety on subjects' grades or proficiency levels while there was a significant relationship between foreign language anxiety and subjects' grades, confirms the view that foreign language anxiety indeed is a separate construct not to be equated with trait anxiety.

In addition, the study also replicated previous findings defending the view that foreign language anxiety encompasses test anxiety.

B. IMPLICATIONS

Implications for the Classroom:

As this study revealed, it seems that it is not as much foreign language anxiety that leads to learning and / or performance deficits, but, instead it appears to be students' previous experience (of failure) that affects the formation of anxiety which then has a renewed negative effect on subjects' learning and performance. As argued before, this indicates that the occurrence of foreign language anxiety might be prevented through outside factors. This might be seen to accentuate the significance of what is going on in the classroom, that is to say, classroom dynamics, student to student interaction patterns, student to teacher interaction patterns, tasks the learners are asked to perform, feedback patterns, assessment procedures, and the like.

Hence, as pointed out by other researchers (Campbell and Ortiz, 1991; Horwitz, Horwitz, and Cope, 1986; Powell, 1991; Young, 1991) teachers appear to have a certain degree of control over the extent of language anxiety their students experience or develop. On one hand, they can deal with the students in such a way as to make the learning experience as more relaxed and easy going as possible, while on the other hand, they might try to help those students that seem or report to have foreign language anxiety. Nonetheless, it is not realistic to expect teachers to be able to know how to fulfil this duty by intuition or instinct. Therefore, it should be required of teacher education, first of all, to stress the vital effects of creating a low anxiety atmosphere in the classroom, and then also to provide the prospective teachers with tools, such as simple rules and tricks on how to achieve such a comfortable classroom atmosphere.

Considering the magnitude of students reporting mid to high levels of foreign language anxiety, it seems reasonable to provide some sort of help such as extra instruction or support groups as advocated by previous research. Campbell and Ortiz (1991), for instance, suggest foreign language anxiety workshops. Crookall and Oxford (1991) and Foss and Reitzel (1991) provide a series of activities aimed at alleviating subjects' anxiety. The activities mainly focus on the role of perceptions; they disclose mistaken perceptions of highly anxious individuals and help them to develop more realistic and positive perceptions. Another approach is defended by Powell (1991) who claims that knowing how to learn is a significant factor determining retention and success; and thus she emphasises learning skills assistance, and the inclusion of study skills classes into curricula. In addition to her proposal regarding study skills classes, she also suggests the provision of support groups for anxious students. The support groups supply the anxious learners with three main opportunities: first of all, students get a chance to attend lectures on study skills; further they are presented with relaxation exercises; and finally they are encouraged to express the frustration they experience in foreign language classes. These various forms of anxiety reduction 'treatments' attempt to raise learners' awareness regarding the fact that they are not the only ones having a problem such as high foreign language anxiety, and more significantly, that their anxiety is related a great deal to their beliefs and perceptions about language learning, their own abilities, the importance of making mistakes, and the like. They build on the same core assumptions, and hence appear to be equally valuable and to be recommended for use.

It seems reasonable to propose that teachers examine the detailed accounts of these researchers' suggestions and decide which ones appear to be most suitable for their students. Subsequent action research as regards the results of these various forms of treatment would render valuable insights.

A different facet of classroom interaction and atmosphere is also crucial: As Krashen (1982) maintained, the affective filter is down when the learner regards himself as a member of the group. This seems sensible, as one of the most striking factors of foreign language anxiety appears to be the fear of negative evaluation by others. The more one feels a team spirit in a class, the less one should be worried about others' ridiculing one. And the stronger the rapport among class mates, the less one should be viewing them as 'others' ready to evaluate one, but rather as friends who share the same aim: learning a language. Therefore one issue the teacher must deal with is to try to establish a strong sense of group membership in each individual student so that no one perceives himself as singled out.

Bearing in mind that students are less vulnerable to anxiety the younger they are, it is almost redundant to point out that particularly their first encounters and early experiences with the foreign language have a strong influence on their later experiences. In line with this it seems unquestionably crucial that they be treated with special care from the very onset.

Considering that the scope of this study was directed at finding out whether foreign language anxiety was salient in the Turkish EFL context and not the more qualitative aspects regarding the most anxiety provoking situations, beliefs, characteristics, etc.,

it is not possible to provide more detailed suggestions as to how to cope with foreign language anxiety. Further research would be necessary to elaborate the implications for classroom applications and curriculum development.

Implications for Further Research:

With respect to the instance encountered in this study where the maths class turned out to have a high average of foreign language anxiety and also a high average of the final course grade, the question is related to the origin of this phenomenon. Whether this is due to these subjects' experiencing facilitating levels of foreign language anxiety, or to their language aptitude or intellectual abilities cannot be determined as certain other measures would be needed to make a sound assumption. It would be necessary to get data about the amount of time the students spend for studying the subject matter, measures of students' first language aptitude and first language course grades, various types of intelligence, and / or students' scores in the university entrance exam. A more comprehensive study design might render an answer to the question of whether it is foreign language anxiety at facilitating levels, language aptitude, or certain types of intellectual ability that makes the distinction.

Moreover, the finding that proficiency was not related to test anxiety could be subjected to further examination. Employing a measure of language proficiency that is part of subjects' course assessment or subjects' scores on an examination such as the TOEFL ought to preclude the possibility that students do not take the testing situation seriously.

C. LIMITATIONS OF THE STUDY:

The study involved the analysis of data gathered by a sample of considerable size; however, it was not possible to select the subjects by random sampling.

Moreover, as the subjects are not wholly representative of the population of Turkish EFL learners which consists of students belonging to differing age groups, possessing variable levels of native and foreign language proficiency, intellectual capabilities, academic status, as well as diverse degrees of access to facilities such as books, magazines, Internet, and travel opportunities, it is not possible to generalise the results of this investigation to all EFL students in Turkey. Instead, the results serve to describe the particular set of students, which present a fairly homogeneous picture, in the particular context of a private English medium university in Istanbul, and thus may be generalised to other EFL learners in similar contexts. The fact that the students making up the sample are enrolled in a private university, rather than in a state university, restricts the degree to which the individuals vary from each other, while at a state university the students form a rather more divergent combination. This, in turn, restricts the possibility of generalising the results of the study, in spite of students' being comparable in terms of age, and possibly in terms of language proficiency, and other criteria, to students at English - medium state universities. Hence, this calls for a replication of the present study at English medium state universities to see whether the results would be comparable.

A further concern is related to the instrument used to measure the subjects' levels of anxiety. Even though self-report scales are used widely to assess individuals' anxiety levels, triangulating this design by including observations, interviews, introspective

evidence (such as diaries), physiological measures, and others to assess subjects' anxiety levels and comparing these with their self-report scores, would help increase the reliability of the results.

Briefly, the study is restricted as to the extent to which it provides information applicable to a broad audience, and calls for extensive further research in different contexts, with more students, different measures of language anxiety, controlling for variables such as age, gender, first language, level of first language proficiency, language aptitude, intellectual ability, socio-economic background, learner competitiveness, class solidarity and friendship, among others.

Finally, as is the case with almost all the investigations on anxiety and second language acquisition, the study portrays foreign language development in a formal setting. In this sense, it leaves out a significant portion of learning, namely, natural acquisition as this relates to anxiety. Obviously, research needs to be done assessing the relationship between natural acquisition of a foreign or second language and factors related to the anxiety construct.

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APPENDICES

APPENDIX 1

1. SINIF ÖĞRENCİLERİ ARAŞTIRMA ENVANTERİ - 1. BÖLÜM

İSİM.....
TARİH.....CİNSİYET.....(E) (K)

YAŞ.....

YÖNERGE: Aşağıda, insanların kendilerini tanımlamak için kullandıkları bir dizi ifade sıralanmıştır. Bunların herbirini okuyun ve *genel olarak* nasıl hissettiğinizi gösteren ifadenin sağındaki boşluklardan uygun olanın içini karalayın. Burada doğru ya da yanlış yanıt yoktur. İfadelerin hiçbirinde fazla zaman harcamayın, ancak yazılı ve sözlü sınavlarda genel olarak nasıl hissettiğinizi gösteren yanıtı işaretleyin.

	Hemen hiçbir zaman	bazen	Çoğu zaman	Hemen Her zaman
1. Sınav sırasında kendimi güvenli ve rahat hissederim.	(1)	(2)	(3)	(4)
2. O dersten alacağım notu düşünmek, sınav sırasındaki başarıyı olumsuz yönde etkiler.	(1)	(2)	(3)	(4)
3. Önemli sınavlarda donup kalırım.	(1)	(2)	(3)	(4)
4. Sınavlar sırasında, birgün okulu bitirip bitiremeyeceğimi düşünmekten kendimi alamam.	(1)	(2)	(3)	(4)
5. Bir sınav sırasında, ne kadar çok uğraşırsam kafam o kadar çok karışır.	(1)	(2)	(3)	(4)
6. Sınavlarda kendimi huzursuz ve rahatsız hissederim.	(1)	(2)	(3)	(4)
7. Önemli bir sınav sırasında kendimi çok sinirli hissederim.	(1)	(2)	(3)	(4)
8. Başarısız olma düşünceleri, dikkatimi sınav üzerinde toplamama engel olur.	(1)	(2)	(3)	(4)
9. Bir sınava çok iyi hazırlandığım zamanlar bile kendimi oldukça sinirli hissederim.	(1)	(2)	(3)	(4)
10. Önemli sınavlarda sinirlerim öylesine gerilir ki midem bulanır.	(1)	(2)	(3)	(4)
11. Bir sınav kağıdını geri almadan hemen önce çok huzursuz olurum.	(1)	(2)	(3)	(4)
12. Önemli sınavlarda kendimi adeta yenilgiye iterim.	(1)	(2)	(3)	(4)
13. Sınavlar sırasında kendimi çok gergin hissederim.	(1)	(2)	(3)	(4)
14. Önemli bir sınav sırasında paniğe kapılırım.	(1)	(2)	(3)	(4)
15. Sınavların beni bu kadar rahatsız etmemesini isterdim.	(1)	(2)	(3)	(4)
16. Önemli bir sınava girmeden önce çok endişelenirim (kurarım).	(1)	(2)	(3)	(4)
17. Sınavlar sırasında, başarısız olmanın sonuçlarını düşünmekten kendimi alamam.	(1)	(2)	(3)	(4)
18. Önemli sınavlarda kalbimin çok hızlı attığını hissederim.	(1)	(2)	(3)	(4)

- | | | | | |
|--|-----|-----|-----|-----|
| 19. Sınav sona erdikten sonra endişelenmemeye
(kurmamaya) çalışırım, fakat yapamam. | (1) | (2) | (3) | (4) |
| 20. Sınavlar sırasında öylesine sinirli olurum ki
aslında bildiğim şeyleri bile unuturum. | (1) | (2) | (3) | (4) |

APPENDIX 2

ARAŞTIRMA ENVANTERİ - 2. BÖLÜM

İsim.....

YÖNERGE: Aşağıda kişilerin kendilerine ait duygularını anlatmada kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyun, sonra da **genel olarak** nasıl hissettiğinizi, ifadenin sağ tarafındaki parantezlerden uygun olanını karalamak suretiyle belirtin. Doğru ya da yanlış cevap yoktur. Herhangi bir ifadenin üzerinde fazla zaman sarfetmeksizin **genel olarak** nasıl hissettiğinizi gösteren cevabı işaretleyin.

	Hemen hiç bir zaman	Bazen	Çok zaman	Hemen her zaman
1. Genellikle keyfim yerindedir.	(1)	(2)	(3)	(4)
2. Genellikle çabuk yorulurum.	(1)	(2)	(3)	(4)
3. Genellikle kolay ağlarım.	(1)	(2)	(3)	(4)
4. Başkaları kadar mutlu olmak isterim.	(1)	(2)	(3)	(4)
5. Çabuk karar veremediğim için fırsatları kaçıırım.	(1)	(2)	(3)	(4)
6. Kendimi dinlenmiş hissedirim.	(1)	(2)	(3)	(4)
7. Genellikle sakin, kendime hakim ve soğukkanlıyım.	(1)	(2)	(3)	(4)
8. Güçlüklerin yenemeyeceğim kadar biriktiğini hissederim.	(1)	(2)	(3)	(4)
9. Önemsiz şeyler hakkında endişelenirim.	(1)	(2)	(3)	(4)
10. Genellikle mutluyum.	(1)	(2)	(3)	(4)
11. Herşeyi ciddiye alır ve etkilenirim.	(1)	(2)	(3)	(4)
12. Genellikle kendime güvenim yoktur.	(1)	(2)	(3)	(4)
13. Genellikle kendimi emniyette hissedirim.	(1)	(2)	(3)	(4)
14. Sıkıntılı ve güç durumlarla karşılaşmaktan kaçınırım.	(1)	(2)	(3)	(4)
15. Genellikle kendimi hüznü hissedirim.	(1)	(2)	(3)	(4)
16. Genellikle hayatımdan memnunum.	(1)	(2)	(3)	(4)
17. Olur olmaz düşünceler beni rahatsız eder.	(1)	(2)	(3)	(4)
18. Hayal kırıklıklarını öylesine ciddiye alırım ki hiç unutmam.	(1)	(2)	(3)	(4)
19. Akli başında ve kararlı bir insanım.	(1)	(2)	(3)	(4)

20. Son zamanlarda kafama takılan konular beni
tedirgin eder.

(1)

(2)

(3)

(4)

APPENDIX 3

BEYKENT ÜNİVERSİTESİ

ARAŞTIRMA ENVANTERİ - 3. BÖLÜM

İsim.....

YÖNERGE: Aşağıda kişilerin **yabancı dil derslerine** ait duygularını anlatmada kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyun, sonra da sizin için ne kadar geçerli olduğunu, ifadenin sağ tarafındaki parantezlerden uygun olanını karalamak suretiyle belirtin. Doğru ya da yanlış cevap yoktur. Herhangi bir ifadenin üzerinde fazla zaman sarfetmeksizin **ingilizce dersleri ile ilgili** nasıl hissettiğinizi gösteren cevabı işaretleyin.

	Kesinlikle kat lı yorum	kat lı yorum	Emin değ ilim	kat lı yorum	Kesinlikle kat lı yorum
1. Derste konuşurken asla kendimden emin olmam.	(1)	(2)	(3)	(4)	(5)
2. Derste hata yapmaktan kaygılanmam / endişelenmem.	(1)	(2)	(3)	(4)	(5)
3. Derse kaldırılacağımı bildiğim zamanlar tir tir titrerim.	(1)	(2)	(3)	(4)	(5)
4. Derste öğretmenimin ne söylediğini bilmemek / anlamamak beni korkutur.	(1)	(2)	(3)	(4)	(5)
5. Daha fazla dil dersi almak beni rahatsız etmezdi.	(1)	(2)	(3)	(4)	(5)
6. Ders esnasında kendimi dersle ilgisiz şeyler düşünürken bulurum.	(1)	(2)	(3)	(4)	(5)
7. Diğer öğrencilerin dil konusunda benden daha iyi olduğunu düşünmeden edemiyorum.	(1)	(2)	(3)	(4)	(5)
8. Dersteki sınavlar esnasında genellikle rahatımdır.	(1)	(2)	(3)	(4)	(5)
9. Derste hazırlık yapmadan konuşmak zorunda olduğumda paniğe kapılırım.	(1)	(2)	(3)	(4)	(5)
10. Sınıfta kalmanın sonuçları beni endişelendirir.	(1)	(2)	(3)	(4)	(5)
11. Dil derslerinin insanları neden bu kadar çok ürküttüğünü anlamıyorum.	(1)	(2)	(3)	(4)	(5)
12. Derste o kadar heyecanlabiliyorum ki, bildiklerimi de unuturum.	(1)	(2)	(3)	(4)	(5)

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| 13. Derste gönüllü cevap vermekten çekinirim. | (1) | (2) | (3) | (4) | (5) |
| 14. Yabancılarla (anadili İngilizce olanlarla) İngilizce konuşurken rahatsız olmam / heyecanlanmam. | (1) | (2) | (3) | (4) | (5) |
| 15. Öğretmenin düzelttiği hataların ne olduğunu anlamamak beni sinirlendirir. | (1) | (2) | (3) | (4) | (5) |
| 16. Derse iyi hazırlandığım zaman bile tedirgin olurum. | (1) | (2) | (3) | (4) | (5) |
| 17. Sık sık derse gitmek içimden gelmez. | (1) | (2) | (3) | (4) | (5) |
| 18. Derste konuşurken kendime güvenirim. | (1) | (2) | (3) | (4) | (5) |
| 19. Öğretmenin yaptığı her hatayı düzeltecek olmasından korkarım. | (1) | (2) | (3) | (4) | (5) |
| 20. Derse kaldırıldığında kalbimin çok hızlı attığını / atışını hissedebilirim. | (1) | (2) | (3) | (4) | (5) |
| 21. Sınavlara ne kadar çok çalışırsam, kafam o kadar çok karışır. | (1) | (2) | (3) | (4) | (5) |
| 22. Derslere iyi hazırlanmak için baskı hissetmiyorum. | (1) | (2) | (3) | (4) | (5) |
| 23. Her zaman diğer öğrencilerin İngilizceyi benden iyi konuştuklarını hissederim. | (1) | (2) | (3) | (4) | (5) |
| 24. Diğer öğrencilerin önünde İngilizce konuşurken rahat olamam. | (1) | (2) | (3) | (4) | (5) |
| 25. Ders çok cabuk ilerliyor, geride kalmaktan endişe ediyorum. | (1) | (2) | (3) | (4) | (5) |
| 26. Diğer derslere oranla kendimi dil dersinde daha gergin ve heyecanlı hissederim. | (1) | (2) | (3) | (4) | (5) |
| 27. Derste konuşurken heyecanlanırım ve aklım karışır. | (1) | (2) | (3) | (4) | (5) |
| 28. Derse giderken kendimden çok emin ve rahatım. | (1) | (2) | (3) | (4) | (5) |
| 29. Öğretmenin söylediği her kelimeyi anlamazsam heyecanlanırım / tedirgin olurum. | (1) | (2) | (3) | (4) | (5) |
| 30. Bir dili konuşmak için öğrenilmesi gerekli olan kuralların sayısı beni sıkar. | (1) | (2) | (3) | (4) | (5) |
| 31. İngilizce konuşursam diğer öğrencilerin bana güleceğinden korkarım. | (1) | (2) | (3) | (4) | (5) |
| 32. İngilizceyi anadili olanlarla konuşurken kendimi muhtemelen rahat hissederim. | (1) | (2) | (3) | (4) | (5) |

33. Öğretmen daha önce hazırlanmadığım sorular (1) (2) (3) (4) (5)
sorduğunda sıkıntı / heyecan duyarım.

APPENDIX 4

Original FLCAS items by Horwitz and colleagues (1986)

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	(1)	(2)	(3)	(4)	(5)
1. I never feel quite sure of myself when I am speaking in my foreign language class.					
2. I <i>don't</i> worry about making mistakes in language class.					
3. I tremble when I know that I am going to be called on in language class.					
5. It frightens me when I don't understand what the teacher is saying.					
6. It wouldn't bother me at all to take more foreign language classes.					
6. During language class, I find myself thinking about things that have nothing to do with the course.					
7. I keep thinking that the other students are better at languages than I am.					
8. I am usually at ease during tests in my language class.					
9. I start to panic when I have to speak without preparation in language class.					
10. I worry about the consequences of failing my foreign language class.					
11. I don't understand why some people get so upset over foreign language classes.					
12. In language class, I can get so nervous I forget things I know.					
13. It embarrasses me to volunteer answers in my language class.					
14. I would not be nervous speaking the foreign language with native speakers.					
15. I get upset when I don't understand what the teacher is correcting.					

1. Hiç TOEFL hazırlık kursuna gittiniz mi?

(A) Evet

(B) Hayır

2. İngilizce öğrenmeye kaç yaşında başladınız?

(A) 1 ile 5 yaş arası

(B) 6 ile 9 yaş arası

(C) 10 ile 13 yaş arası

(D) 14 ile 17 yaş arası

(E) 18 yaş ve üstü

3. Okulda ya da dil okulunda kaç yıl ingilizce eğitimi gördünüz?

(A) 1 yıldan az

(B) 1 ile 3 yıl arası

(C) 4 ile 6 yıl arası

(D) 7 ile 9 yıl arası

(E) 10 yıl yada üstü

4. Hiç ingilizcenin konuşulduğu bir ülkede / ülkelerde bulundunuz mu?

(A) Hayır

(B) Evet

4.1 Nerede?

a) Amerika

b) İngiltere

c) Avustralya

d) Diğer _____

4.2 Kaç kez? _____

4.3 Ne kadar süre ile?

a) 1-3 ay

b) 4-6 ay

c) 7-12 ay

d) 1-2 yıl

e) 2 yıldan fazla

4.3 Hangi amaçla?

a) Seyahat

b) Dil öğrenmek

c) Okul

d) Diğer: _____

5. İngilizceyi kullanırken en sık hangi durumlarda hata yaparsınız?

(A) Konuşurken

(B) telaffuzda

(C) kelime bulmakta

(D) gramerde

(E) cümleleri birleştirirken

(F) yazarken

6. Evinizde kablolu yayın / uydu yayını mevcut mu?

(A) Hayır

(B) Evet

6.1 Hangi (İngilizce) yayınları izliyorsunuz?

6.2 Hangi sıklıkta?

- a) her gün
- b) 2-3 günde bir
- c) haftada bir
- d) 1-2 haftada bir
- e) diğer: _____

6.3 Ortalama ne kadar süreyle?

- a) 15 dak.
- b) 30 dak.
- c) 1 saat
- d) 1-2 saat
- e) 2 saat ve daha çok

7. Yabancılarla (İngilizce konuşanlarıyla) iletişim kurmaktan hoşlanırmısınız?

(A) Hayır

(B) Evet

7.1 Nerede? _____

7.2 Ne zamanlar? _____

8. İngilizce gazete, dergi, kitap vs. okur musunuz?

(A) Hayır

(B) Evet

8.1 Hangilerini? _____

8.2 Hangi sıklıkta?

- a) her gün
- b) 2-3 günde bir
- c) haftada bir
- d) 1-2 haftada bir
- e) diğer: _____

APPENDIX 6

Data collection guidelines

- please tell the students to take the questionnaires serious - as two years of effort and the outcomes depend on their answers, the degree to which the study will be reliable depends on their answers being true...
- tell the students to leave no questions out, otherwise there is no use in their doing the rest – the questionnaire will not be useful for statistical analysis

- tell them not to spend too much time on the items – there are similar ones, they should not get confused, instead they should just go ahead.
- Make sure they put their names on the questionnaires
 - tell them that the data will be used for statistical analysis only , that nobody else will have knowledge of their answers (i.e. that their answers will be kept anonymous)
 - further tell them that they will get extra 5 % for participating in the study

* Tell the students that after half an hour, the ones that have completed their scales may leave, but that they have to be in class until then.

APPENDIX 7

ANKET UYGULAMASI

Arkadaşlar şimdi yapacağımız şey, bir dizi ankete cevap vermek olacak.

Yalnız bu anketleri lütfen ciddiye alın, çünkü bu araştırmanın arkasında iki senelik bir emek var. Hatice hanımın yapmakta olduğu kapsamlı bir araştırmanın sonuçları sizin bu anketleri ciddi bir şekilde cevaplamanıza bağlı.

Bu sorularda doğru ya da yanlış cevap yoktur, sadece sizin için ne kadar geçerli olduklarını, ne kadar katıldığınızı vs. Belirtmeniz gerekmektedir.

Soruları cevaplarken hiç bir madde üzerinde çok fazla durmayın, okuyun hemen aklınıza gelen ilk maddeyi işaretleyin.

Bazı maddeler birbirlerine benzemekte, bu sizi şaşırtmasın, bir maddeyi cevapladıktan sonra tekrar dönüp bakmayın, doğru devam edin.

Anketlere isminizi yazmanızı istiyoruz ki, gerekli istatistiki analizleri yapabilelim. Ayrıca soruları hiç boş bırakmadan cevaplamanız gerekiyor ki anket geçersiz olmasın – eğer bir ankette bir boş soru kalırsa o anketin istatistiki analizi mümkün olmayacağı için geri kalanları boşuna cevaplanmış olur.

Ayrıca anketleri ciddi bir şekilde cevaplayan herkese 5% ekstra puan verilecek.

APPENDIX 8

ANXIETY DATA

SSnr	Sex	Age	TA	TRA	FLA	Prof	Exp	Dept	testgr	traitgr	flagr	grades
121	Male	29	35	46	91	30	1	ARC1A	mid	low	mid	61
122	Female	18	36	,	94	,	2	ARC1A	mid		mid	43
123	Female	20	43	47	137	60	1	ARC1A	mid	mid	high	46
124	Male	20	27	39	57	39	3	ARC1A	low	low	low	76
125	Female	19	48	56	103	44	3	ARC1A	mid	high	mid	63
126	Female	18	34	48	89	33	2	ARC1A	low	mid	mid	88
127	Female	18	24	40	79	33	1	ARC1A	low	low	mid	50
128	Female	19	61	60	130	30	2	ARC1A	high	high	high	64
129	Female	19	45	45	105	,	2	ARC1A	mid	low	mid	51
131	Male	23	31	46	105	,	1	ARC1A	mid	low	mid	51
132	Female	18	36	48	105	31	1	ARC1A	mid	mid	mid	53
133	Female	21	31	52	78	14	2	ARC1A	low	mid	mid	60
134	Male	22	25	47	69	,	4	ARC1A	low	mid	low	51
135	Male	18	54	55	102	40	3	ARC1A	high	high	mid	83
136	Male	22	51	53	117	39	3	ARC1A	high	mid	high	50
137	Female	18	28	42	100	34	2	ARC1A	low	low	mid	74
138	Female	19	29	41	102	46	1	ARC1A	low	low	mid	63
98	Female	18	41	51	95	31	2	ARC1B	mid	mid	mid	78
99	Female	19	51	44	61	35	2	ARC1B	mid	low	low	70
100	Female	19	38	46	114	28	2	ARC1B	mid	low	high	67

101	Male	20	23	37	57	23	3	ARC1B	low	low	low	51
102	Male	20	47	50	80	,	2	ARC1B	high	mid	mid	66
103	Male	18	22	52	118	57	3	ARC1B	low	mid	high	32
104	Female	19	50	53	99	28	2	ARC1B	mid	mid	mid	73
105	Female	19	37	47	83	28	3	ARC1B	mid	mid	mid	70
106	Female	20	42	53	79	45	3	ARC1B	mid	mid	mid	64
107	Male	19	48	48	95	23	2	ARC1B	high	mid	mid	51
108	Male	18	38	44	80	45	2	ARC1B	mid	low	mid	84
109	Female	18	33	50	96	59	3	ARC1B	low	mid	mid	82
110	Female	20	30	44	75	19	2	ARC1B	low	low	mid	50
111	Female	19	57	44	101	26	2	ARC1C&D	high	low	mid	58
112	Female	19	50	46	53	18	1	ARC1C&D	mid	low	low	60
113	Female	19	39	51	104	31	1	ARC1C&D	mid	mid	mid	40
114	Female	19	39	46	55	34	3	ARC1C&D	mid	low	low	56
115	Male	19	37	40	79	31	3	ARC1C&D	mid	low	mid	62
116	Male	19	34	52	80	,	2	ARC1C&D	mid	mid	mid	42
117	Female	19	31	47	93	,	3	ARC1C&D	low	mid	mid	50
118	Female	20	45	57	93	19	3	ARC1C&D	mid	high	mid	59
119	Male	19	37	45	73	42	2	ARC1C&D	mid	low	mid	70
120	Male	19	31	47	84	33	3	ARC1C&D	mid	mid	mid	60
1	Male	20	35	52	77	21	3	BUS1A	mid	mid	mid	68
2	Female	19	30	47	81	25	3	BUS1A	low	mid	mid	71
3	Male	21	62	55	130	15	1	BUS1A	high	high	high	51
4	Male	20	24	48	67	40	4	BUS1A	low	mid	low	90
5	Male	21	46	53	94	27	3	BUS1A	mid	mid	mid	74
6	Male	24	37	43	94	,	2	BUS1A	mid	low	mid	,

7	Male	24	43	52	109	21	1	BUS1A	mid	mid	high	69
8	Female	19	36	46	73	51	2	BUS1A	mid	low	mid	80
9	Male	20	32	46	62	23	2	BUS1A	mid	low	low	60
10	Male	20	22	45	61	44	4	BUS1A	low	low	low	89
11	Male	19	37	46	89	27	3	BUS1A	mid	low	mid	90
12	Male	20	29	43	68	,	2	BUS1A	low	low	low	62
13	Male	19	20	46	48	14	3	BUS1A	low	low	low	53
14	Male	19	26	43	57	37	4	BUS1A	low	low	low	74
15	Male	19	25	46	77	35	4	BUS1A	low	low	mid	58
16	Male	20	56	35	110	22	3	BUS1A	high	low	high	43
17	Male	20	42	46	51	34	4	BUS1A	mid	low	low	90
18	Male	20	36	45	76	30	2	BUS1A	mid	low	mid	79
19	Male	19	42	56	137	38	1	BUS1A	mid	high	high	82
20	Male	18	52	49	117	37	2	BUS1A	high	mid	high	84
21	Female	19	38	46	124	34	1	BUS1A	mid	low	high	55
32	Male	21	44	45	83	30	1	BUS1B	mid	low	mid	79
33	Male	22	44	49	101	,	2	BUS1B	mid	mid	mid	78
34	Male	19	40	45	99	30	3	BUS1B	mid	low	mid	69
35	Male	19	39	51	100	33	3	BUS1B	mid	mid	mid	78
36	Male	18	42	48	75	30	1	BUS1B	mid	mid	mid	84
37	Male	20	35	46	87	29	2	BUS1B	mid	low	mid	57
38	Male	18	45	42	78	27	3	BUS1B	mid	low	mid	65
39	Male	20	30	41	98	26	2	BUS1B	mid	low	mid	77
40	Male	20	51	49	124	,	2	BUS1B	high	mid	high	40
41	Male	22	29	43	83	39	3	BUS1B	low	low	mid	94
42	Male	19	34	45	87	29	3	BUS1B	mid	low	mid	64

43	Male	20	38	42	86	31	3	BUS1B	mid	low	mid	84
44	Male	21	31	39	119	34	4	BUS1B	mid	low	high	79
45	Male	21	42	46	77	34	3	BUS1B	mid	low	mid	68
46	Female	20	49	42	121	38	1	BUS1B	mid	low	high	20
47	Male	22	40	47	53	39	4	BUS1B	mid	mid	low	94
48	Male	18	29	41	64	,	2	BUS1B	low	low	low	5
49	Male	20	24	53	58	62	2	BUS1B	low	mid	low	93
50	Male	20	36	50	92	22	3	BUS1B	mid	mid	mid	75
139	Female	18	63	48	92	37	3	BUS1C	high	mid	mid	58
140	Male	20	33	48	74	25	2	BUS1C	mid	mid	mid	79
141	Male	22	58	44	123	22	1	BUS1C	high	low	high	58
142	Male	23	31	44	96	26	1	BUS1C	mid	low	mid	87
143	Male	,	33	42	81	25	1	BUS1C	mid	low	mid	52
144	Male	20	23	48	69	26	1	BUS1C	low	mid	low	55
145	Male	20	31	37	65	23	3	BUS1C	mid	low	low	66
146	Male	22	33	42	95	53	3	BUS1C	mid	low	mid	66
147	Female	20	42	51	73	28	2	BUS1C	mid	mid	mid	58
22	Male	18	30	44	57	44	2	BUS1D	mid	low	low	85
23	Female	19	65	58	101	23	2	BUS1D	high	high	mid	82
24	Female	18	58	62	108	25	2	BUS1D	high	high	mid	82
25	Male	19	47	51	89	41	2	BUS1D	high	mid	mid	79
26	Male	20	43	49	76	31	1	BUS1D	mid	mid	mid	73
27	Male	20	24	42	68	40	3	BUS1D	low	low	low	68
28	Female	20	51	51	109	23	3	BUS1D	mid	mid	high	73
29	,	,	,	,	,	19	,	BUS1D				46
30	Male	20	48	44	100	,	2	BUS1D	high	low	mid	52

31	Female	18	41	41	94	13	2	BUS1D	mid	low	mid	82
148	Female,		31	46	46	64	,	LIT	low	low	low	98
149	Female,		46	60	137	33	,	LIT	mid	high	high	10
150	Male	,	49	62	69	31	,	LIT	high	high	low	35
151	Male	,	35	54	107	,	,	LIT	mid	mid	mid	43
152	Female,		34	52	75	52	,	LIT	low	mid	mid	88
153	Female,		45	64	67	46	,	LIT	mid	high	low	88
154	Female,		36	49	75	31	,	LIT	mid	mid	mid	84
155	Male	,	33	52	90	53	,	LIT	mid	mid	mid	84
156	Female,		44	70	100	56	,	LIT	mid	high	mid	84
157	Female,		39	50	83	33	,	LIT	mid	mid	mid	80
158	Male	,	21	46	80	40	,	LIT	low	low	mid	58
159	Female,		35	54	72	55	,	LIT	mid	mid	mid	75
83	Female	20	33	47	81	39	1	MATHS	low	mid	mid	77
84	Male	19	38	45	91	42	2	MATHS	mid	low	mid	74
85	Male	20	28	43	66	,	3	MATHS	low	low	low	72
86	Male	20	55	56	113	,	2	MATHS	high	high	high	74
87	Female	19	56	52	111	,	2	MATHS	high	mid	high	82
88	Male	20	44	49	111	31	2	MATHS	mid	mid	high	43
89	Female	21	24	50	96	37	1	MATHS	low	mid	mid	61
90	Male	19	51	43	97	30	3	MATHS	high	low	mid	28
91	Male	20	41	46	109	,	2	MATHS	mid	low	high	63
92	Male	19	42	53	77	,	4	MATHS	mid	mid	mid	90
93	Female	18	39	49	118	,	2	MATHS	mid	mid	high	83
94	Female	20	54	48	85	42	2	MATHS	mid	mid	mid	87
95	Male	18	36	46	87	,	2	MATHS	mid	low	mid	67

96	Male	22	44	50	87	53	4	MATHS	mid	mid	mid	91
97	Male	19	29	43	82	46	2	MATHS	low	low	mid	30
66	Female	19	42	52	120	35	2	CIN	mid	mid	high	65
67	Female	20	31	48	76	32	3	CIN	low	mid	mid	66
68	Male	21	50	47	129	27	3	CIN	high	mid	high	45
69	Male	21	42	44	102	33	2	CIN	mid	low	mid	35
70	Male	25	23	50	53	51	2	CIN	low	mid	low	81
71	Female	22	53	54	90	49	3	CIN	mid	mid	mid	70
72	Male	22	35	36	86	40	3	CIN	mid	low	mid	57
73	Female	18	48	53	98	36	2	CIN	mid	mid	mid	70
74	Male	21	39	42	72	27	4	CIN	mid	low	mid	63
75	Male	22	45	43	108	34	1	CIN	mid	low	mid	58
76	Female	21	62	53	112	33	2	CIN	high	mid	high	63
77	Female	20	36	43	67	27	1	CIN	mid	low	low	57
78	Female	19	53	41	108	20	4	CIN	mid	low	mid	55
79	Male	20	29	45	97	17	1	CIN	low	low	mid	55
80	Male	18	53	50	93	19	2	CIN	high	mid	mid	60
81	Male	20	38	46	97	28	2	CIN	mid	low	mid	63
82	Male	22	41	51	73	36	2	CIN	mid	mid	mid	76
51	Male	19	44	56	90	21	3	GRAPH	mid	high	mid	55
52	Male	22	42	46	64	30	3	GRAPH	mid	low	low	82
53	Male	20	46	43	107	29	2	GRAPH	high	low	mid	31
54	Male	20	55	57	118	31	1	GRAPH	high	high	high	62
55	Male	20	37	56	50	36	2	GRAPH	mid	high	low	79
56	Female	20	53	66	113	27	1	GRAPH	mid	high	high	51
57	Male	19	38	49	91	20	1	GRAPH	mid	mid	mid	59

58	Male	19	38	52	98	22	1	GRAPH	mid	mid	mid	51
59	Male	20	60	48	112	24	1	GRAPH	high	mid	high	50
60	Female	19	31	42	61	13	3	GRAPH	low	low	low	76
61	Male	22	26	50	61	,	2	GRAPH	low	mid	low	18
62	Female	19	38	53	84	36	2	GRAPH	mid	mid	mid	54
63	Male	22	28	48	82	30	3	GRAPH	low	mid	mid	61
64	Female	19	39	51	100	21	2	GRAPH	mid	mid	mid	52
65	Male	18	28	48	74	29	3	GRAPH	low	mid	mid	61
160	Male	19	47	47	94	32	2	TEXT	high	mid	mid	47
161	Male	18	42	59	103	32	1	TEXT	mid	high	mid	51
162	Female	19	35	55	81	28	2	TEXT	mid	high	mid	61
163	Female	20	56	53	105	32	2	TEXT	high	mid	mid	46
164	Male	21	39	53	51	53	2	TEXT	mid	mid	low	75
165	Female	20	41	54	85	31	3	TEXT	mid	mid	mid	62
166	Female	19	43	55	76	34	1	TEXT	mid	high	mid	13
167	Female	18	42	48	69	33	2	TEXT	mid	mid	low	68
168	Male	21	30	48	106	31	2	TEXT	mid	mid	mid	62
169	Male	18	35	44	88	31	2	TEXT	mid	low	mid	55
170	Male	19	42	43	105	48	2	TEXT	mid	low	mid	57
171	Female	19	35	46	80	26	1	TEXT	mid	low	mid	69
172	Male	20	41	50	125	54	1	TEXT	mid	mid	high	60
173	Female	19	33	51	58	34	2	TEXT	low	mid	low	85
174	Male	20	44	48	114	57	2	TEXT	mid	mid	high	61
175	Male	18	45	46	95	30	1	TEXT	mid	low	mid	53
176	Male	20	50	70	107	39	1	TEXT	high	high	mid	43
177	Female	21	39	53	79	31	2	TEXT	mid	mid	mid	68

APPENDIX 9²³

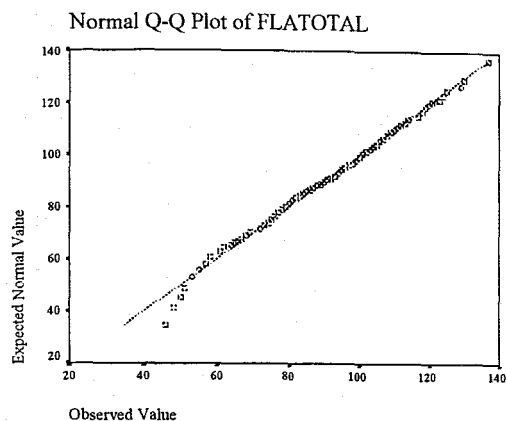
PPlot

MODEL: MOD_3.

Expected Normal quantiles calculated using Blom's proportional estimation formula and assigning the mean to ties.

For variable FLATOTAL

Normal distribution parameters estimated: location=89,062857 scale=20,291314



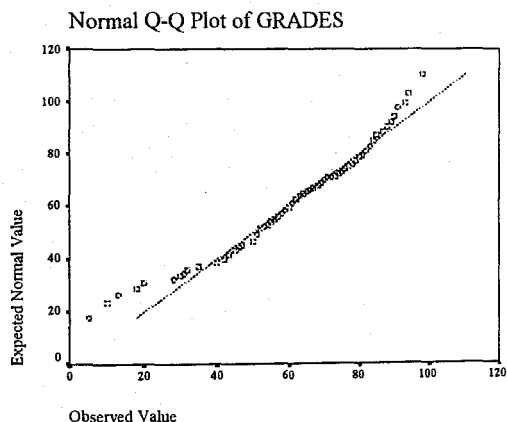
PPlot

MODEL: MOD_2.

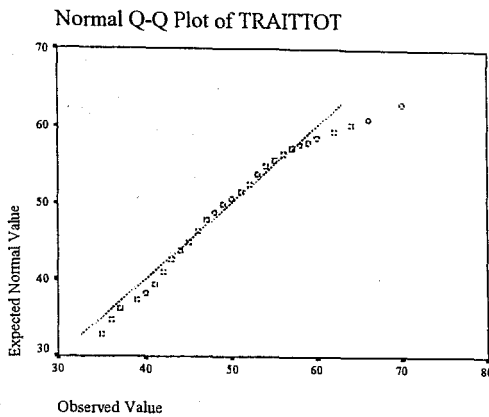
Expected Normal quantiles calculated using Blom's proportional estimation formula and assigning the mean to ties.

For variable GRADES

Normal distribution parameters estimated: location=64,08 scale=17,252499



²³ Since the figures and tables provided are transferred from the SPSS program where a comma is used as the decimal signalling device instead of a fullstop the figures presented consist of commas.



Explore TESTGR

Case Processing Summary

TESTGR	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
GRADES	1	50,0%	1	50,0%	2	100,0%
high	29	100,0%	0	,0%	29	100,0%
low	39	100,0%	0	,0%	39	100,0%
mid	106	99,1%	1	,9%	107	100,0%

Tests of Normality^b

TESTGR	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
GRADES high	,114	29	,200*	,943	29	,186
low	,135	39	,070	,947	39	,092
mid	,080	106	,095			

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

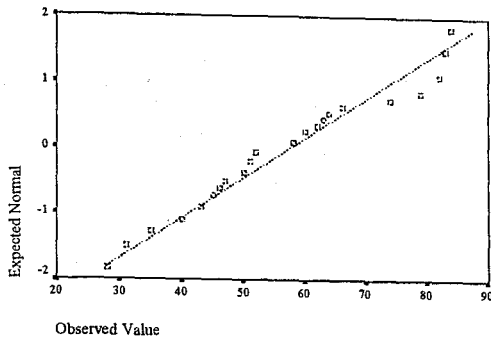
b. GRADES is constant when TESTGR = . It has been omitted.

GRADES

Normal Q-Q Plots

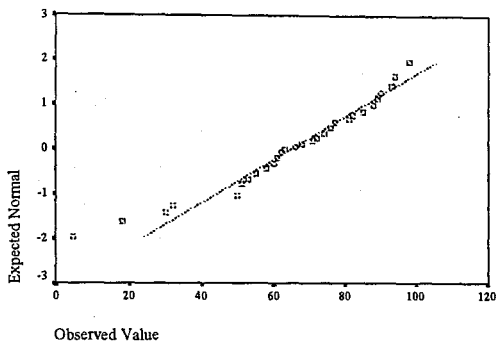
Normal Q-Q Plot of GRADES

For TESTGR= high



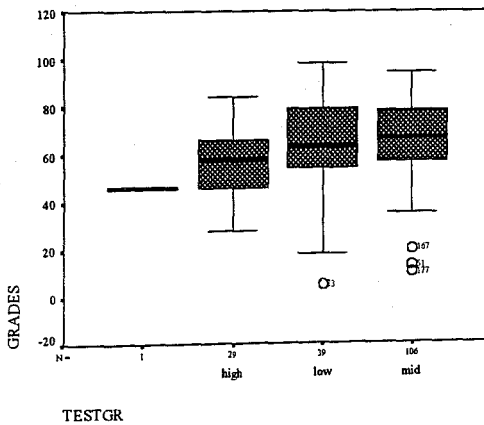
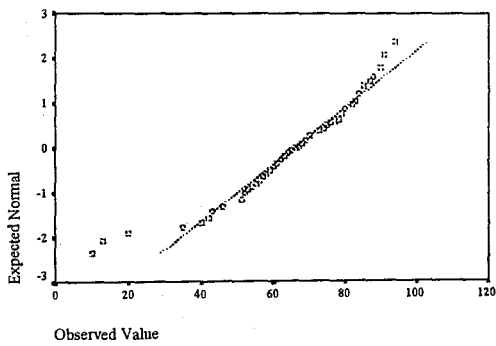
Normal Q-Q Plot of GRADES

For TESTGR= low



Normal Q-Q Plot of GRADES

For TESTGR= mid



TRAITGR**Case Processing Summary**

TRAITGR	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
GRADES	2	66,7%	1	33,3%	3	100,0%
high	21	100,0%	0	,0%	21	100,0%
low	73	98,6%	1	1,4%	74	100,0%
mid	79	100,0%	0	,0%	79	100,0%

Tests of Normality

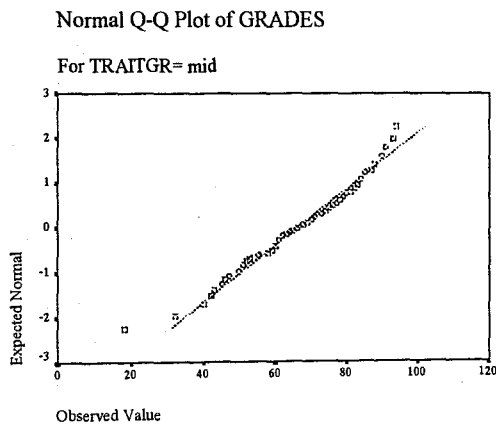
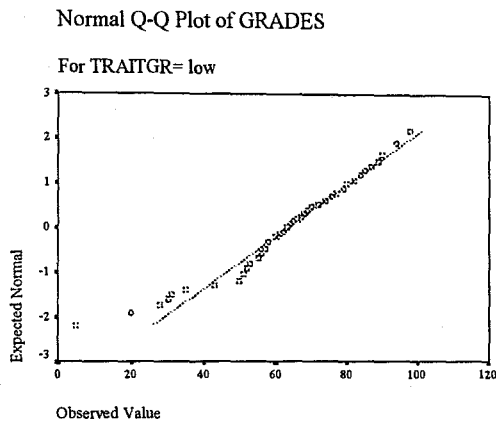
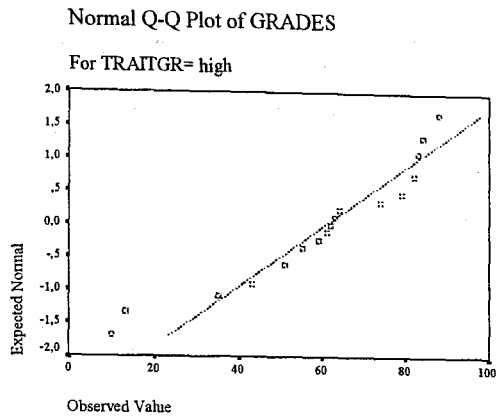
TRAITGR	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
GRADES	,260	2	,			
high	,142	21	,200*	,902	21	,041
low	,121	73	,009			
mid	,070	79	,200*			

*. This is a lower bound of the true significance.

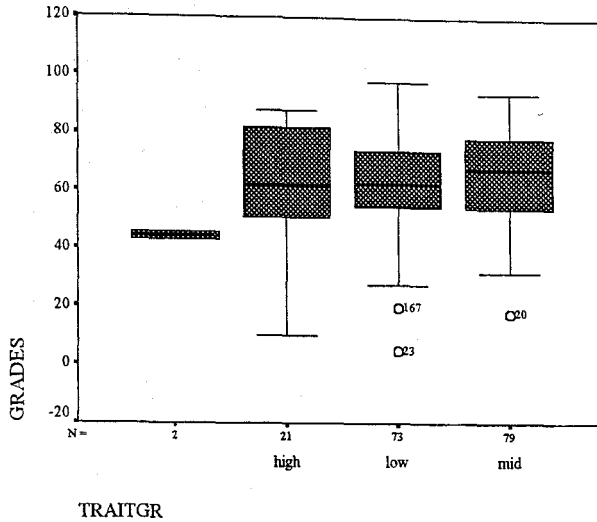
a. Lilliefors Significance Correction

GRADES

Normal Q-Q Plots



Boxplots



FLAGR

Case Processing Summary

FLAGR	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
GRADES	1	50,0%	1	50,0%	2	100,0%
high	30	100,0%	0	,0%	30	100,0%
low	33	100,0%	0	,0%	33	100,0%
mid	111	99,1%	1	,9%	112	100,0%

Tests of Normality^b

FLAGR	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
GRADES high	,088	30	,200*	,953	30	,298
low	,112	33	,200*	,913	33	,016
mid	,060	111	,200*			

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

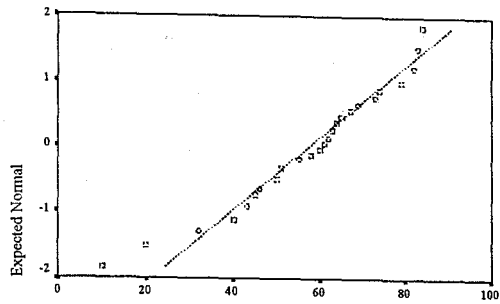
b. GRADES is constant when FLAGR = . It has been omitted.

GRADES

Normal Q-Q Plots

Normal Q-Q Plot of GRADES

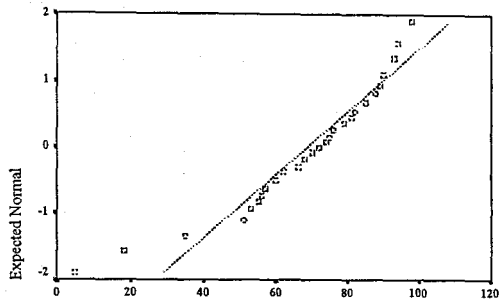
For FLAGR= high



Observed Value

Normal Q-Q Plot of GRADES

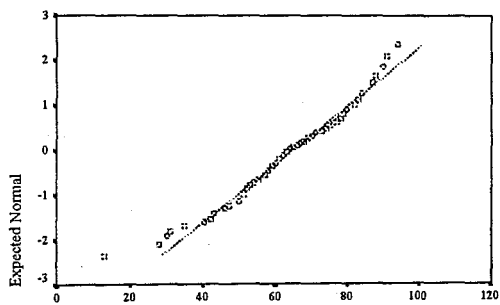
For FLAGR= low



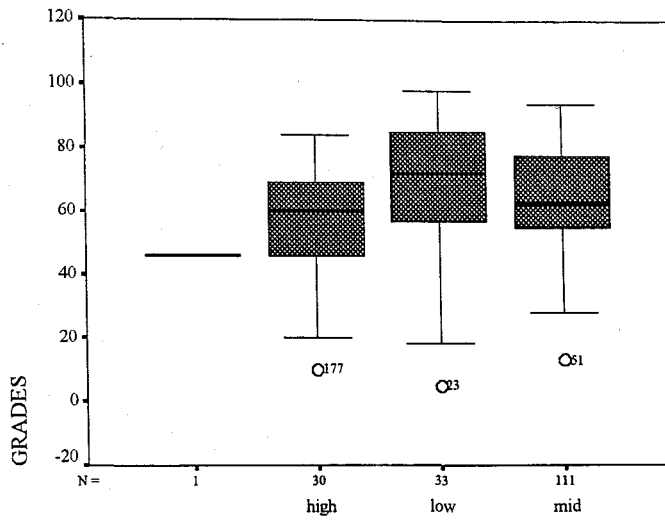
Observed Value

Normal Q-Q Plot of GRADES

For FLAGR= mid



Observed Value

Boxplots

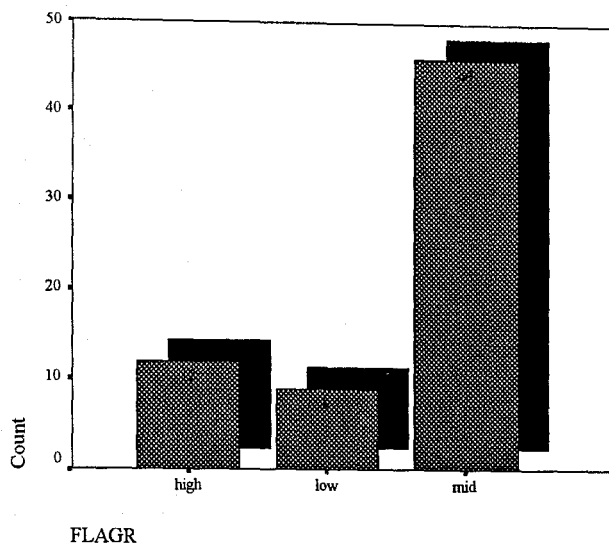
FLAGR

APPENDIX 10²⁴

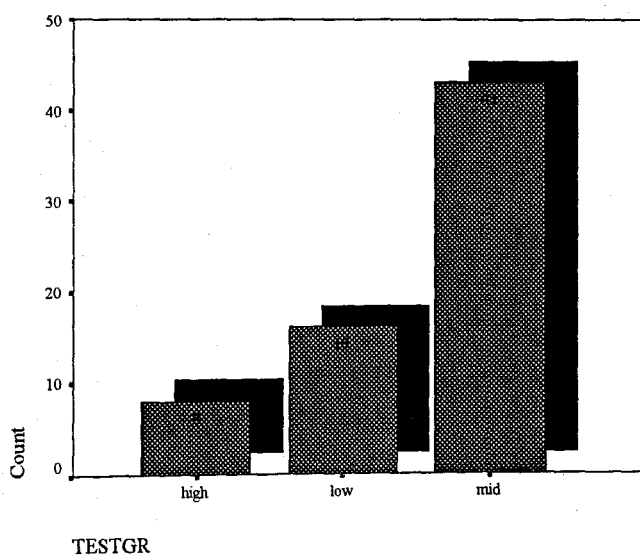
CLASSIFICATION OF SUBJECTS INTO DIFFERENT ANXIETY GROUPS - ARRANGED ACCORDING TO SEX:

1.3.1 Frequencies of Female Subjects

1.3.1.1 Female subjects in FLA groups

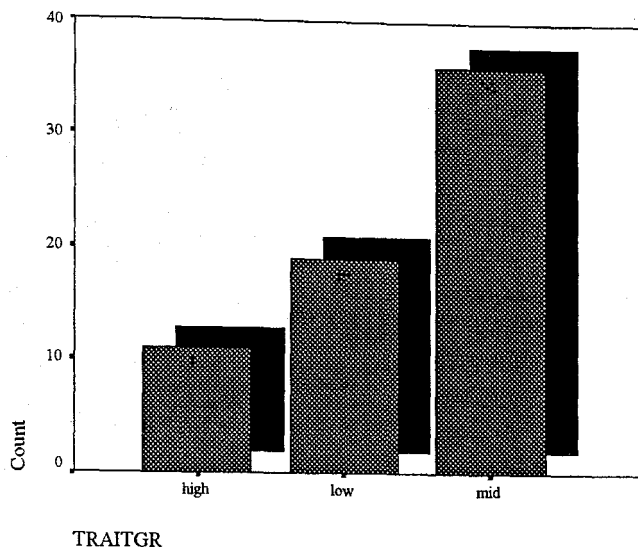


1.3.1.2 Female subjects in Test groups:



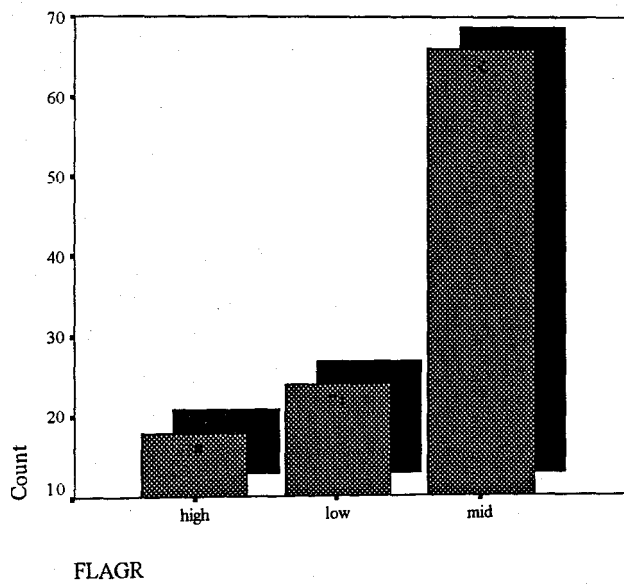
²⁴ Since the figures and tables provided are transferred from the SPSS program where a comma is used as the decimal signalling device instead of a fullstop the figures presented consist of commas.

1.3.1.3 Female subjects in Trait groups:

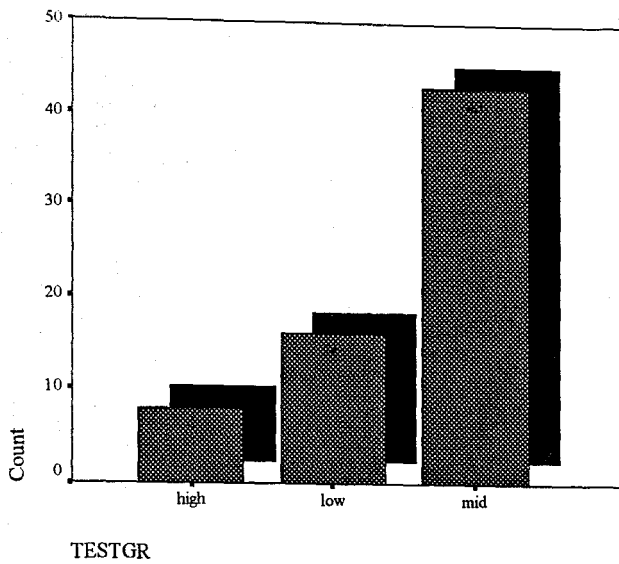


1.3.2 Frequencies of Male Subjects

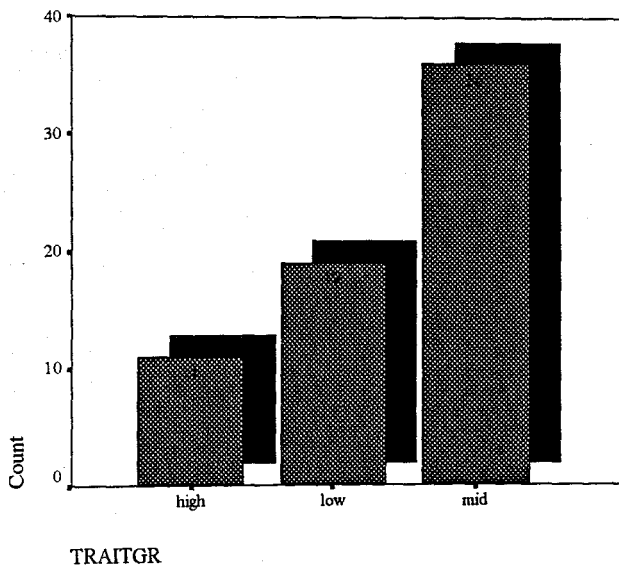
1.3.2.1 Male subjects in FLA groups



1.3.2.2 Male subjects in Test groups



1.3.2.3 Male subjects in Trait groups:



1.3.3 Frequencies (in percents) of Subjects according to groups:

1.3.3.1 Frequencies (in percents) of Female Subjects according to groups

1.3.3.1.1 FLA groups

FLAGR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	12	17,9	17,9	17,9
	low	9	13,4	13,4	31,3
	mid	46	68,7	68,7	100,0
	Total	67	100,0	100,0	
Total		67	100,0		

1.3.3.1.2 Test groups

TESTGR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	8	11,9	11,9	11,9
	low	16	23,9	23,9	35,8
	mid	43	64,2	64,2	100,0
	Total	67	100,0	100,0	
Total		67	100,0		

1.3.3.1.3 Trait groups

TRAITGR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1,5	1,5	1,5
	high	11	16,4	16,4	17,9
	low	19	28,4	28,4	46,3
	mid	36	53,7	53,7	100,0
	Total	67	100,0	100,0	
Total		67	100,0		

1.3.3.2 Frequencies of Male Subjects according to groups:

1.3.3.2.1 FLA groups

FLAGR

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1,8	1,8	1,8
high	18	16,4	16,4	18,2
low	24	21,8	21,8	40,0
mid	66	60,0	60,0	100,0
Total	110	100,0	100,0	
Total	110	100,0		

1.3.3.2.2 Test groups

TESTGR

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1,8	1,8	1,8
high	21	19,1	19,1	20,9
low	23	20,9	20,9	41,8
mid	64	58,2	58,2	100,0
Total	110	100,0	100,0	
Total	110	100,0		

1.3.3.2.3 Trait groups

TRAITGR

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1,8	1,8	1,8
high	10	9,1	9,1	10,9
low	55	50,0	50,0	60,9
mid	43	39,1	39,1	100,0
Total	110	100,0	100,0	
Total	110	100,0		

APPENDIX 11

A. Nonparametric Correlations – Kendall's tau_b²⁵

Correlations

			FLA total	Test total	Trail total	Profic iency	Grades
Kendall's tau _b	Correlation Coefficient	FLATOTAL	1,000	,366*	,143*	-,049	-,212*
		TESTTOTAL	,366*	1,000	,269*	-,087	-,064
		TRAITTOTAL	,143*	,269*	1,000	,070	,044
		PROFICIENCY	-,049	-,087	,070	1,000	,209*
		GRADES	-,212*	-,064	,044	,209*	1,000
	Sig. (2-tailed)	FLATOTAL	,	,000	,007	,379	,000
		TESTTOTAL	,000	,	,000	,119	,219
		TRAITTOTAL	,007	,000	,	,215	,403
		PROFICIENCY	,379	,119	,215	,	,000
		GRADES	,000	,219	,403	,000	,
	N	FLATOTAL	175	175	174	153	174
		TESTTOTAL	175	175	174	153	174
		TRAITTOTAL	174	174	174	153	173
		PROFICIENCY	153	153	153	154	154
		GRADES	174	174	173	154	175

**. Correlation is significant at the .01 level (2-tailed).

²⁵ Since the figures and tables provided are transferred from the SPSS program where a comma is used as the decimal signalling device instead of a fullstop the figures presented consist of commas.

B. Nonparametric Correlations after having excluded outliers (cases 20, 23, 51, 167, and 177) – Kendall's tau_b:

Correlations

			FLA total	TEST total	Trans total	Profic- iency	Grades
Kendall's tau_b	Correlation Coefficient	FLATOTAL	1,000	,367*	,142*	-,048	-,225*
		TESTTOTAL	,367*	1,000	,258*	-,081	-,078
		TRANSTOTAL	,142*	,258*	1,000	,090	,040
		PROFICIENCY	-,048	-,081	,090	1,000	,208*
		GRADES	-,225*	-,078	,040	,208*	1,000
	Sig. (2-tailed)	FLATOTAL	,	,000	,008	,394	,000
		TESTTOTAL	,000	,	,000	,154	,141
		TRANSTOTAL	,008	,000	,	,119	,457
		PROFICIENCY	,394	,154	,119	,	,000
		GRADES	,000	,141	,457	,000	,
	N	FLATOTAL	170	170	169	148	169
		TESTTOTAL	170	170	169	148	169
		TRANSTOTAL	169	169	169	148	168
		PROFICIENCY	148	148	148	149	149
		GRADES	169	169	168	149	170

** . Correlation is significant at the .01 level (2-tailed).

APPENDIX 12

ANALYSIS OF VARIANCE²⁶

1.1 Oneway ANOVA (Proficiency / FLA group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PROFICIENCY	Between Groups	161,881	2	80,941	,718	,489
	Within Groups	16912,354	150	112,749		
	Total	17074,235	152			

Post Hoc

Multiple Comparisons

Dependent Variable: PROFICIENCY

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Tukey HSD	(I) FLA GROUP	1	(J) FLA GROUP 2	2,65	2,270	,472	-2,67	7,98
			(J) FLA GROUP 3	1,46	2,922	,871	-5,38	8,31
		2	(J) FLA GROUP 1	-2,65	2,270	,472	-7,98	2,67
			(J) FLA GROUP 3	-1,19	2,374	,871	-6,75	4,37
		3	(J) FLA GROUP 1	-1,46	2,922	,871	-8,31	5,38
			(J) FLA GROUP 2	1,19	2,374	,871	-4,37	6,75
Scheffe	(I) FLA GROUP	1	(J) FLA GROUP 2	2,65	2,270	,506	-2,96	8,27
			(J) FLA GROUP 3	1,46	2,922	,882	-5,76	8,69
		2	(J) FLA GROUP 1	-2,65	2,270	,506	-8,27	2,96
			(J) FLA GROUP 3	-1,19	2,374	,882	-7,06	4,68
		3	(J) FLA GROUP 1	-1,46	2,922	,882	-8,69	5,76
			(J) FLA GROUP 2	1,19	2,374	,882	-4,68	7,06

²⁶ Since the figures and tables provided are transferred from the SPSS program where a comma is used as the decimal signalling device instead of a fullstop the figures presented consist of commas.

Homogeneous Subsets

PROFICIENCY

			Subset for alpha = .05	
			N	Mean
Tukey HSD	FLA GROUP	2	100	32,81
		3	25	34,00
		1	28	35,46
		Sig.		,548
Scheffe ^{a,b}	FLA GROUP	2	100	32,81
		3	25	34,00
		1	28	35,46
		Sig.		,580

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 35,000
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

1.2 Oneway ANOVA (Proficiency / Test anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PROFICIE NCY	Between Groups	680,137	2	340,068	3,112	,047
	Within Groups	16394,098	150	109,294		
	Total	17074,235	152			

Post Hoc

Multiple Comparisons

Dependent Variable: PROFICIENCY

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Tukey HSD	(I) TEST GROUP	(J) TEST GROUP	2	2,98	2,110	,335	-1,97	7,92
		(J) TEST GROUP	3	7,00*	2,805	,034	,42	13,57
		(J) TEST GROUP	1	-2,98	2,110	,335	-7,92	1,97
		(J) TEST GROUP	4	4,02	2,386	,211	-1,57	9,61
		(J) TEST GROUP	1	-7,00*	2,805	,034	-13,57	-,42
		(J) TEST GROUP	2	-4,02	2,386	,211	-9,61	1,57
Scheffe	(I) TEST GROUP	(J) TEST GROUP	2	2,98	2,110	,372	-2,24	8,19
		(J) TEST GROUP	3	7,00*	2,805	,047	6,21E-02	13,93
		(J) TEST GROUP	1	-2,98	2,110	,372	-8,19	2,24
		(J) TEST GROUP	3	4,02	2,386	,245	-1,88	9,92
		(J) TEST GROUP	1	-7,00*	2,805	,047	-13,93	-6,21E-02
		(J) TEST GROUP	2	-4,02	2,386	,245	-9,92	1,88

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

PROFICIENCY

				Subset for alpha = .05		
				N	Mean	DF
Tukey HSD	TEST GROUP	1	24	29,46		
		2	96	33,48	33,48	
		3	33		36,45	
		SID		,228	,445	
Scheffe	TEST GROUP	1	24	29,46		
		2	96	33,48	33,48	
		3	33		36,45	
		SID		,263	,480	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 36,414

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

1.3 Oneway ANOVA (Proficiency / Trait anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PROFICIENCY	Between Groups	362,379	2	181,190	1,626	,200
	Within Groups	16711,856	150	111,412		
	Total	17074,235	152			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: PROFICIENCY

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Tukey HSD	① TRAIT GROUP	1	② TRAIT GROUP	-3,18	1,831	,192	-7,47	1,12
		1	③ TRAIT GROUP	-,37	2,699	,990	-6,69	5,96
		2	② TRAIT GROUP	3,18	1,831	,192	-1,12	7,47
		2	③ TRAIT GROUP	2,81	2,685	,548	-3,49	9,10
		3	② TRAIT GROUP	,37	2,699	,990	-5,96	6,69
		3	③ TRAIT GROUP	-2,81	2,685	,548	-9,10	3,49
Scheffe	① TRAIT GROUP	1	② TRAIT GROUP	-3,18	1,831	,226	-7,70	1,35
		1	③ TRAIT GROUP	-,37	2,699	,991	-7,04	6,30
		2	② TRAIT GROUP	3,18	1,831	,226	-1,35	7,70
		2	③ TRAIT GROUP	2,81	2,685	,580	-3,83	9,44
		3	② TRAIT GROUP	,37	2,699	,991	-6,30	7,04
		3	③ TRAIT GROUP	-2,81	2,685	,580	-9,44	3,83

Homogeneous Subsets

PROFICIENCY

			Significance for alpha = .05	
			N	Sig.
Tukey HSD ^{a,b}	TRAIT GROUP	1	65	32,03
		3	20	32,40
		2	68	35,21
		Sig.		,394
Scheffe ^{a,b}	TRAIT GROUP	1	65	32,03
		3	20	32,40
		2	68	35,21
		Sig.		,431

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 37,458
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

2.1 Oneway ANOVA (Grades / FLA group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	1996,848	2	998,424	3,452	,034
	Within Groups	49465,267	171	289,271		
	Total	51462,115	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GRADES

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Tukey HSD	(1) FLA GROUP	1	(1) FLA GROUP 2	3,85	3,372	,488	-4,05	11,76
			(1) FLA GROUP 3	11,05*	4,290	,027	,99	21,10
		2	(1) FLA GROUP 1	-3,85	3,372	,488	-11,76	4,05
			(1) FLA GROUP 3	7,19	3,500	,099	-1,01	15,40
		3	(1) FLA GROUP 1	-11,05*	4,290	,027	-21,10	-,99
			(1) FLA GROUP 2	-7,19	3,500	,099	-15,40	1,01
Scheffe	(1) FLA GROUP	1	(1) FLA GROUP 2	3,85	3,372	,522	-4,48	12,18
			(1) FLA GROUP 3	11,05*	4,290	,039	,45	21,64
		2	(1) FLA GROUP 1	-3,85	3,372	,522	-12,18	4,48
			(1) FLA GROUP 3	7,19	3,500	,124	-1,45	15,84
		3	(1) FLA GROUP 1	-11,05*	4,290	,039	-21,64	-,45
			(1) FLA GROUP 2	-7,19	3,500	,124	-15,84	1,45

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

GRADES

			Subset for alpha = .05		
			N	1	2
Tukey HSD ^a	FLA GROUP	3	30	57,50	
		1	111	64,69	64,69
		2	33		68,55
		Sig.		,132	,558
Scheffe	FLA GROUP	3	30	57,50	
		1	111	64,69	64,69
		2	33		68,55
		Sig.		,161	,590

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 41,297
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

2.2 Oneway ANOVA (Grades / Test anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	1593,111	2	796,555	2,731	,068
	Within Groups	49869,004	171	291,632		
	Total	51462,115	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GRADES

					Mean Difference (adjusted means)	Std. Error	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Tukey HSD	(1) TEST GROUP	1	(1) TEST GROUP	2	-1,03	3,198	,944	-8,53	6,46
		1	(2) TEST GROUP	3	7,29	4,187	,190	-2,53	17,10
		2	(1) TEST GROUP	1	1,03	3,198	,944	-6,46	8,53
		2	(2) TEST GROUP	3	8,32	3,579	,052	-6,84E-02	16,71
		3	(1) TEST GROUP	1	-7,29	4,187	,190	-17,10	2,53
		3	(2) TEST GROUP	2	-8,32	3,579	,052	-16,71	6,84E-02
Scheffe	(1) TEST GROUP	1	(1) TEST GROUP	2	-1,03	3,198	,949	-8,93	6,86
		1	(2) TEST GROUP	3	7,29	4,187	,223	-3,05	17,63
		2	(1) TEST GROUP	1	1,03	3,198	,949	-6,86	8,93
		2	(2) TEST GROUP	3	8,32	3,579	,070	-,52	17,16
		3	(1) TEST GROUP	1	-7,29	4,187	,223	-17,63	3,05
		3	(2) TEST GROUP	2	-8,32	3,579	,070	-17,16	,52

Homogeneous Subsets

GRADES

			Subset for alpha = .05	
			N	Lower Bound
Tukey HSD ^{a,b}	TEST GROUP	3	29	57,48
		1	39	64,77
		2	106	65,80
		Sig.		,061
Scheffe ^{a,b}	TEST GROUP	3	29	57,48
		1	39	64,77
		2	106	65,80
		Sig.		,080

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 43,130
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

2.3 Oneway ANOVA (Grades / Trait anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GRADES	Between Groups	664,231	2	332,115	1,121	,328
	Within Groups	50346,532	170	296,156		
	Total	51010,763	172			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GRADES

					Mean Difference (std.)	Std. Error	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Tukey HSD	(1) TRAIT GROUP	1	(1) TRAIT GROUP	2	-2,95	2,794	,541	-9,50	3,60
			(1) TRAIT GROUP	3	2,72	4,261	,799	-7,27	12,70
		2	(1) TRAIT GROUP	1	2,95	2,794	,541	-3,60	9,50
			(1) TRAIT GROUP	3	5,67	4,225	,372	-4,23	15,57
		3	(1) TRAIT GROUP	1	-2,72	4,261	,799	-12,70	7,27
			(1) TRAIT GROUP	2	-5,67	4,225	,372	-15,57	4,23
Scheffe	(1) TRAIT GROUP	1	(1) TRAIT GROUP	2	-2,95	2,794	,573	-9,85	3,95
			(1) TRAIT GROUP	3	2,72	4,261	,816	-7,81	13,24
		2	(1) TRAIT GROUP	1	2,95	2,794	,573	-3,95	9,85
			(1) TRAIT GROUP	3	5,67	4,225	,408	-4,76	16,10
		3	(1) TRAIT GROUP	1	-2,72	4,261	,816	-13,24	7,81
			(1) TRAIT GROUP	2	-5,67	4,225	,408	-16,10	4,76

Homogeneous Subsets

GRADES

				N	Sum of Means
Tukey HSD	TRAIT GROUP	2		21	60,57
		1		73	63,29
		3		79	66,24
		Sig.			,299
Scheffe	TRAIT GROUP	2		21	60,57
		1		73	63,29
		3		79	66,24
		Sig.			,335

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 40,554
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

3.1 Oneway ANOVA (Fla total / Grades)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
FLA TOTAL	Between Groups	5851,166	2	2925,583	7,607	,001
	Within Groups	65766,627	171	384,600		
	Total	71617,793	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: FLA TOTAL

Scheffe

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
(I) GRADE GROUP	1	(J) GRADE GROUP	2	11,25*	4,212	,030	,85	21,65
		(J) GRADE GROUP	3	18,05*	4,629	,001	6,62	29,48
	2	(J) GRADE GROUP	1	-11,25*	4,212	,030	-21,65	-,85
		(J) GRADE GROUP	3	6,80	3,420	,142	-1,65	15,24
	3	(J) GRADE GROUP	1	-18,05*	4,629	,001	-29,48	-6,62
		(J) GRADE GROUP	2	-6,80	3,420	,142	-15,24	1,65

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

FLA TOTAL

Scheffe^{a,b}

		Subset for alpha = .05		
		N	Lower Bound	Upper Bound
GRADEGROUP	3	50	82,38	
	2	96	89,18	
	1	28		100,43
	Sig.		,259	1,000

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 45,365
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

3.2 Oneway ANOVA (Trait total / Grade group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TRAIT TOTAL	Between Groups	44,755	2	22,378	,658	,519
	Within Groups	5785,730	170	34,034		
	Total	5830,486	172			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TRAITTOTAL

Scheffe

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
(I) GRADE GROUP	1	(J) GRADE GROUP	2	,95	1,271	,758	-2,19	4,09
		(J) GRADE GROUP	3	-,11	1,393	,997	-3,55	3,33
	2	(J) GRADE GROUP	1	-,95	1,271	,758	-4,09	2,19
		(J) GRADE GROUP	3	-1,06	1,017	,582	-3,57	1,45
	3	(J) GRADE GROUP	1	,11	1,393	,997	-3,33	3,55
		(J) GRADE GROUP	2	1,06	1,017	,582	-1,45	3,57

Homogeneous Subsets

TRAITTOTAL

Scheffe^{a,b}

		Subsequent Homogeneous Subsets	
		N	Mean
GRADE GROUP	2	96	47,98
	1	27	48,93
	3	50	49,04
	Sig.		,693

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 44,475

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

3.3 Oneway ANOVA (Test total / Grade group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TEST TOTAL	Between Groups	201,307	2	100,654	1,057	,350
	Within Groups	16290,170	171	95,264		
	Total	16491,477	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TEST TOTAL

Scheffe

				Mean Difference (I-J)	Sum of Squares	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
① GRADE GROUP	1	② GRADE GROUP	2	2,36	2,096	,531	-2,81	7,54
			3	3,33	2,304	,354	-2,36	9,02
	2	③ GRADE GROUP	1	-2,36	2,096	,531	-7,54	2,81
			3	,97	1,702	,852	-3,24	5,17
	3	④ GRADE GROUP	1	-3,33	2,304	,354	-9,02	2,36
			2	-,97	1,702	,852	-5,17	3,24

Homogeneous Subsets

TEST TOTAL

Scheffe^{a,b}

		Subset for alpha = .05	
		N	Mean
GRADE GROUP	3	50	38,42
	2	96	39,39
	1	28	41,75
	Sig.		,270

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 45,365
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

4.1 Oneway ANOVA (FLA total / Test anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
FLA TOTAL	Between Groups	17147,408	2	8573,704	27,061	,000
	Within Groups	54494,900	172	316,831		
	Totals	71642,309	174			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: FLA TOTAL

					Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Tukey HSD	(I) TEST GROUP	1	(J) TEST GROUP	2	-15,29*	3,329	,000	-23,09	-7,49
			(J) TEST GROUP	3	-32,00*	4,365	,000	-42,23	-21,77
		2	(J) TEST GROUP	4	15,29*	3,329	,000	7,49	23,09
			(J) TEST GROUP	5	-16,71*	3,726	,000	-25,45	-7,98
		3	(J) TEST GROUP	1	32,00*	4,365	,000	21,77	42,23
			(J) TEST GROUP	2	16,71*	3,726	,000	7,98	25,45
Scheffe	(I) TEST GROUP	1	(J) TEST GROUP	2	-15,29*	3,329	,000	-23,51	-7,07
			(J) TEST GROUP	3	-32,00*	4,365	,000	-42,78	-21,23
		2	(J) TEST GROUP	4	15,29*	3,329	,000	7,07	23,51
			(J) TEST GROUP	5	-16,71*	3,726	,000	-25,91	-7,51
		3	(J) TEST GROUP	1	32,00*	4,365	,000	21,23	42,78
			(J) TEST GROUP	2	16,71*	3,726	,000	7,51	25,91

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

FLA TOTAL

			Subset Harmonic Mean Size			
			1	2	3	4
Tukey HSD	TEST GROUP	1	39	74,41		
		2	107		89,70	
		3	29			106,41
		Sig.		1,000	1,000	1,000
Scheffe	TEST GROUP	1	39	74,41		
		2	107		89,70	
		3	29			106,41
		Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 43,184

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

4.2 Oneway ANOVA (FLA total / Trait anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
FLA TOTAL	Between Groups	5004,614	2	2502,307	6,424	,002
	Within Groups	66613,179	171	389,551		
	Total	71617,793	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: FLA TOTAL

					Mean Difference (I-J)	Sum of Squares	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Tukey HSD	(1) TRAIT GROUP	1	(1) TRAIT GROUP	2	-6,04	3,193	,141	-13,52	1,45
			(1) TRAIT GROUP	3	-17,10*	4,880	,001	-28,54	-5,67
		2	(1) TRAIT GROUP	1	6,04	3,193	,141	-1,45	13,52
			(1) TRAIT GROUP	3	-11,07	4,846	,058	-22,42	,29
		3	(1) TRAIT GROUP	1	17,10*	4,880	,001	5,67	28,54
			(1) TRAIT GROUP	2	11,07	4,846	,058	-,29	22,42
		1	(1) TRAIT GROUP	2	-6,04	3,193	,171	-13,92	1,85
			(1) TRAIT GROUP	3	-17,10*	4,880	,003	-29,15	-5,05
Scheffe	(1) TRAIT GROUP	2	(1) TRAIT GROUP	1	6,04	3,193	,171	-1,85	13,92
			(1) TRAIT GROUP	3	-11,07	4,846	,077	-23,03	,90
		3	(1) TRAIT GROUP	1	17,10*	4,880	,003	5,05	29,15
			(1) TRAIT GROUP	2	11,07	4,846	,077	-,90	23,03

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

FLA TOTAL

			Sum of Squares = 408		
			N	df	MS
Tukey HSD ^{a,b}	TRAIT GROUP	1	74	84,23	
		2	79	90,27	
		3	21		101,33
		Sig.		,352	1,000
Scheffe ^{a,b}	TRAIT GROUP	1	74	84,23	
		2	79	90,27	
		3	21		101,33
		Sig.		,389	1,000

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 40,655
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

5.1 Oneway ANOVA (Test anxiety total / Trait anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TEST TOTAL	Between Groups	2661,447	2	1330,724	16,461	,000
	Within Groups	13824,047	171	80,842		
	Total	16485,494	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TEST TOTAL

					Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Tukey HSD	(1) TRAIT GROUP	1	(1) TRAIT GROUP	2	-3,30	1,455	,060	-6,71	,11
		1	(1) TRAIT GROUP	3	-12,73*	2,223	,000	-17,94	-7,52
		2	(1) TRAIT GROUP	1	3,30	1,455	,060	-,11	6,71
		2	(1) TRAIT GROUP	3	-9,43*	2,207	,000	-14,60	-4,26
		3	(1) TRAIT GROUP	1	12,73*	2,223	,000	7,52	17,94
Scheffe	(1) TRAIT GROUP	1	(1) TRAIT GROUP	2	-3,30	1,455	,079	-6,89	,29
		1	(1) TRAIT GROUP	3	-12,73*	2,223	,000	-18,22	-7,24
		2	(1) TRAIT GROUP	1	3,30	1,455	,079	-,29	6,89
		2	(1) TRAIT GROUP	3	-9,43*	2,207	,000	-14,88	-3,98
		3	(1) TRAIT GROUP	1	12,73*	2,223	,000	7,24	18,22
		3	(1) TRAIT GROUP	2	9,43*	2,207	,000	3,98	14,88

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

TEST TOTAL

			N	Subset for alpha = .05	
				1	2
Tukey ^{ch} HSD	TRAIT GROUP	1	74	36,46	
		2	79	39,76	
		3	21		49,19
		Sig.		,223	1,000
Scheffe ^{ab}	TRAIT GROUP	1	74	36,46	
		2	79	39,76	
		3	21		49,19
		Sig.		,257	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 40,655

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

5.2 Oneway ANOVA (Test total anxiety / FLA group)

ANOVA

		Sum of Squares	df	Mean Squares	F	Sig.
TEST TOTAL	Between Groups	3715,506	2	1857,753	24,998	,000
	Within Groups	12782,129	172	74,315		
	Total	16497,634	174			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TEST TOTAL

Scheffe

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
(I) FLA GROUP	1	(J) FLA GROUP	2	-6,76*	1,707	,001	-10,98	-2,55
			3	-15,35*	2,175	,000	-20,72	-9,98
	2	(J) FLA GROUP	1	6,76*	1,707	,001	2,55	10,98
			3	-8,59*	1,772	,000	-12,97	-4,21
	3	(J) FLA GROUP	1	15,35*	2,175	,000	9,98	20,72
			2	8,59*	1,772	,000	4,21	12,97

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

TESTTOTAL

Scheffe^{a,b}

		Subset for alpha = .05			
		N	1	2	3
FLA GROUP	1	33	32,52		
	2	112		39,28	
	3	30			47,87
	Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed

a. Uses Harmonic Mean Sample Size = 41,342

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

6.1 Oneway ANOVA (Trait total anxiety \ FLA groups)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TRAIT TOTAL	Between Groups	200,651	2	100,326	3,031	,051
	Within Groups	5659,188	171	33,095		
	Total	5859,839	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TRAIT TOTAL

Scheffe

				Mean Difference (I-J)	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
O FLA GROUP	1	O FLA GROUP	2	-1,66	1,141	,349	-4,48	1,16
			3	-3,57	1,451	,051	-7,16	1,08E-02
	2	O FLA GROUP	1	1,66	1,141	,349	-1,16	4,48
			3	-1,91	1,184	,274	-4,84	1,01
	3	O FLA GROUP	1	3,57	1,451	,051	-1,08E-02	7,16
			2	1,91	1,184	,274	-1,01	4,84

Homogeneous Subsets

TRAITTOTAL

Scheffé^{a,b}

		N	Subgroup alpha = .05	
			1	2
FLA GROUP	1	33	46,73	
	2	111	48,39	48,39
	3	30		50,30
	Sig.			,425

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 41,297
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

6.2 Oneway ANOVA (Trait anxiety total / Test anxiety group)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TRAIT TOTAL	Between Groups	465,092	2	232,546	7,371	,001
	Within Groups	5394,747	171	31,548		
	Total	5859,839	173			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: TRAIT TOTAL

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Tukey HSD	(1) TEST GROUP	1	(1) TEST GROUP	-2,54*	1,052	,041	-5,01	-7,91E-02
		2	(1) TEST GROUP	-5,27*	1,377	,000	-8,49	-2,04
		3	(1) TEST GROUP	2,54*	1,052	,041	7,91E-02	5,01
		4	(1) TEST GROUP	-2,72	1,177	,054	-5,48	3,62E-02
		5	(1) TEST GROUP	5,27*	1,377	,000	2,04	8,49
Scheffe	(1) TEST GROUP	1	(1) TEST GROUP	-2,54	1,052	,056	-5,14	5,31E-02
		2	(1) TEST GROUP	-5,27*	1,377	,001	-8,67	-1,87
		3	(1) TEST GROUP	2,54	1,052	,056	-5,31E-02	5,14
		4	(1) TEST GROUP	-2,72	1,177	,072	-5,63	,18
		5	(1) TEST GROUP	5,27*	1,377	,001	1,87	8,67
		6	(1) TEST GROUP	2,72	1,177	,072	-,18	5,63

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

TRAIT TOTAL

			Subject for alpha = .05		
			N	1	2
Tukey HSD ^a	TEST GROUP	1	39	45,97	
		2	106	48,52	48,52
		3	29		51,24
		Sig.		,089	,063
Scheffe ^{a,b}	TEST GROUP	1	39	45,97	
		2	106	48,52	48,52
		3	29		51,24
		Sig.		,113	,082

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 43,130
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.