

**A S T U D Y O F T H E
R E L A T I O N S H I P B E T W E E N
A N X I E T Y A N D C O - O P E R A T I V E
B E H A V I O U R**

BY

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I HEREBY DECLARE THAT THIS WORK IS MY OWN WORK BOTH IN
CONCEPTION AND EXECUTION , AND THAT ALL THE SOURCES I
HAVE REFERRED TO OR QUOTED HAVE BEEN ACKNOWLEDGED AND
INDICATED BY MEANS OF COMPLETE REFERENCES .

SIGNED :..........

(iii)

THIS WORK IS DEDICATED TO :-

My Wife Thuli , Daughter Sibonisiwe and my family

ABSTRACT

This study investigated the relationship between anxiety and co-operative behaviour, anxiety and gender, gender and co-operative behaviour and anxiety, cooperative behaviour and performance among students in tertiary institutions. The sample consisted of 137 males and 193 females. A standardized IPAT Anxiety Scale was used to achieve the objectives of the first and second aims of the study. The researcher constructed his own Co-operative Behaviour Scale to achieve the objectives of aim four. Research assistants helped with the construction of the Academic Performance Scale. The findings according to the first aim of the study, that is, the relationship between anxiety and co-operative behaviour revealed that there is a weak positive relationship between anxiety and cooperative behaviour. The findings based on aim number two, that is, the relationship between gender and anxiety showed that while more men appear anxious, more women are willing to co-operate than men. The findings based on aim number three, that is, the effect of induced anxiety among people, showed that increased anxiety level leads to more co-operative tendencies , up to an optimal point, after which cooperative behaviour decreases as long as anxiety increases. The findings according to the fourth aim of the study, that is, the relationship

(v)

between anxiety and academic performance, show that poor performers as well as above average performers are less co-operative; whereas average performers are more cooperative. This is due to the effects of either low or high anxiety on academic performance, this is, low or high anxiety levels leads to poor academic performance.

UITTREKSEL

Hierdie studie het die verwantskap tussen angs en koöperatiewe gedrag, angs en geslag, geslag en koöperatiewe gedrag en koöperatiewe gedrag en prestasie onder studente in tersiêre inrigtings ondersoek. Die monster het bestaan uit 137 manlike en 193 vroulike deelnemers. 'n Gestandaardiseerde IPAT Angsskaal was gebruik om die eerste twee doelwitte te bereik. Die navorser het sy eie Koöperatiewe Gedragskaal gekonstrueer om die derde doelwit te bereik. Navorsingsassistente het gehelp met die konstruksie van die Koöperatiewe Gedragskaal. Die bevindinge volgens die eerste doelwit van die studie, naamlik, die verwantskap tussen angs en koöperatiewe gedrag, het getoon dat daar 'n swak verwantskap tussen angs en koöperatiewe gedrag bestaan. Die bevindinge gebaseer op doelwit twee, naamlik, die verwantskap tussen geslag en angs het getoon dat meer mans beangs is, maar meer vroue gewillig is om saam te werk as mans. Vroue is meer gekorrelleer tot samewerking as mans. Die bevindinge gebaseer op doelwit drie, naamlik die effek van opwekking van angs op mense, het getoon dat 'n verhoogde angsvlak gelei het tot groter koöperatiewe neigings, maar die invloed bereik 'n optimale punt en veroorsaak 'n negatiewe effek terwyl angs vermeerder. Die bevindinge volgens die laaste doelwit, naamlik, die verhouding tussen angs en

(vii)

akademiese prestasie, het getoon dat swak presteerders sowel as ho gemiddelde presteerders minder koöperatief was, terwyl gemiddelde presteerders meer koöperatief was.

CHAPTER ONE

INTRODUCTION

	PAGES	
1.1	Motivation for the study	1
1.2	Statement of the problem	3
1.3	Aims of the investigation	3
1.3.1	Aim number one	3
1.3.2	Aim number two	4
1.3.3	Aim number three	4
1.3.4	Aim number four	4
1.4	Hypotheses ✓	5
1.4.1	Hypothesis one	5
1.4.2	Hypothesis two	5
1.4.3	Hypothesis three	5
1.4.4	Hypothesis four	5
1.5	Definition of concepts	5
1.5.1	Anxiety	5
1.5.2	Co-operative behaviour	6

CHAPTER TWO

LITERATURE REVIEW.

2.1	Introduction	7
2.2	Why do people affiliate ?	8

2.3	Theory on anxiety and co-operative behaviour	11
2.3.1	Origins of anxiety and affiliative tendencies	12
2.3.1.1	Theories about the origins of anxiety	12
2.4	Does isolation lead to anxiety ?	21
2.4.1	Theories on the origins of co-operative behaviour	24
2.4.2	Fear and co-operative behaviour	27
2.4.3	Innate need for co-operative behaviour	29
2.5	What drives people to co-operate ?	30
2.6	Relationship between birth order, anxiety and cooperative behaviour in a counselling situation.	32
2.6.1	Does this anxiety promote co-operative behaviour?	33
2.6.2	What are the implications for these differences in counselling situation ?	34
2.7	Studies on the effect of anxiety on co-operative behaviour	34
2.7.1	The effect of anxiety on co-operative behaviour	36
2.7.2	Gender differences on anxiety and co-operative behaviour	38
2.7.3	Co-operative group performance versus individual performance	41
2.7.3.1	Do individuals in a given task perform better alone then in a group ?	42

(x)

2.7.4	People's perceptions of their problems and situations	47
2.8	Conclusion	50

CHAPTER THREE

RESEARCH METHODS AND PROCEDURES

3.1	Introduction	54
3.2	Empirical study	56
3.2.1	The sampling procedure in the study	57
3.3	Characteristics of subjects	58
3.4	Procedures and planning for the administration of the instruments	59
3.5	Methods of data collection	60
3.5.1	Research instruments	61
3.5.1.1	Description of Anxiety Scale Questionnaire	62
	(a) Rationale for the selection of the IPAT Anxiety Scale	64
3.5.1.2	Co-operative Behaviour Scale.	67
3.5.1.3	Academic Task Performance Scale.	69
3.6	Conclusion	70

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.1	Introduction	72
4.2	Summary of anxiety levels across age groups	73
4.3	Summary of performance across age groups	75
4.4	The relationship between anxiety and co-operative behaviour	76
4.5	The relationship between gender and anxiety	79
4.6	The relationship between gender and co-operative behaviour	83
4.7	The effect of heightened anxiety among people	86
4.8	The relationship between co-operative behaviour and performance	89
4.9	Discussion of findings	94
4.9.1	The relationship between anxiety and co-operative behaviour	94
4.9.2	The relationship between gender and anxiety	98
4.9.3	The relationship between gender and co-operative behaviour	99

4.9.4	The effect of heightened anxiety among people	100
4.9.5	The relationship between co-operative behaviour and performance	101
4.10	Conclusion	103

CHAPTER FIVE

DISCUSSION, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS

5.1	Summary	105
5.1.1	The problem ✓	105
5.1.2	The aims of the study	105
5.1.3	Hypothesis developed ✓	106
5.1.4	Methodology ✓	107
5.1.5	Results	107
5.2	Limitations for the study	108
5.3	Recommendations	109
5.4	Conclusion	110

REFERENCES	111
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TABLES

Table 3.1 Distribution of subjects in the study sample	58
Table 4.1 Anova summary table	74

Table 4.2 Relationship between anxiety and co-operative tendencies	77
Table 4.3 Relationship between gender and anxiety	79
Table 4.4 Relationship between gender and co-operative behaviour	83
Table 4.5 Males and females co-operative behaviours at low and high anxiety levels	85
Table 4.6 The effects of induced anxiety on co-operative behaviour.	86
Table 4.7 Frequency scores on cp-operative tendencies and midpoint-scores on academic performance	90
Table 4.7 Analysis of variance summary table	92

FIGURES

Figure 4.1 Interaction among anxiety groups and scores on co-operative tendencies	81
Figure 4.2 Interaction among gender groups and anxiety scores	88

APPENDICES

Appendix A: IPAT Anxiety Measurement Scale	120
Appendix B: Co-operative Behaviour Scale	124

ANNEXURES

Annexure A: Letter asking permission to conduct the study.	125
Annexure B: Letter requesting the list of all registered students.	127
Annexure C: Letter to course co-ordinators requesting time to conduct the study	129
Annexure D: Consent form for the release of tests marks for research purposes	131

CHAPTER ONE

INTRODUCTION.

1.1 MOTIVATION FOR THE STUDY.

The source of inspiration for embarking upon this study is the fact that there is yet little known about people's tendency to seek company of others in anxiety provoking situations and their tendency to perform better in groups. Common sense tells us that when people perceive themselves as lonely, they may need to find companions, that is, other people who are in a similar situation.

Anxiety has challenged most Educational Psychologists in the past decades. Their main concern has been the effect of anxiety on students test performance (Angorge, Olson, Parker, Lukin & Sime, 1987, p. 117; Hedges, Glass, Arnkoff, Wood, Meyerhoff, Smith & Oleshansky, 1995, p. 47; Mwamwenda, 1994, p. 1593; Zeidner, 1994, p. 319) .

Several studies which appear to be pertinent to the present investigation have found that anxiety is associated with low performance in

class achievement tests (Deffenbacher, 1986, p. 635; Betz & Hackett, 1983, p. 329) .

According to social comparison theory, people affiliate to compare their own feelings with those of others in the same situation(Schachter, 1959, p. 20). This theory further explains that, when a person is in a new or unusual situation and is uncertain about how to react, he or she turns to others as source of information, especially those who are confronted with similar or the same situation (Sears, Freedman & Peplau, 1985, p. 202).

Among studies which have tried to test this theory, Schachter (1959, p. 102), it was showed that inducing anxiety to people increases their tendency to seek the company of others. Another study by Larson, Csikszentmihalyi and Graef (1982, p. 35) showed that affiliation is linked to fear and uncertainty. These studies mentioned above attempt to answer two questions which are based on social comparison theory: **What people expect to get from being with others ?** and **What are the psychological processes involved ?** Festinger (1954, p. 117) argues that in the absence of objective nonsocial criteria, people evaluate themselves by comparing with others.

A study by Sarnoff and Zimbardo (1961, p. 356) found that people in high fear conditions were eager to affiliate, but people in embarrassing high anxiety conditions were not. Other studies (Schachter, 1959, p. 102; Larson et al., 1982, p. 35) did not point out this occurrence.

1.2 STATEMENT OF THE PROBLEM.

Studies reviewed so far in the preceding paragraphs reveal that anxiety influences personal, social, educational, vocational and health status, adjustment and development of many people. The present study will investigate a relationship between anxiety and co-operative behaviour. The extent to which different anxiety provoking situations encourage co-operative behaviour will be explored. A correlation between these two factors could contribute knowledge to psychological processes involved in co-operative behaviour and co-operative learning.

1.3 AIMS OF THE INVESTIGATION.

The aims of this study are:

- 1.3.1 To investigate the relationship between anxiety and co-operative behaviour.

1.3.2 To find out whether the variable of sex is related to:

(a) anxiety level

(b) co-operative behaviour

1.3.3 To observe whether inducing anxiety to people would lead to co-operative behaviour.

1.3.4 To find out whether co-operative behaviour is a function of academic task performance.

1.4 HYPOTHESES.

The social comparison theory, implies that people affiliate to compare their own feelings with those of others in a similar or the same situation. This theory constitutes the essential foundation for the dissertation from which the following hypothesis is derived. "Inducing anxiety to people would cause an increase in their tendency to seek the company of others."

This can be extrapolated as follows:-

- (i) Those who experience anxiety will prefer company of others and those who do not experience anxiety will prefer to be alone.

(ii) Women are more prone to anxiety and consequently more inclined to co-operative behaviour than men.

(iii) Inducing anxiety among people leads to cooperative tendencies.

(iv) There is no difference in academic task performance between people working in groups and those working alone.

1.5 DEFINITION OF CONCEPTS.

1.5.1 Anxiety.

Anxiety, in general, refers to a state of apprehension or fearful uncertainty that dominates cognitive functioning and impose dramatic physiological disruptions in the human organism, caused by anticipated threat from a particular stimulus (Papalia & Olds, 1988, p. 498)..

"Anxiety is a state within an individual when she or he experiences uneasy thoughts or feelings about what may happen as a result of an application of a stimulus" (Worldbook, 1992, p. 24).

In this study the score obtained by an individual on a standardized anxiety scale is a measure of the level of anxiety in an individual.

1.5.2 Co-operative behaviour.

"Co-operate behaviour refers to an act of unconscious affiliation, in order to relieve oneself of the feelings of anxiety or fear with the aim of achieving a goal" (Sears et al., 1985, p. 202). "Co-operative behaviour refers to an individual's actions or opinion indicating preference to affiliate or be with others in an unembarrassing and optional situation due to anxiety provoking stimulus" (Worldbook, 1992, p. 458).

In this study the individual's choice whether to write a test alone in a room or to write it with the rest of the group is a measure of co-operative behaviour.

CHAPTER TWO

LITERATURE REVIEW.

2.1 INTRODUCTION

Throughout the world anxiety is generally perceived by academics, psychologists and other professionals as a pervasive and costly human problem and a factor that affects many aspects of human life, such as, human relations and performance. In learning situations, for instance, it is considered as a factor which affects human performance. In learning situations the levels of anxiety are considered important, as its variations lead to poor or increased performance (Deffenbacher, 1986, p. 635).

Anxiety may also limit the formation of important social relationships and interfere with social skills development. Prolonged anxiety make individual vulnerable to various disturbances and anxiety disorders. These disorders may range from generalized anxiety disorders, phobic disorders, panic disorders, obsessive-compulsive disorders

to post-traumatic anxiety disorders (American Psychiatric Association, 1994, p. 393).

Even though anxiety is a problem to most people, there is another strong argument that anxiety leads to co-operative behaviour or affiliative tendencies among humans.

During the process of socialization, affiliation is encouraged and thus socially accepted by all people. Co-operative behaviour is perceived as a form of pro-social behaviour. In some cultures in South Africa co-operative behaviour is part and parcel of those cultures to the extent that deviation from the norm or de-individuation is discouraged through isolation or rejection. This does not necessarily mean that certain cultural groups encourage affiliative tendencies more than others, but this means that it is so prominent among these cultures that it has become part of everyone's life. All people affiliate (Mwamwenda, 1995, p. 373; Nasson & Samuel, 1990, p. 160).

2.2 WHY DO PEOPLE AFFILIATE ?.

People affiliate for many reasons which include among other things; to have fun, to get help, to share sexual intimacies, to feel powerful, to get

approval (Sears, Freedman & Peplau, 1985, p. 202). One can conclude from the above explanation that anxiety in some instances, does promote healthy human relations, since it is claimed that it leads to affiliative behaviour.

The relationship between anxiety and co-operative behaviour or affiliation have been studied by a number of researchers (Daniels, 1994, p. 1011; Sarnoff & Zimbardo, 1961, p. 356; Taylor & Rachman, 1994, p. 173).

These researchers were primarily motivated by the desire to know effects of anxiety on performance among, students, job seekers, interviewees, as well as mentally ill patients. Regardless of their motivation, their studies revealed a number of similar findings about the effect anxiety has on affiliation.

In this section anxiety is viewed as part of human experience and can not be done away with. As anxiety is part of human experience. Since we can not do away with anxiety, controlling it is therefore important. Different anxiety levels challenges many Educational Psychologists to investigate the cause and effects each of the three ascribed levels of anxiety have, especially

the effects on academic performance of students.

Anxiety is situational, that is, it fluctuates from one level in one situation to another level in another situation. Anxiety is ascribed within three different levels. Anxiety can be described as low anxiety level, moderate anxiety level or high anxiety level.

Low anxiety levels have been studied and its effects have been presented to be similar to those of low motivation. Moderate anxiety levels have been presented and discussed in a number of literature, especially in the field of social psychology as necessary in enhancing human performance and efficiency(Louw & Edwards, 1993). High anxiety levels have been a focus for many studies in the past decades. The major effects of high anxiety levels among non-neurotic individuals have been poor performance, disruptions in cognitive functions, etc.

This section explores various theoretical explanations for the determinants of the relationship between anxiety and affiliation. Theoretical explanations for the basis or origins of anxiety and affiliative tendencies are presented below, followed by research evidence

drawn from studies conducted on the effects of different anxiety levels on co-operative behaviour.

Finally, this section will focus on discussion of people's perceptions of their problems and situations. The whole purpose of this chapter is to outline theoretical basis for anxiety and affiliation. The theoretical argument is presented in a clear unambiguous manner.

2.3 THEORY ON ANXIETY AND CO-OPERATIVE BEHAVIOUR.

A number of theories (medical theories, psychoanalytic theories and behaviour theories) have tried to explain the relationship between anxiety and affiliation. The following discussion will focus on different theoretical explanations of the relationship between anxiety and co-operative behaviour. Most of the theories discussed below have been a major source of scientific research in the past. Some research evidence in support of these theoretical explanations of the relationship between anxiety and co-operative behaviour have come up in a number of research findings.

2.3.1 Origins of anxiety and affiliative tendencies.

The study which aims at establishing the relationship between anxiety and co-operative behaviour, needs to clearly trace the origins of anxiety and / or co-operative behaviour, in a unambiguous manner. Such a study of the origin and influence of anxiety will help in throwing more light on the levels of anxiety that are harmful, and the effects of anxiety among the life of other people.

2.3.1.1 Theories about the origins of anxiety.

Generally all humans feel anxious sometimes, but the levels of anxiety differ from one individual to another. Anxiety levels do not only differ among individuals but also within the same individual in different situations. The different levels of anxiety can best be described in as continuum. At one end of the continuum, that is, at its simplest form, anxiety is described as fear of something and at the extreme end of the continuum, that is, severe anxiety causes a disorder and interferes with one's life (APA, 1994, p. 393).

To date a number of anxiety disorders have been classified and identified. As mentioned in previous discussion, these include among others generalized anxiety disorders, panic disorders, phobic disorders, obsessive-compulsive disorders, post-traumatic anxiety disorders. These disorders can interfere with a life of any person (APA, 1994, p. 393).

A clear description of anxiety in this section centres around the definition of anxiety as it is investigated in this study, excluding a variety of types of anxieties. Anxiety can be described as a state of apprehension or fearful uncertainty caused by anticipated threat. In this definition of anxiety it is clear that no physical stimuli need be associated with the state of anxiety the individual is experiencing; but an anticipated threat perceived by the individual within himself or herself. Though anxious people appear frightened, their anxious state unlike a frightened state in an individual can not be attributed to any identifiable object or stimuli.

On the basis of the former argument, it is therefore deemed necessary that one looks at the theoretical explanations about the origin of

anxiety in order to understand what it entails. This understanding helps in clarifying its nature and meaning (Papalia & Olds, 1988, p. 498).

Anxiety and co-operative behaviour are psychological constructs, whose definitions helps in better understanding of the construct, based on the context in which it is used at the time. In most studies such as this one, the definition of these constructs tend to be limited to an operational definition as described earlier in the study. In order to get a clear meaning of what the construct refers to, descriptions of its nature will provide useful information about what it is. The nature of anxiety covers a broader, more clearer meaning, aspects and varieties of anxiety than does the definition alone. The description of the nature of anxiety cuts through the foundations of what it is. This is contained in theoretical explanations of anxiety.

There are many theoretical perspectives which attempt to explain the origins of anxiety. Among others the Medical perspective, the psychoanalytic perspective and behavioural perspective, have presented clear, logical explanation of the origins of anxiety (Papalia & Olds, 1988, p. 498 - 499).

(i) Medical perspective's explanation of the origins of anxiety

The Medical perspective argues that anxiety originates from the chemical imbalances in the brain. This perspective explains anxiety in terms of physio-chemical processes of perception within the cognitive structures of an individual. This perspective views the source of anxiety as dependent on the equilibrium of the chemicals involved in perception(Louw & Edwards, 1993 , p. 698).

According to this perspective, once the chemistry is disturbed it can lead among other things to a state of anxiety. Therefore one can conclude that, this perspective regards failure to perceive the environment properly as a source of anxiety(Louw & Edwards, 1993 , p. 698).

(ii) Psychoanalytic perspective's explanation of the origins of anxiety.

As the Medical perspective points to the imbalances in the chemical processes involved in perception as a source of anxiety; the Psychoanalytic perspective on the other hand points to repressed unconscious drives which try

to become conscious and then result into inner conflicts(Louw & Edwards, 1993 , p. 698). The latter becomes a source of anxiety. This perspective base its description of anxiety on Sigmund Freud's theory of the structure of the mind. According to this theory the human mind's functioning can be divided into three cognitive levels, that is, the conscious, pre-conscious and unconscious levels of the mind(Papalia & Olds, 1988, p. 498 - 499). The conscious is the level of active thinking, decision-making and self awareness. The preconscious is the level of past experiences that are easy to recall. The unconscious is the level of repressed memories. These memories are mostly those that hurt and cause emotional upset within individuals. Most individuals would otherwise prefer them forgotten. Within these levels there exists three personality structures. The Id, Ego and Super-ego. The Id is a personality structure which operates mostly in the unconscious level of the mind(Papalia & Olds, 1988, p. 498 - 499).

It is the unruly, need-satisfying structural functioning of one's personality that operates on the pleasure principle. The Ego and superego on the other hand control the Id's impulses, since

they operate on reality principle. The id which operates mostly in the unconscious, continuously and unconsciously brings up these drives or strong desires that as stated above result in anxiety provoking states. The Id unlike the Ego and Superego is an innate-structure of personality which controls most of the basic needs. These basic needs sometimes can be easily and readily satisfied, such as, thirst or hunger. Sometimes the need can not be easily and readily satisfied, such as, sex. The Ego and Superego develop during the socialization process. They represent acceptable behaviours, norms, values which the society hold dearly at that period. In this way they serve mostly to control and guard the Id's impulses in order to fit and match socially acceptable norms and standards of living(Louw & Edwards, 1993 , p. 698).

(iii) Behavioural perspective's explanation of the origins of anxiety.

The former two perspectives trace anxiety in cognitive structures. The behaviour perspective tends to be more situational than genetic in its focus and explanation. The Behavioural perspective argues that anxiety originates

from learning wrong behaviours and is then reinforced by significant others when a child grows-up. The view of this perspective on how anxiety develops and is learnt is that, anxiety is learned through observation and then assimilated by a person as a growing child(Louw, 1991, p 423).

Important people in the child's life, such as, parents, teachers and peers then promote this behaviour through encouragement and / or punishment. According to this perspective, if this behaviour is appropriately rewarded, the individual will continue expressing it spontaneously there-after. Rewards serve to condition the individual over time till the behaviour is properly learnt (Papalia & Olds, 1988, p. 499).

All the explanations about the origins of anxiety presented by different perspectives, that is, medical perspective, psychoanalytic perspective and behavioural perspective, clearly show that no single factor is at the root of anxiety, instead a combination of factors are responsible for the development of anxiety within individuals. This is clearly shown by a strong argument each

perspective puts forward. Even though they all point to different sources of anxiety, each argument presented, tends to be logical, unambiguous and adequate enough in its explanation.

It is a well documented psychological fact that anxiety can significantly influence development of many people. This statement implies that anxiety affects adults and children the same way. This is supported by Schachter's theory (1959, p. 2). He states that "Adults, like infants, affiliate to reduce fear". According to this theory, anxiety indiscriminately affects people during all stages of their development. It seems therefore that there are certain situations which affect children and adults the same way and lead to anxiety (Schachter, 1959, p. 3). These situations are clearly presented in the following discussion. One such situation appears to be a psychological state of isolation.

Generally, isolation can be understood as meaning the same as being alone or aloof. If a person does not join or co-operate with others in a group for instance, that can be described as isolation. Psychological isolation does not

refers to a state whereby an individual by nature of his personality seems or can be perceived as isolating himself or herself, even within a group situation.

Psychological isolation refers to a state whereby an individual be it in a group, be it in social gatherings, in a family environment or company of peers; feels empty, rejected and unacceptable by others. This thinking is subjected to that particular individual's thinking alone, no matter how others see that individual as being accommodated. Psychological isolation is dependent on the individual's perception of the situation or environment he or she finds himself or herself in at the time. This type of isolation is synonymous with rejection. Individuals tend to generalize over it from one situation to another similar situation.

The above argument raises an interesting question in ones mind about the causal effect or relationship between isolation and anxiety.

2.4 DOES ISOLATION LEAD TO ANXIETY? .

This question not only questions whether there is any relationship, but it also questions the direction of that relationship. A linear fashion causal effect is pointed out in the question.

An approach that appears to be the best in describing the relationship between anxiety and isolation is that of response based description of isolation. Psychological isolation is often not understood by an isolated person. An individual's response to isolation is instead noticed by those close to a person, such as, significant others (parents, family members, colleagues and peers) in one's environment. The consequences of isolation tend to be a clear indicator of the relationship between anxiety and isolation; in that, isolation produces a state similar to anxiety attacks.

Although one of the consequences of isolation appears to be a psychological state which in its extreme form resembles a full blown anxiety attack, childhood anxieties unlike adults anxieties appear to aggregate in families, but the transmission could be explained by both genetic as well as shared environmental factors.

This indicates that isolation provokes genetically pre-disposed anxiety responses in children as well as in adults. It therefore follows that, environmental factors reinforces anxiety behaviours that are genetically pre-determined. It is important to note that people can deal and cope with rejection and psychological isolation over time, because the pressure exerted on genetic pre-disposition to anxiety by environmental factors such as isolation produces coping mechanisms within an individual. The strength and elasticity of such coping mechanisms differ from one individual to another. In other individuals coping mechanisms may be too strong but not enough to sustain isolation over a period of developmental stages. Furthermore certain critical stages in development make people more vulnerable to isolation and consequently anxiety. These include among others developmental stages, such as, the onset of adolescence, that is, puberty.

Kellam's study (1990, p. 11) revealed that failure to adapt to social and cognitive development demands and the negative feedback from natural raters (teachers , peers or parents) with respective social fields

(classroom or family) may provide for the child an environment prone to psychological isolation over time. This results in decrements in psychological well-being, one of which is anxiety symptoms.

Kellam's findings does not only support the argument and theory behind the relationship between anxiety and isolation, but also provide more valuable information on the nature and direction of the relationship. The cause, according to Kellam's findings is isolation. Anxious symptoms are dependent on such factors like isolation.

Another situation which triggers anxious responses within individuals, is adaptation. All over the world when people encounter or join new environments, planned programmes of orientating them in the new environment are used. There has been emphasis on orientating new students joining tertiary institutions for the first time, students learning new material or employees coming to work for the first time. This endeavour of orientating people emanates from theoretical explanations and research evidence about the effectiveness and consequences of orientation.

Research evidence have pointed out that, when people are well oriented, well adapted and acclimatized in their environment they are in control of their situation (Wentzel, 1994, p. 173).

The other side of this , is that when people are disoriented and fail to adapt, they can not adjust. Failure to adjust causes a state of apprehension which is one characteristic of anxiety. Studies such as those conducted by Thapar and McGuffin (1995, p. 439) on failure to adapt revealed that, failure to adapt provokes anxiety.

2.4.1 Theories on the origins of co-operative behaviour.

Commonsense tells us that interaction with one or more other people involves paying attention to either past experience or anticipated future. Since society has expected ways that people should behave like; we turn to behave in a certain expected way. Therefore we should argue that people affiliate because they are expected to do so; but when it comes to affiliation, this argument is not enough. There are certain

factors which drive people to affiliate. It seems a combination or very powerful conglomeration of these factors lead to affiliation. There are many theories which try to explain causal factors of affiliative tendencies. Among others the social comparison theory.

(i) Social comparison theory's explanation of the origins of co-operative behaviour.

This study aims at examining the relationship between anxiety and co-operative behaviour. Theories and research evidence have pointed out at the relationship between these two factors. Though in the previous discussion on causes of anxiety, substantive argument was presented as well as research evidence in support of theory; there is no abundance of such available information when it comes to co-operative behaviour. Also, for a variety of frankly intuitive reasons, it seems reasonable to expect that if conditions of isolation produce anxiety, conditions of anxiety would lead to increased affiliative tendencies (Schachter, 1959, p. 103).

Festinger's social comparison theory (1954, 117); Schachter's study (1959, 102) and Sarnoff and Zimbardo's study (1961, p. 356) all came to the same conclusion that anxiety leads to co-operative behaviour or affiliation.

According to social comparison theory, people affiliate to compare their feelings with those of others in the same anxiety provoking situation. One can deduce from this theoretical explanation that it should be anticipated that being with others will lead to homogeneity of emotional intensity among the group members and to relative stability of emotion. This theory further explains that when we are in a new or unusual situation and are uncertain about how to react, we turn to others as a source of information (Festinger, 1954, p. 117). It seems therefore that at any age, affiliation is likely to be most beneficial if we can associate with someone who is both sympathetic and knowledgeable.

A conclusion which can be drawn from the above argument is that social evaluation is possible only when there is relative homogeneity among members of a reference group. In such evaluation

situations which make social comparison processes possible, any existing discrepancies among group members will increase pressures to reduce such discrepancies. This means that under anxiety producing conditions, being together with others will lead to both anxiety reduction and relative homogeneity of anxiety intensity(Festinger, 1954, p. 117).

2.4.2 Fear and co-operative behaviour.

Fear is an emotion but unlike anxiety it can be linked to certain stimuli, that is, frightened people know the object of fear. Anxious people do not know the object of fear. Fearful people can identify the object of fear. Fear as an emotional state can lead to a state of anxiety within the individual.

How and how much of fear can be attributed to anxiety ?.

The following discussion looks at fear and cooperative behaviour. The discussion will also show the relationship between fear, anxiety and co-operative behaviour.

Co-operative behaviour is linked to fear and uncertainty or anxiety (Festinger, 1954, p. 3). It has been well-established through research that people tend to overpredict the amount of fear they will experience in a subjectively threatening situation. This can be described as a state of anxiety. (Taylor & Rachman, 1994, p. 173).

According to Taylor and Rachman (1994, p. 173) overprediction of fear arises from the overprediction of the danger, the features of the feared stimulus and underprediction of the sources of safety (escape routes) associated with the stimulus. Fear prediction is influenced by the ease with which fear-relevant scenarios can be constructed. According to Rachman (1990 , p. 8) other main pathways in acquisition of fear is verbal information obtained from the other, that is, verbal description of threat-relevant stimulus. This points to the fact that fear is not always related to identifiable object. Any description of that threatening stimulus invokes fear. This situation like in anxiety provoking situation has no identifiable object which is a source of fear.

Previous discussion argued that fear unlike anxiety is related to an identifiable stimuli. But from the above discussion one sees that, the greater the amount of fear and the nature of the situation lead to anxiety. Therefore such a state of describing a threat can no longer be classified as a frightening state or fear, but as anxious state. Following Taylor and Rachman views (1994, p. 179) on fear and anxiety, it seems apparent that fear without an identifiable stimuli is a state of anxiety. This tends to promote affiliation.

2.4.3 Innate need for co-operative behaviour.

Co-operate behaviour or affiliation appears to be part of humanness. Humans tend to co-operate and work together towards a common goal. Most human activities such as, games are played through cooperation. Humans unlike most other creatures tend to form structures such as families, communities and even societies in order to co-operate(Schachter, 1959, p. 64). This argument raises a question.

2.5 WHAT DRIVES PEOPLE TO CO-OPERATE?.

Instinct theories' view human behaviour as

inborn. These theories argue that all of our behaviour including affiliation is innate. According to instinct theories, co-operative behaviour is genetically pre-determined. This theory refers to inborn characteristics as instincts. It holds that whether a person learns to affiliate during the process of socialisation or not, co-operative behaviour is part of us. It will occur naturally(Louw & Edwards, 1993).

There are many other theoretical explanations for this, but among others, Festinger's theory provides an explanation about co-operative behaviour among humans. According to Festinger's social comparison theory (1954, p. 117), people have a drive to evaluate themselves; and in the absence of objective non-social criteria, they evaluate themselves by comparing with other people.

This is supported by Johnson , Johnson and Maruyama (1983 , p. 5) who stated that learning under " positive contact conditions" facilitate interpersonal relationships and in turn, instill positive effects on an individual's motivation, self-esteem and performance". Being together according to the above study by Johnson et al. (1983, p. 5) even in task taking, satisfies the

need for co-operation.

Mathino's study (1990, p. 429) found that working together enables individuals to refine their problem solving skills. This co-operative tendency is due to the fact that people in and of themselves, represent goals for one another, that is, people do have needs which can be satisfied only in interpersonal relations, such as, support, approval or prestige. These needs which can be satisfied through co-operative behaviour create an anxiety provoking state, in that; for them to be satisfied, factors like acceptance, appreciation and willingness, have to play a role. This state makes an individual anticipate and experience anxious feelings. These feelings precedes affiliation (Daniels, 1994, p. 1021).

The argument deduced from different theories above and studies presented, indicates and provides evidence that co-operative behaviour like anxiety is inborn. Though the argument is logical and adequate, it does not points out at any causal effects between the two factors.

If anxiety is inborn and leads to co-operative behaviour, co-operative behaviour is not therefore necessarily inborn but is due to an

inborn factor, that is, anxiety(Johnson et al. 1983, p. 5).

The argument that co-operative behaviour is need driven , fails to point to a clear line cut on how anxiety leads to satisfaction of affiliation. Furthermore this explanation does not come clear on whether co-operative behaviour is a basic or secondary need(Daniels, 1994, p. 1021; Johnson et al. 1983, p. 5).

2.6 RELATIONSHIP BETWEEN BIRTH ORDER, ANXIETY AND CO-OPERATIVE BEHAVIOUR IN COUNSELLING SITUATIONS .

When we describe one's personality we emphasize its uniqueness. This clearly points out that there are no two individuals who are the same whether be it identical twins or not. Children or siblings in the same family, brought up by same parents, under warm and loving conditions are quite different in the way they behave. Siblings not only differ from one another but also differ from their parents. A simple genetical explanation would be that children of the same parents are hereditary the same. Contrary, one finds that they are unique in some way or the other.

Generally we know that the mere presence of other siblings or parents in the family structure, influences certain characteristics in others. Therefore one assumes that the presence of others and birth order may cause anxiety. For instance, first born receive attention, love and care from parents without rivals; but as soon as the second born comes he or she loses some if not all of this, and thus will feel anxious to recover the lost thrown. The second born and later borns' are in competition with the elder born because the elder was born first, therefore they experience the same anxiety to achieve and surpass the elder born's achievements (Maddi, 1989, p. 17).

2.6.1 Does anxiety promote co-operative behaviour or affiliative tendencies?.

Research studies have shown that under conditions of anxiety first born and only children overwhelmingly choose to be with other people, whereas later-born children do not (Schachter, 1959 , p. 64). This has implications for counselling if we consider the nature of counselling as a process by which a troubled person seeks out a form of social help rather than attempting to handle his problems by himself or herself.

2.6.2 What are the implication for these differences in counselling situation?.

These assumptions imply that first and second-borns would be much more likely to seek counselling help and would remain for longer periods than later borns. Therefore first borns and only borns experience high anxiety than later born children. This also mean that they are more inclined to affiliate than later borns.

2.7 STUDIES ON THE EFFECT OF ANXIETY ON CO-OPERATIVE BEHAVIOUR.

There is theoretical explanation for the effects of anxiety on co-operative behaviour. Moreover there is research information in this area. Both studies conducted recently and those conducted in the past, tend to converge to similar conclusions about the effects of anxiety on co-operative behaviour.

Several research studies have shown that there is a correlation between anxiety and co-operative behaviour (Schachter, 1959, p. 102; Sarnoff & Zimbardo, 1961, p. 356; Larson et al., 1982, p. 35; Taylor & Rachman, 1994, p. 173). Studies

mentioned above came to certain conclusions about the relationship between anxiety and co-operative behaviour. Their conclusion were mainly on gender, anxiety and co-operative behaviour. Though it may seem important that this factor be considered in the relationship, it is of utmost importance that one does not end up making conclusions based on gender and gender differences alone. Age, educational level and situations are also other important factors in such studies as is gender. Some of these studies used single-gender subjects and generalisations are based on single-gender findings (Sarnoff & Zimbardo, 1961, p. 356; Schachter, 1959, p. 102) .

Nevertheless these studies provided information on the effect of high anxiety on co-operative behaviour. Some also provided information on gender differences on anxiety and co-operative behaviour (Schachter, 1959, p. 13). The following discussion therefore will focus mostly on evidence gained from these previous studies. This will enable this study to compare its findings with other studies conducted before.

2.7.1 The effect of anxiety on co-operative behaviour.

Many researchers in the past and present have and are still showing interest on studying the effect of anxiety on co-operative behaviour. As mentioned before, a number of studies in this area include studies such as those conducted by Schachter (1959, p. 102), Sarnoff and Zimbardo (1961, p. 356), and Larson et al., (1982, p. 35) on anxiety and co-operative behaviour or affiliation. These studies revealed that among other things, anxiety influences personal, adjustment as well as development of many people. High anxious people were reported in all these studies as more co-operative than low anxious individuals.

Conclusion reached on the above mentioned studies have been supported and criticized by a number of authors. In support of these conclusions Rachman (1990, p. 15) succinctly maintain that "Anxiety is in itself one of the main problems in an individual's adjustment".

The above studies further argue that anxiety is sometimes caused by a general sense of incompetence or of inability to carry on life

activities adequately. Sometimes anxiety is an acute concern about some external situation by which the individual is confronted with or fear of inner impulses. What ever anxiety is and is experienced by an individual, it encourages affiliation. To support this, Rachman (1990, p. 11) argue that without some anxiety motivation may lag; for anxiety is often a mobilizing force behind the request for help Another study which is in line with the argument is a study by Schachter (1959, p. 102) which revealed a strong positive correlation between anxiety and affiliative tendencies, especially high anxiety and affiliation.

Though these studies only established correlations between anxiety and co-operative behaviour, their contribution in explaining the relationship emanate from the fact that their conclusions revealed a positive high correlation between high anxiety and co-operative behaviour. One would therefore deduce that although anxiety is there among and within individuals, a level of high anxiety seem to be the factor that lead to co-operative behaviour.

It therefore means that increasing the level of anxiety would lead to an increase in co-operative tendencies among individuals .

2.7.2 Gender differences in anxiety and co-operative behaviour.

The core in understanding gender differences is differentiating between male and female genders. Cultural biases in most parts of the world tend to discriminate against women. Women and men are socialize differently from childhood through adolescence into adulthood. Socialization on its own bring certain perception about the other.

A common perception among most communities especially in South Africa as far as gender differences are concerned, is that women are weaker than men. On the basis of this perception we tend to think of anxiety as an unhealthy uncertain state of flight, it is expected that women would be high on this. In other words, any state of anxiety considered undesirable by the majority of people is associated with women. There are physiological differences among women and men. The interesting question that most

researchers focus on, is that of, " whether there are psychological gender differences in terms of anxiety levels between men and women"7 (Mwamwenda, 1994, p. 228; El-Zahhar, 1991, p. 238; Mwamwenda 1993, p 554).

If there are gender differences in terms of anxiety levels, are these in-born, due to socialization process or biases due to common perception men hold about women. A review of studies conducted in this area can help in providing researched evidence in an attempt to answer the question.

Several studies in this area have revealed certain gender differences among men and women regarding anxiety level. As studies conducted by Schachter (1959, p. 102), and Sarnoff and Zimbardo (1961, p. 356) made generalizations on gender differences about the relationship between anxiety and co-operative behaviour based on a single-gender, it seems not possible to deduce logical conclusive evidence on these studies.

Moreover other studies show some interesting developmental differences between males and females. These are differences on personality development, which have implications for the present argument. Cohn's study (1991, p. 252) on "Sex differences in the course of personality development" revealed that in terms of personality development girls tend to pass through the period of social conformity and into self-awareness somewhat earlier than boys. Therefore, this indicates that generalization of results based on a single-gender, especially females, may be biased due to their crystallized personality development which occur earlier in life than it does among males.

The implications for Cohn's study are that girls tend to respond more readily to socialization which demand that they conform. If this is combined with the process of socialization, it will unconsciously teach girls to be more anxious and aware of it earlier then boys. Conclusions based on differences between males and females differences on anxiety levels must therefore be accepted with caution.

Mwamwenda's study (1994, p. 228) on "Gender differences in scores on test anxiety and academic achievement among South African University students", found that there are gender differences in levels of test anxiety, with women scoring higher than men. Furthermore the study revealed that high and low anxiety men did not show differences in their performance; whereas with women, high anxious-women outperformed low anxious-women. The study also showed that there were no differences in academic performance between high anxious men and women.

What one can conclude from the studies by Cohn and Mwamwenda, considering the state of anxiety, is that there is good evidence that social-influence processes are operative during anxiety provoking situations, and that the individual evaluates his own feelings by comparing himself or herself with others in the same or similar situation.

2.7.3 Co-operative group performance versus individual performance.

Individuals sometimes co-operate for a common goal. What are implications for this in performance?.

2.7.3.1 Do individuals in a given task perform better alone or when they are in a group?.

A number of theories have attempted to explain differences between group and individual performances (El-Zahhar, 1991; Mwamwenda, 1994, p. 228; Zeidner, 1991, p. 319). Psychological research has focused on differences pertaining to academic performance and underlying causes. The results of such studies have implication for counselling. Counselling in this case refers to a process whereby the consultee or client consult a counsellor or professional for help. Since psychologists in counselling deal with group and individual psychotherapy, it is crucially important to understand differences in performance of individuals alone or within the group. This will help in giving insight into psychological sex differences pertaining to co-operation and affiliation. It will also give insight into the differences in gender performances on any given task.

Interest has been shown by many researchers in the differences between individual and consentient efforts of groups. The importance of such studies and their findings do not only reveal differences in performance but also

psychological processes that promote these differences in performance.

There are several studies on group performance against individual performance. Studies such as those conducted by Mevarech and Kramarski (1992, 259) on "How and how much can co-operative logo environments enhance creativity and social relationships", revealed that co-operative work enhanced interpersonal relationships.

Other studies have shown that interpersonal relationships on the other hand increase performance. According to Mevarech, Silber and Fein (1991, p. 233) mutual interactions enable students to solve problems that were initially beyond their capabilities. A psychological cognitive process of consentient effort and motivation seems to drive individual group members in achieving a common goal, which may be success.

It seems that co-operative attempts to understand the problem, co-plan, and co-evaluate the results, may all create an atmosphere in which group members show even greater willingness to co-operate (Brown & Paliscar, 1989, p. 393).

Daniels's study (1994, p. 1011) on "Motivational mediators of learning", showed that co-operative learning is positively correlated to higher levels of need for social approval, and results in approval motivation which is linked to achievement motivation.

The results of this study further showed that co-operative learning techniques enable students to co-ordinate their approval and achievement motivation by presenting academic excellence as a socially desirable behaviour.

If co-operative behaviour improves performance, how would anxiety influence performance. A study by Hedges, Glass, Arnkoff, Wood, Meyerhoff, Smith and Oleshansky (1995, p. 47) showed that dispositional anxiety is related to pre-examination anxiety and that a level (high or low) of anxiety is directly related to examination performance. The anxiety level whether low or high negatively affects performance by decreasing the level of an individual's performance.

One can deduce from these studies that, means to reach a goal among individual group members turn to be more important than the results. It follows therefore that their motive to strive and succeed is elevated and enhanced in group situations. Contrary to this, one may conclude that individuals' performances may lack enhanced motivation to strive for success. Therefore the performance of a group will be greater than the individual performance, if the psychological influence group members bring to one another are considered in academic task performances.

Johnson, Johnson, Buckman and Richards study (1985, p. 405) of the " The effects of prolonged implementation of co-operative learning on social support within the classroom " found that co-operative learning experiences result in high achievement and greater retention of learning than do competitive or individualistic learning. This study also shows that co-operative learning enhances students' performance by affecting the social approval and achievement motives.

Another study by Wentzel (1991, p. 173) concluded that having both social and task-related goal-orientations is associated with better academic performance than having task-related goals. This means that as long as students are able to co-ordinate multiple goals in adaptive ways, academic performance is not hindered; but rather enhanced. Co-operative learning induces students to co-ordinate their needs for approval and achievement, there-by enhancing academic performance.

Daniels's study (1994, p. 1011) found that in co-operative learning situations, the relationship between approval and achievement motivation was positive. The study further pointed out that men and women who were concerned with gaining approval from others in a group also did well on tasks.

A relationship between anxiety and performance outlined in these studies is that of an indirect relationship. Anxiety leads to co-operative behaviour and co-operation in turn leads to an increase in academic performance. It is clear therefore that a direct relationship will have negative effects.

Daniel's study (1994, p. 1011) revealed that there tends to be a slight negative relation between anxiety and academic achievement. They argue that, low anxiety tends to be associated with better marks whereas high anxiety with lower marks. A direction of the relationship between anxiety and learning seems to be extremely sensitive to the kind of content learned.

The negative nature of the overall relationship primarily derived from every high anxiety level whose debilitating effects must certainly affect learning as well as most other forms of achievement and adjustment. Very low or high extremes of anxiety level may be associated with below-average school attainment (Daniels, 1994, p. 1011).

2.7.4 People's perceptions of their problem and situations.

Anxiety as a state of fearful uncertainty is related to some situation or stimuli. In the light of this, it becomes necessary to understand how people perceive their situations and problem. This enables one to clearly and objectively explains how anxiety is related to or fluctuates

in different situations. Unique personalities among individuals also show themselves in perception. No two people perceive, experience and / or interpret one situation the same way. Monozygotic twins may be similar in most respects but they often show this uniqueness that every individual has. People are unique by nature. It is therefore important for researchers to investigate the relationship between anxiety and co-operative behaviour with a thorough understanding of an anxiety provoking situation. Anxiety provoking situations are dependent on the interpretation of an individual, of that situation he or she is faced with. This means that one's sensation, perception and interpretation of the environment is unique to oneself. An anxiety provoking situation in one person may not necessarily be anxiety provoking to another person at the same time. The effect such a situation has over the same person at a given time may differ in another time, whether be it in the same situation or similar situation.

According to Cattell, Scheier, Madge and Prinsloo (1968, p. 13) anxiety levels differ not only between persons at any given time, but fluctuates markedly over time in any one person

or group of persons. Anxiety is also related to developmental stages in ones life. For instance, during late childhood and adolescence, anxiety levels are very high. During adulthood it drops significantly and stabilise as well. But during advanced age it becomes high again as during childhood and adolescence. It therefore seems important that one looks at a situational context and cognitive interpretation of such a situation in order to understand these fluctuations in anxiety levels. Anxiety arousing situations may include test taking, speech delivery, interviews, etc.

Sears et al., (1985, p. 142) argue that cognitive categorisation in anxiety provoking situations is important because it plays a major role on how people perceive their problems and situations. The cognitive approach considers behaviour as determined mainly by people's perceptions of the situation. This approach points out that people do this in an attempt to form a coherent understanding of the situation they are in. Fearful people affiliate to take their minds off their problem, by so doing they compare their feelings with those of others in the same situation.

Zeidner (1991, p. 319) argues that anxiety is likely to result from a developmental history of successful and unsuccessful experiences in certain situations. Furthermore, it stabilises during later years and is most likely shaped by a variety of affective, social and cognitive factors acting upon it (Zeidner, 1991, p. 319).

2.8 CONCLUSION

Review of literature in this chapter has shown that anxiety is part of human nature. It has been made clear that, one can not get rid of it, but can learn to manage acceptable levels of anxiety. Also what has been explicit in reviewing literature are different anxiety disorders that indiscriminately affect adults and children the same way.

Social scientists, like psychologists can play a major role in developing effective programmes for management of acceptable anxiety levels. This can be achieved if information on the negative and positive effects of anxiety on human behaviour has been successfully studied and limitations of previous anxiety management initiatives have been thoroughly evaluated and improved.

Co-operative behaviour has been shown to be a response action on certain casual factors which might include anxiety. Though literature reveals some relationship between anxiety and co-operative behaviour, the strength and nature of the relation is yet to be established. Literature shows that there is a lack of scientific evidence to show that co-operative behaviour is an inborn need, which can be satisfied if one affiliates (Schachter, 1959, p. 22).

Interesting parallels were also shown between birth order, anxiety and cooperative behaviour. The information gathered from different literature shows that levels of anxiety relate to birth order. Similarly, literature provides strong evidence in support of the relationship between birth order and co-operative behaviour. The relationship described between any of the two factors, that is, birth order and anxiety; as well as birth order and co-operative behaviour shows that birth order would result in the other two factors being acquired (Schachter, 1959, p. 64).

A number of studies that support the theory behind anxiety and co-operative behaviour, have all come to similar analysis and conclusions. Their conclusions were that anxiety leads to co-operative behaviour or affiliation.

These studies provided scientific evidence for this relationship, despite ignoring gender influences in their findings (Schachter, 1959, p. 12; Sarnoff & Zimbardo, 1961, p. 356).

Previous studies have also shown that gender has influence on anxiety level and consequently affiliation. Though these studies came to different conclusions about this, most of them have shown the effects gender has on anxiety (Sarnoff & Zimbardo, 1961, p. 356; Mwamwenda, 1964, EL-Zahhar, 1991, p. 238).

Although all these studies have attempted to establish a relationship between anxiety and co-operative behaviour, most of them concentrated their focus on one essential element of anxiety, that is, the effect high anxiety levels have on affiliation and performance of individuals.

A review of current literature also reveals that there are differences between individual and group performances. Group members tend to have certain influence on one another and this results in an increase in performance. The influence that has been shown was not competition, but need for social approval. Factors like co-planning and co-evaluation of the problem were at the centre of groups better performance over individual performance.

Literature survey also shows the importance of considering situations when looking at the effects of anxiety on any factor including co-operative behaviour and / or performance. It has been shown in literature that anxiety among other things is related to perception of the situation one finds himself or herself in. Differences in perception and interpretation of the environment have been shown to result into different effects on different individuals. A situation that is anxiety provoking in the person is not necessarily anxiety provoking on the next person. This may also happen with the same individual at different times. It has been argued that anxiety not only fluctuates with situations and time but it also fluctuates with developmental stages.

CHAPTER THREE

RESEARCH METHODS AND PROCEDURES

3.1 INTRODUCTION

The effect of anxiety on the general public is sufficiently complex to warrant a carefully planned procedure for its investigation. This complexity arises out of the degree to which a condition of anxiety is regarded as problematic.

In an attempt to address these problematic effects, a number of research studies (Arntz, Rauner & van den Hout, 1995, p. 917; Deffenbacher, 1988, p. 3; Hedges et. al., 1995, p. 47; Ialongo, Edelson, Werthamer-Larsson, Crockett & Kellam, 1995, p. 427; Mwamwenda, 1994, p. 228; Taylor & Rachman, 1994, p. 173; Zeidner, 1991, p. 319) have studied the effects of anxiety on many factors such as academic performance and co-operative behaviour. Most of these studies looked at the effect of anxiety on academic performance. Others looked at the relationship between anxiety and gender. Previous studies on the relationship between

anxiety and gender differences, have consistently shown that there are gender differences with regard to anxiety scores.

Most studies show that women are more anxious than men. Other studies (Mwachinda, 1994, p. 228) have shown that women who experience high anxiety tend to perform poor academically.

The present investigation focuses on factors such as academic performance, gender and co-operative behaviour, which were previously studied exclusively in relation to anxiety. This study inclusively investigates the relationship between anxiety and co-operative behaviour as well as anxiety and performance.

Most previous studies have used standardized and unstandardized scales of measuring anxiety and academic performance. This study makes use of a standardized anxiety measuring scale, that measures free-floating, manifest anxiety level (Cattell, Scheier, Madge & Prinsloo, 1969, p. 12). Unlike most other anxiety scales used in previous studies , the scale used here measures situational determined anxiety level.

3.2 EMPIRICAL STUDY

This study was conducted in the form of a field experiment. The sampling procedure, methods of data collection as well as research instruments used are clearly presented in the following discussion.

3.2.1 The sampling procedure in the study

A stratified random sampling procedure has been employed in order to ensure that the various subgroups of the targeted population are represented in the study(Heiman, 1996, p. 249). Most studies similar to this one tend to use convenience sampling design in the selection of usually first year psychology students. Sampling was conducted in the following manner: firstly a list of tertiary institutions in Umlazi Township was obtained. Only two tertiary institutions are available and both were selected. Secondly a list of all subjects offered in each institution was obtained. A table of random numbers (McMillan & Schumacher, 1993, p. 619.) was used to select three courses in a numbered list of all courses available in both the institutions. This procedure enabled the researcher to obtain groups of students doing the same subject. This made it

possible to measure the variable of performance of students and to eliminate potential nuisance variables associated with performance. This also ensured that students' taught the same course, under the same conditions are selected. This in turn maintained content validity for the measurement of academic performance.

The subject population for the present study consisted of registered students from two tertiary institutions, that is, Mangosuthu Technikon and Umlazi Extramural Division which is a branch of the University of Zululand. A list of all students doing the chosen courses was numbered from first person up to the last one. A table of random numbers was used to select a total of 400 students from the lists.

The researcher confined his fieldwork to tertiary institution students. The selection of tertiary institution students was made due to the following reasons :-

(i) The IPAT anxiety scale suitable for use in this study was standardized on a population of people from the age of 15 years and over, such age groups are more represented in tertiary

institutions than in secondary schools.

(ii) The IPAT Anxiety scale is written in English language therefore it was important that the second English language speakers selected are able to understand the English language used in the scale. The scale is suitable for people who are 15 years and older.

3.3 CHARACTERISTICS OF SUBJECTS

Table 3.1 Distribution of subjects in the study sample (N = 330)

GENDER	Female	Males		
	193	137		
AGE GROUP	16-21 years	22-26 years	27-40 years	41-65 years
	171	80	65	14
QUALIFICATIONS	Std 10	Diploma	Degree	Other Certificate
	259	53	2	16
MARITAL STATUS	Never married	Married	Divorced	
	288	36	6	

3.4 PROCEDURES AND PLANNING FOR THE ADMINISTRATION OF THE RESEARCH INSTRUMENTS.

The two tertiary institutions were approached. A letter requesting the permission to conduct the study was sent to both institutions (Annexure A). Permission to conduct the study was obtained from the Head of Departments. A second letter was sent to both institutions requesting a list of all courses offered in each institution (Annexure B). The courses on the lists were numbered consecutively from one up to the last course. A table of random numbers was used to select two courses from each institution. A third letter was written to course co-ordinators of the courses chosen, requesting for a permission to conduct a study among the students during their lecture periods (Annexure C). Permission was granted by all lecturers concerned.

Research instruments were administered in each group over a period of two hours. The instruments on anxiety and co-operative behaviour were administered by the researcher on groups of students during a given time slot. The IPAT anxiety scale was administered first then followed by the academic performance scale.

The instrument on academic task performance was administered by the lecturers. They had been trained as research assistants. The time of data collection was chosen in such a manner that students would have written more than one test set by the same lecturer in the course of their study.

Out of 400 students selected a total of 330 students were tested; 82 from the University of Zululand Umlazi Extramural Division and 248 from Mangosuthu Technikon. The respondents were requested to sign a consent form to allow their lecturers to disclose their test marks to the researcher (Annexure D).

3.5 METHOD OF DATA COLLECTION

Different researchers have used a number of instruments when studying anxiety. Some of the scales used in other studies are standardized some are not (Arntz et.al., 1995, p. 917; Hedges, Glass, Arnkoff, Wood, Meyerhoff, Smith & Oleshansky, 1995, p. 47; Mwamwenda, 1993, p. 594; Mwamwenda, 1994, p. 228; Ialongo et al, p. 427; Taylor & Rachman, 1994, p. 173; Thapar & McGuffin, 1995, p. 439; Sibaya, Sibaya &

Mugisha, 1995, p. 32; Zeidner, 1991, p. 319;). According to Sibaya (1992, p. 70) " a combination of several psychological assessment tools is a useful technique in clinical setting in gathering a complete picture about a particular variable".

3.5.1 Research instruments

This study aims at determining the relationship between anxiety levels and co-operative behaviour. The second aim of the study is to determine whether the variable of sex is related to anxiety level and co-operative behaviour. The third aim of the study is to observe whether inducing anxiety would lead to co-operative behaviour. The last aim of this study is to determine whether co-operative behaviour is a function of academic task performance.

With regard to the study aims number one and two the researcher used a standardized measurement scale (Appendix A). An instrument to measure aim number three was constructed by the researcher (Appendix B). With regard to aim number four, students' academic test marks were used as a measure of academic task performance.

3.5.1.1 Description of Anxiety Scale Questionnaire

A standardized anxiety scale was used in this study to measure levels of anxiety. The scale was developed and standardized by the Institute for Personality and Ability Testing (IPAT) in 1963. The IPAT Anxiety Scale was developed from research with 16 Personality Factor (16 PF) Questionnaire. Its five sections represent the most important components of the second-order anxiety factor of the 16 PF (Cattel et al., 1969, p. 12).

The IPAT Anxiety Questionnaire consists of 40 items. The item composition of the IPAT Anxiety scale has five factors which are grouped together as anxiety components, these are: Q3 (-) = defective integration (lack of self sentiment); C (-) = ego weakness (lack of ego strength); L = suspiciousness (paranoid insecurity); O = guilt proneness and Q4 = frustration tension (id pressure). This breakdown of total anxiety into five personality components in anxiety is further categorised into an unrealized, covert "cryptic question" anxiety score from 20 items and an overt, symptomatic, conscious anxiety score from the other 20 items (Cattel et al., 1969, p 18).

The former twenty cryptic items are formulated relatively indirectly so that the testee cannot easily guess their aim. The latter twenty are more direct, symptomatic items which serve firstly as a report of actual symptoms, secondly as an indication of the person's awareness of his or her problem, and thirdly, in special circumstances, as a clue to the attempted distortion or overemphasis of symptoms.

This scale was then adapted for South African norms in 1968 by the Institute for Psychological and Edumetric Research. The aim of the test is to provide a speedy evaluation of manifested levels of anxiety, regardless of current conditions or immediate situation (Cattell, Scheier, Madge & Prinsloo, 1968, p. 12).

The Institute for Personality and Ability Testing (IPAT) Anxiety Scale Questionnaire used in this study is a brief, non-stressful, clinically-valid questionnaire for measuring anxiety. As it has been already been pointed out, the scale is designed to measure free-floating, manifest anxiety level, whether it be situational-determined or relatively independent of immediate situation.

The IPAT can also be used to identify scholastic underachievement. This is a condition in which achievement does not correspond with an individual's intellectual abilities (Cattell, Scheier, Madge & Prinsloo, 1968, p. 12; Owen & Taljaard, 1989, p. 373).

The IPAT scale is intended to give an indication of the extent to which a person is aware of his or her own anxiety (Cattell et al., 1968 p. 12; Owen & Taljaard, 1989, p. 373).

(a) Rationale for the selection of the IPAT-Anxiety Scale

The scale provides a speedy evaluation of the manifest level of anxiety . The IPAT anxiety scale manual details the following merits for this instrument (Owen & Taljaard, 1989, p. 373):

(i) It identifies and measures anxiety level that may interfere with a person's life and behaviour. It measure symptomatic as well as covert or unconscious anxiety. As a result, this is a suitable scale to measure aims one, two and three of this study.

(ii) It diagnose anxious people for vocational choice counselling.

(i) Administration of IPAT Scale

The test can be administered to individuals or a group of up to several hundreds at a time. The tester gives the test booklet(s) to testee(s). The tester builds rapport with testee(s). The accompanying instruction to the testees is: " inside this booklet you will find forty questions, dealing with difficulties that most people experience at one time or another. It will help a lot in self-understanding if you mark YES, NO, etc, to each, frankly and truthfully, to describe any problems you may have ". Testees are not told its an anxiety test, but are told its a " self analysis form ". Tester asks the testee to provide first responses to statements. All answers are made directly on the test booklet. The test is untimed but generally takes few minutes (Cattel et al., 1969, p 15).

(ii) Scoring of the IPAT Scale

The test is marked by using the stencil key over the answer sheet. The scorer simple adds 2's or 1's for each item. The first category of 20

statements provide a subtotal score of 40 which indicate covert anxiety whereas the other category of 20 statements provide a subtotal score of which indicate overt, symptomatic, conscious anxiety. One total score of 80 can be obtained for each person by adding the two subtotals. This provide covert and overt anxiety total score. A total score was chosen rather than subscores because a total score provide an evaluation of the manifested level of anxiety, regardless of the immediate situation (Cattel et al., 1969, p 18).

(iii) Interpretation of IPAT Scale Scores

The range of a total score is from 0 to 80. A total score from 0 to 20 indicates security, this is, a person who is confidence, stable minded and believes in his or her actions. A score from 21 to 43 indicates a normal range, this is, a level of anxiety that occurs in most people within the population that is necessary to motivates them to accomplish tasks. A score from 44 to 80 indicates high anxiety levels, this is, the feelings of insecurity due to anticipated threat that dominate the cognitive function and affect the person's effective functioning (Cattel et al., 1969, p 20).

3.5.1.2 Co-operative Behaviour Scale (Appendix B)

The measurement instrument for co-operative behaviour was a scale that measured the subjects' choice to be with others or to be alone in an anxiety provoking situation. This measurement scale was required for information related to the third aim of the present study. There are yet no available standardized measurement instruments for measuring co-operative behaviour.

Previous studies also relied on new scales constructed to measure this variable (Schachter, 1959, p. 13). In this study such scales could not be used because they were designed to measure the variable of co-operative behaviour in a laboratory experiment rather than in a field experiment. Therefore the researcher constructed a new scale to meet the objectives of the third aim . Since the aim requires co-operative behaviour measurement instrument, the respondents' choice to work alone or with others in a group was developed.

This scale created an imaginary situation. This situation was created in such a manner that it is anxiety provoking. The scale was constructed as follows: the respondent was asked to read the

statement which creates an imaginary anxiety provoking situation and was suppose to make a choice. The statement induced anxiety among the respondents by stating that they will be writing a mental alertness test (Appendix B).

The response to this test was meant to be to a binary decision. The indication for preference to write the test alone or with the rest of the group, was an indication for or measure of co-operative behaviour. Respondents who would prefer to write the test with the rest of the group were more affiliative individuals than those who would indicate a preference for writing the test alone (Schachter, 1959, p. 15).

Schachter (1959, p. 15) argues that this test was designed to elicit the respondents' desire to co-operate in anxiety provoking situations. Following Schacter's approach (1959, p. 15) the statement describing what was about to happen was used to induced the respondents with anxiety.

This test was designed to be short and to take less time to respond. The time was very important because this imaginary situation required the respondents to make quick choices without pondering. The reliability of the IPAT anxiety

scale shows a reliability coefficient of 0.88 (Sarnoff & Zimbardo, 1961, p. 356, Festinger, 1954, p. 117).

3.5.1.3 Academic Task Performance Scale

Most studies on academic task performance, use achievement or teacher-made tests (Zeidner, 1991 p. 319; Miller, 1993 p. 311; Sibaya, Sibaya & Mugisha, 1996 p. 32; Hedges et al., 1995, p. 47; Mwamwenda, 1994, p. 1593). The present study followed the same procedure used by other researchers before. The test administered by the lecturer who had been teaching the same students for the past eight months was used as a measure of academic task performance.

According to Sibaya, Sibaya and Mugisha (1996, p. 32) " it is a usual practice to measure the results of teaching by means of achievement tests and examinations". The academic performance scales were constructed by three lecturers who were teaching respondents at the time. The scales measured the respondents' academic performance. The tests had the following uses: the scale was used to measure performance of each respondent compared to that of the rest of the group and was

based on the same knowledge and content learnt by respondents.

3.6 CONCLUSION

This chapter was about the methods used to conduct the study. The study's chosen method of sampling was a stratified random sampling. Stratification of sample units enabled control of extraneous factors. The procedure for administration of research instrument ensured smooth process of data collection. The IPAT Anxiety Scale , Co-operative Behaviour Scale and the Academic Task Performance Scale were used in data collection.

The empirical approach described in this study have a high internal validity for concluding that the findings apply to common, realistic situations and actually reflect natural behaviours, because it is a field experiment.

The study employed an approach of inducing anxiety upon the sample units, thereby measuring an influence of induced anxiety in a particular situation. The planned procedures for data collection were described. The instruments were

administered according to the procedure. Data collected according to the method described in this chapter, form the basis for the presentation and analysis of data in the following chapter.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.1 INTRODUCTION

The researcher has engaged in copious reading of relevant literature. The information about literature review appears in chapter two. A field experiment was also conducted in order to collect data for presentation and analysis in the present chapter. Furthermore, this study being a field experiment ensured that the manipulation of the independent variable occurred in respondents' natural environment. Therefore this means that the Hawthorne effect was prevented from contaminating respondents' answers.

Theory on anxiety and co-operative behaviour presented in chapter two provided the springboard from which this study develops. This theory was based on a number of different perspectives on anxiety and co-operative behaviour. Reference was also made to previous studies which have been carried out on the effects, origins and relationship between anxiety and co-operative behaviour or tendencies.

The results in the study are presented in the following format: an overall summary of the distribution of anxiety scores across age groups is presented first, followed by a summary of the distribution of Task performance scores across age groups. Thirdly the results on the relationship between anxiety and co-operative behaviour or tendencies are presented , followed by results on the relationship between sex, anxiety and co-operative behaviour. This is followed by the results on the effects of induced anxiety on co-operative behaviour. Then the relationship between academic task performance and co-operative behaviour; and finally conclusion.

4.2 SUMMARY OF ANXIETY LEVELS ACROSS AGE GROUP

It is important that this study reveal different anxiety levels among different age groups . Theories on human development points out that anxiety levels fluctuates throughout lifespan. These theories argue that high anxiety levels are found during adolescence and young adult stages of development , and then it drops during adulthood and finally rises during old age.

Theoretical arguments such as these , challenges studies which arrive into conclusions on anxiety and different age groups without analysis of whether or not anxiety is correlated with age.

The following summary of the results on anxiety and age tabulate any existing differences between anxiety and age. The analysis tabulated also determine whether any existing differences are significant or not.

Table 4.1 analysis of variance summary table

Source of variance	DF	SS	MS	F	Critical Values	p
Between groups	3	178.89	59.63	0.92	0.01%	4.71
Within groups	302	19536.07	64.69			
Total	305	19714.96				

[F-ratio = 0.92 (df = 2 ; 302) , p < 0.01]

As indicated in table 4.1 , analysis of variance show that there were no significant differences between the levels of anxiety among different age groups . The reason for non-significant findings in terms of any differences between means is that the means were in fact very similar .

From the above results one can deduce that all age groups had more or less the same level of anxiety . The results show a probability of less than 0.01 level of significance.

This analysis between anxiety and age provide a baseline against which latter differences could be evaluated . With the results of anxiety and age of no significant differences among age groups , it could be reasonably argued that any later differences , for instance, between gender and anxiety may be due to induced anxiety rather than the natural differences of anxiety across lifespan .

4.3 SUMMARY OF PERFORMANCE ACROSS AGE GROUPS

There is abundance of researched information in support of the argument that at high anxiety levels individuals performance decreases. The vice versa does not hold true for this theory . At low anxiety level individuals performance drops as well. High academic performance has been linked to moderate anxiety level. Since anxiety is part of human experience and functioning, it is thus necessary that the study looks at the results of the relationship between anxiety and performance .

The analysis of variance on anxiety scores and academic performance scores yielded an [F-ratio = 12.63 (3.302 df) $p < 0.01$]. This indicated that the means of the four age groups were significantly different .

In order to further investigate the differences between each group separately , computations with Tukey's HSD statistics were performed . The only significantly different comparison between the groups was that between performances of age groups 16-21 years and 22-25 years , 16-21 years and 26-40 years ; 16-21 years and 41-65 years . There were no significant differences between performances of age groups 22-25 years and 26-40 years; 26-40 years and 41-65 years , 22-25years and 14-65years .

4.4 THE RELATIONSHIP BETWEEN ANXIETY AND CO-OPERATIVE BEHAVIOUR.

The first aim of the study is to investigate the relationship between anxiety and co-operative behaviour.

Data collected from the field is organised in the form of tables containing frequencies.

Table 4.2 Relationship between anxiety and co-operative tendencies.

		CO-OPERATIVE BEHAVIOUR																					
RESPONDENTS		Affiliation										No affiliation											
LOW ANXIETY		21	22	20	17	13										19	20	19	22				
MODERATE ANXIETY		40	40	40	42	40	43	41	42	41	40	40	40	43	43	41	42	40	41	42	41	42	41
		42	41	43	41	43	40	42	43	42	42	41	43	35	33	29	24	41	43	35	33	29	24
		34	38	34	40	32	40	30	40	32	39	38	37	42	31	34	28	38	37	42	31	34	28
		38	43	39	40	36	30	30	24	30	43	36	35	39	34	29	30	36	35	39	34	29	30
		27	38	40	40	32	34	26	26	25	36	29	38	40	37	29	36	29	38	40	37	29	36
		26	37	31	27	31	35	36	35	28	30	29	39	34	32	34	37	29	39	34	32	34	37
		33	37	27	37	23	39	39	29	38	31	32	36	37	29	23	34	32	36	37	29	23	34
		39	30	34	35	35	38	36	32	31	34	28	39	37	38	36	39	28	39	37	38	36	39
		30	39	38	27	24	25	31	25	35	27	30	25	30	30	42	36	30	25	30	30	42	36
		30	26	37	36	28	31	32	31	34	30												
		25	31	35	34	35	34	39	27	30	35												
		35	36	25	42	25	24	34	37	36	35												
		23	38	35	26	36	34	39	36	32	29												
		26	25	32	35	39	36	31	24	40	36												
		35	27	38	39	36	35	35	36	24	34												
		36	39	38	26	36	31	32	28	33	30												
		33	30	32	31	24	40	34	37	34	39												
		34	29	25	31	35	32	33	35														

HIGH	45 49 50 50 50 51 52 44 49 48	61 46 45 52 45 49
ANXIETY	45 44 45 60 50 40 47 47 47 50	46 45 44 46
	46 47 46 49 50 56 49 45 52 54	
	45 45 47 44 53 44 44 51 48	

$$r_{pb} = 0.014 \text{ (df = 84) ; } p < 0.05 .$$

To determine the relationship between IPAT anxiety scores and co-operative behaviour, a Point-biserial correlation co-efficient statistic is used to test for this association. This type of statistic is used because the aim is to measure the degree of association between two continuous variables (Breakwell, Hammond & Fife-Schaw, 1995, p. 54).

The two variables, that is, anxiety and co-operative behaviour are correlated. This correlation co-efficient is significant. The null hypothesis that there is no correlation co-efficient among anxiety groups and scores on co-operative tendencies is rejected. The correlation co-efficient means that there is a statistically significant relationship between anxiety and co-operative behaviour.

4.5 THE RELATIONSHIP BETWEEN GENDER AND ANXIETY

The second aim of the study is to first find out whether the variable of sex is related to anxiety level. Data collected from the field are organised in the form of tables containing frequencies.

Table 4.3 Relationship between gender and anxiety.

	ANXIETY (IPAT)		
	High	Moderate	Low
Male	14 (4.6%)	106 (34.6%)	7 (2.3%)
Female	34 (11.1%)	143 (46.7%)	2 (0.7%)

$$X^2 = 8.09 ; df = 2 ; p < 0.05.$$

To determine the relationship between gender and anxiety, a Chi-square test is used to analyze the data. This type of statistic is used because the data are presented in frequencies on a nominal scale and the aim is to measure association between gender differences and scores on anxiety (Breakwell, et al., 1995, p. 54).

In order to determine the degree of association between gender and anxiety, computations with Phi-coefficient test statistic are performed. This type of statistics is used because the main aim is to measure the degree of association between the dichotomous and continuous variables (Breakwell, et al., 1995, p. 54).

The two variables, that is, gender and anxiety are correlated [$\Phi = 0.35$ (df=1) $p < 0.01$].

Figure 4.1 is used to show interaction between gender and scores on anxiety.

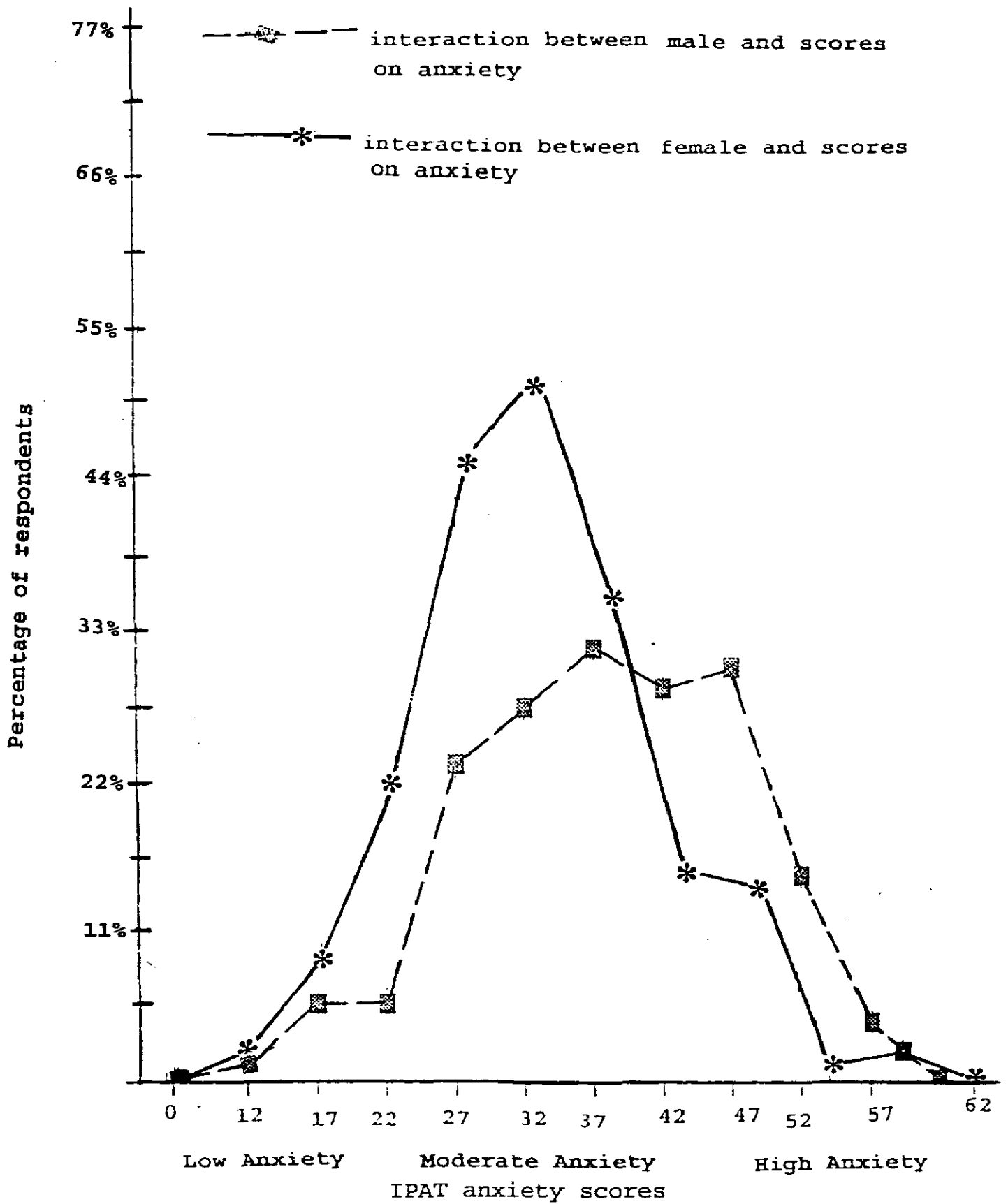


Figure 4.1 Interaction between gender and anxiety scores

The statistical analysis of scores between males' and females' anxiety levels, using a chi-square test statistic of independence reveals that males and females differ significantly in their anxiety levels. The null hypothesis that there is no significant association between males' and females' scores on anxiety is rejected.

Association between gender and anxiety shows that:

- (i) at low anxiety levels the number of males 7(2.3%) is greater than the number of females 2(0.7%), this means that more males are less anxious than females.
- (ii) at moderate anxiety levels the number of males 106(34.6%) is also greater than the number of females 143(46.7%), this means than more males are moderately anxious than females.
- (iii) at high anxiety levels there is a greater number of females 34(11.1%) with more anxiety than males 14(4.6%).

The correlation coefficient is positive. The null hypothesis that there is no correlation between gender and scores on anxiety is rejected. This means that there is a relationship between gender and anxiety.

4.6 THE RELATIONSHIP BETWEEN GENDER AND CO-OPERATIVE BEHAVIOUR

The second aim of the study is to find out whether the variable of sex is related to co-operative behaviour.

Data collected from the field is organised in the form of tables containing frequencies.

Table 4.4 Relationship between gender and co-operative behaviour

	CO-OPERATIVE BEHAVIOUR	
	Affiliate	No affiliate
GENDER	Male	87 (28.4%)
	Female	145 (47.4%)

$$X^2 = 6.3 ; df = 1 ; p < 0.05 .$$

To determine the relationship between gender and co-operative behaviour, a Chi-square test is used to analyze the data. This type of statistic is used because the data are presented in

frequencies on a nominal scale and the aim is to measure association between gender and co-operative behaviour. A chi-square of 6.3 is significant at 0.05 level. This chi-square value indicates that a relationship exists between variables of our interest.

In order to determine the degree of association between gender and co-operative behaviour, computations with Phi-coefficient test statistic is performed. This type of statistics is used because the aim is to measure the degree of association between the one dichotomous variable and the other is continuous. The two variables, that is, gender and co-operative behaviour are correlated [$\Phi = 0.14$ (df=1) $p < 0.01$]. The

correlation coefficient is positive. The association between gender and co-operative behaviour is expressed by a very low correlation coefficient or index which is 0.14.

Table 4.5 Males and Females cooperative behaviours at low and high anxiety levels

	NO COOPERATION AT LOW ANXIETY	COOPERATION AT HIGH ANXIETY
MALES N=127	41 (13%)	86 (28%)
FEMALES N=179	33 (11%)	146 (48%)

The null hypothesis that there is no association between gender and co-operative tendencies is rejected. The results of chi-square test of 6.3 is significant at 0.05 level. Relationship between gender and co-operative behaviour analyzed by a chi-square test statistic of independence reveals that there is association between gender and co-operative tendencies.

The null hypothesis that there is no correlation between gender and co-operative tendencies is rejected. This means that there is a positive relationship between gender and co-operative tendencies.

4.7 THE EFFECT OF HEIGHTENED ANXIETY AMONG PEOPLE.

The third aim of the study is to observe whether increasing anxiety to people would lead to co-operative behaviour. Data collected in the field are organized in the form of tables containing sets of frequencies.

Table 4.6 The effects of heightened anxiety on co-operative behaviour

		IPAT ANXIETY SCORES										CO-OPERATIVE BEHAVIOUR					FREQUENCIES OF COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF COOPERATIVE TENDENCIES					FREQUENCIES OF NON-COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF NON-COOPERATIVE TENDENCIES					MIDPOINTS ON IPAT ANXIETY LEVELS				
		CO-OPERATIVE BEHAVIOUR										FREQUENCIES OF COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF COOPERATIVE TENDENCIES					FREQUENCIES OF NON-COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF NON-COOPERATIVE TENDENCIES					MIDPOINTS ON IPAT ANXIETY LEVELS									
		Affiliation					No affiliation					FREQUENCIES OF COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF COOPERATIVE TENDENCIES					FREQUENCIES OF NON-COOPERATIVE TENDENCIES					CUMULATIVE FREQUENCIES OF NON-COOPERATIVE TENDENCIES					MIDPOINTS ON IPAT ANXIETY LEVELS									
LOW	ANXIETY	21	22	20	17	13	19	20	19	22	4	4	1	1	17																										
		40	40	40	42	40	43	41	42	41	40	40	40	43	43	41	42	12	16	2	3	22																			
MODERATE	ANXIETY	42	41	43	41	43	40	42	43	42	42	40	41	42	41	42	41	28	44	3	6	27																			
		34	38	34	40	32	40	30	40	32	39	38	37	42	31	34	28	47	91	9	15	32																			
		38	43	39	40	36	30	30	24	30	43	36	35	39	34	29	30	66	157	19	34	37																			
		27	38	40	40	32	34	26	26	25	36	29	38	40	37	29	36	41	198	14	48	42																			
		26	37	31	27	31	35	36	35	28	30	29	39	34	32	34	37	21	219	18	66	47																			
		33	37	27	37	23	39	39	29	38	31	32	36	37	29	23	34	11	230	5	71	52																			
		39	30	34	35	35	38	36	32	31	34	28	39	37	38	36	39	1	231	2	73	57																			
		30	39	38	27	24	25	31	25	35	27	30	25	30	30	42	36	1	232	0	73	62																			
		30	26	37	36	28	31	32	31	34	30							0	232	1	74	67																			
		25	31	35	34	35	34	39	27	30	35																														
		35	36	25	42	25	24	34	37	36	35																														
		23	38	35	26	36	34	39	36	32	29																														
		26	25	32	35	39	36	31	24	40	36																														
		35	27	38	39	36	35	35	36	24	34																														
		36	39	38	26	36	31	32	28	33	30																														
		33	30	32	31	24	40	34	37	34	39																														
		34	29	25	31	35	32	33	35																																
HIGH	ANXIETY	45	49	50	50	50	51	52	44	49	48	61	46	45	52	45	49																								
		45	44	45	60	50	40	47	47	47	50	46	45	44	46																										
		46	47	46	49	50	56	49	45	52	54																														
		45	45	47	44	53	44	44	51	48																															

The frequency table 4.6 shows the scores of respondents obtained on co-operative behaviour scale with the size of class interval of five. The frequencies of co-operative tendencies in column one, the frequencies of non-cooperative tendencies in column two and the midpoints in column three indicate the categories of scores on cooperative behaviour and non-cooperative behaviour in relation to categories of anxiety scores obtained by the respondents and grouped into class intervals.

Figure 4.2 is used to show clearly the co-operative tendencies with or without the independent variable.

—●— co-operative tendencies among respondents after their anxiety level was influenced

— co-operative tendencies among respondents before their anxiety level was influenced

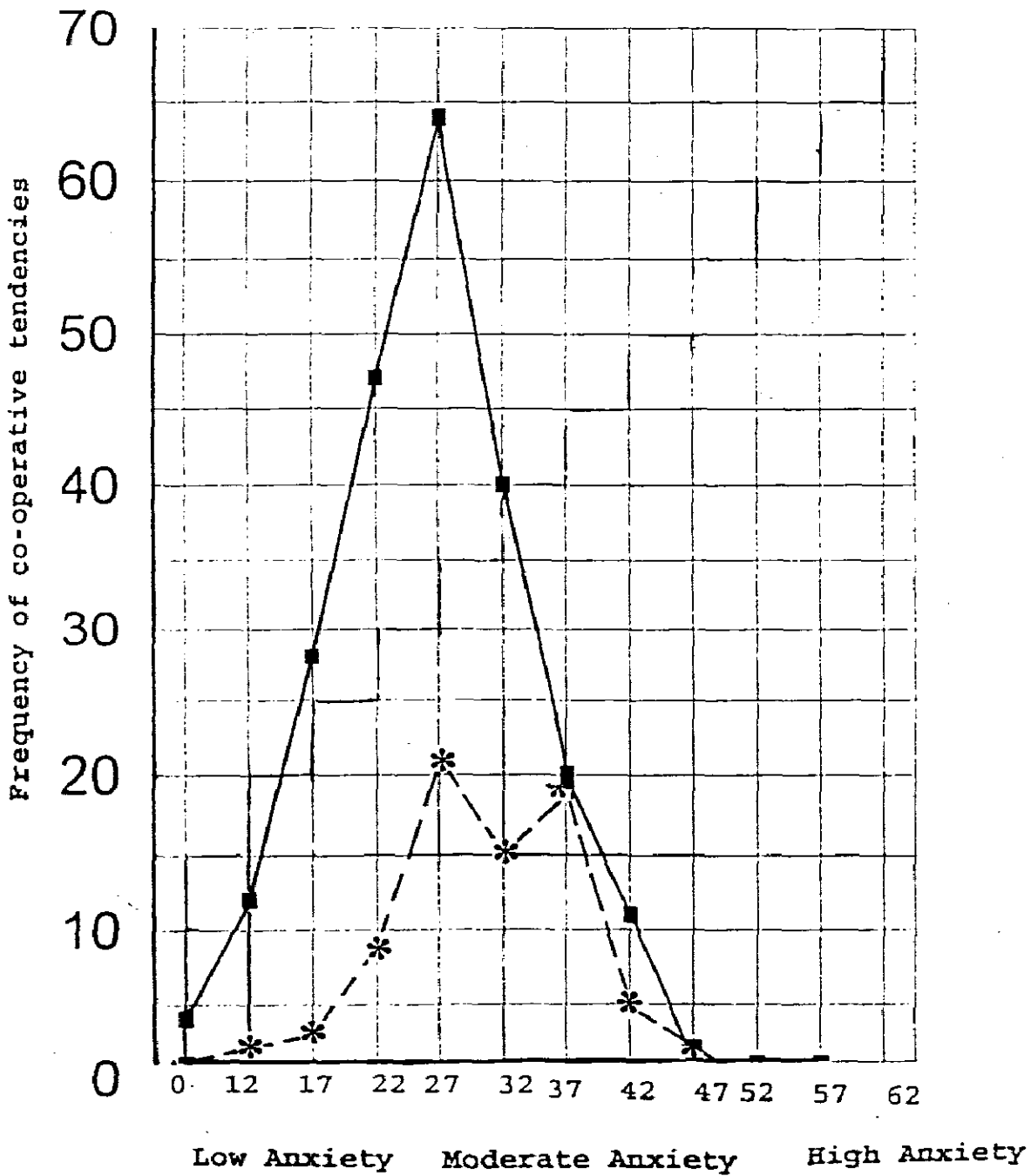


Figure 4.2 Effect of heightened anxiety on co-operative tendencies.

Figure 4.2 shows that:

(i) the pattern of co-operative tendencies differ with heightened anxiety.

(ii) co-operative tendencies increased when anxiety is heightened . This means that more subjects show co-operative behaviour after their anxiety was increased .

(iii) the independent variable manipulated is effective in bringing about co-operative tendencies. This means that induced anxiety increase the level of anxiety among subjects.

4.8 THE RELATIONSHIP BETWEEN CO-OPERATIVE BEHAVIOUR AND PERFORMANCE.

The fourth aim of the study is to find out whether co-operative behaviour is a correlated to academic task performance, this is students who perform above average academically are more co-operative than those who perform below average.

Data on academic task performance is based on a teacher made test of percentages.

Table 4.7 Frequency scores on co-operative tendencies and midpoints scores on academic performance

	Class intervals of academic performance and anxiety	Frequencies of co-operative tendencies	Midpoints of performance scores
Low	1 - 9	1	5
anxiety	10 - 18	2	15
level	19 - 27	8	23
range	28 - 36	14	32
Moderate	37 - 45	22	41
Anxiety	46 - 54	44	50
Level	55 - 63	54	59
range	64 - 72	51	68
High	73 - 81	32	77
Anxiety	82 - 90	10	86
Level	91 - 99	1	95
range			

The frequency table 4.7 shows the scores of respondents obtained on co-operative behaviour scale with the size of class interval of nine.

The class intervals of the combination of anxiety and performance in column one, the frequencies of

co-operative tendencies in column two, midpoints in column three indicate the range of scores on cooperative behaviour and academic performance in relation to anxiety scores obtained by the respondents. These scores were then grouped into class intervals. These figures illustrate how performance is associated with co-operative behaviour.

The table 4.7 illustrate that at low anxiety levels represented by class intervals(1-9, 10-18, 19-27, 28-36), few respondents are willing to co-operate and also they academic performance is low and below the median class interval. Around the median class intervals(37-45, 46-54, 55-63, 64-72) there are more respondents and their academic performance is around an average percentage of 50. At high levels of anxiety represented by class intervals(73-81, 82-90, 91-99) fewer respondents show above average performance, this is, performance above 60%.

Table 4.8 Analysis of variance summary table.

Source of Variance	df	ss	ms	f	cv	lev
Between groups	1	43.05	43.05	0.23	< 6.7	0.05
Within groups	304	56400.1	785.53			
Total	305	56443.15				

[F-ratio = 0.25 (1,304) p > 0.05].

To determine the relationship between co-operative behaviour and academic performance, Analysis of Variance is used to test for the differences between the two groups' means (Heiman, 1995, p. 405). This statistic is used because it establishes whether there are any significant differences between the means of the two groups.

The null hypothesis that there are no significant differences between the task performances of individuals with co-operative tendencies and those of others without co-operative tendencies

is not rejected. This means that there is no significant difference between the task performance of individuals with co-operative tendencies and those of others without co-operative tendencies.

The null hypothesis that there is no correlation between co-operative tendencies and academic task performance is not rejected. The correlation coefficient [$r = 0$ ($df = 232$), $p < 0.01$] is not significant. This means that there is no relationship between co-operative tendencies and performance.

The results presented above in the way that the data reveals itself are discussed in the following section of the discussion. The discussion of findings in the next section follow the same pattern as the presentation of the results. The discussion of findings according to the first aim of the study is presented first, followed by the discussion on the findings according to the second aim of the study, then the discussion of the findings according to the third aim of the study and finally the discussion of results according to the fourth aim of the study.

4.9 DISCUSSION OF FINDINGS

4.9.1 The relationship between anxiety and co-operative behaviour.

The first aim of the study is to establish the relationship between anxiety and co-operative behaviour. The findings of this study show that anxiety and co-operative behaviour are correlated. This means that there is a relationship between anxiety and co-operative behaviour. These findings support one of this study's hypothesis that anxious people are more co-operative than those who are not anxious.

Other studies which found a positive relationship between co-operative tendencies and anxiety include Bennett and Dunne (1991, p. 103); Daniels (1994, p. 1011); Mevarech and Kramarski (1992, p. 259); Schachter (1959, p. 12); Wentzel (1994, p. 173) . This present study supports previous research findings about the relationship between anxiety provoking situations and co-operative tendencies. Some of the previous studies (Schachter 1959, p. 12) have emphasized a high correlation between anxiety and co-operative behaviour.

Other studies (Taylor & Rachman, 1994, p. 173) found that anxiety leads to avoidance behaviour rather than co-operative behaviour. Sarnoff and Zimbardo's study (1961, p. 356) revealed this phenomenon that under embarrassing situations anxiety leads to avoidance behaviour.

Further analysis of the relationship between anxiety and co-operative behaviour reveals that individuals with low anxiety levels are less likely to co-operate. Though such individuals show co-operative tendencies, the frequency of the occurrence of such behaviour is minimal.

Theoretical arguments on anxiety and co-operative behaviour describe behaviour to affiliate among people as a means of trying to compare one's feelings with those of others in an anxiety provoking situation (Schachter 1959, p. 12). It is therefore possible that individuals with low anxiety show less co-operative tendencies.

Individuals with moderate anxiety level show high co-operate behaviour. Moderate anxiety level has the highest frequency of individuals compared to low and high anxiety levels. There is no linear relationship among the three levels of anxiety

and frequency of respondents. Instead, the relationship is curvilinear. The two variables vary concomitantly up to a point. As the levels of anxiety increase, the frequency of respondents decreases. This indicates that the attribute of anxiety response is normally distributed in the population.

The greater number of people with moderate anxiety levels in the sample, reflects that in the population what we see as co-operative behaviour or affiliation among people in organized games and other activities may be perpetuated by moderately anxious people. This may also mean that co-operative behaviour is perceived as a socially acceptable behaviour by most people in the population. Many people are moderately anxious and more co-operative than others. If this is true, any deviation from normality is unacceptable and unappreciated as behaviour models. This notion will thus encourage and lead to co-operative behaviour as a perpetual behaviour.

The behaviour of minorities is regarded as deviant, unacceptable and possible punishable or stigmatized (Louw & Edwards, p. 373). When

children are socialized, majority related behaviours are considered as acceptable, such as, co-operation. On the other hand, popular behaviours such as these are reinforced in many ways. One such manner of reinforcing them is imitation. The said behaviours are taught during socialization and children learn and master them very well. When it comes to co-operative behaviour and other similar behaviours, this unconscious reinforcement is labelled as pro-social behaviour (Sears et al., 1985, p. 142). Rewards and punishment serve as agents for reinforcing prosocial acts.

✓ Individuals experiencing moderate anxiety level showed more co-operation than high anxiety levels which in turn showed less co-operative tendencies. As expected as well as in theory (Festinger, 1954, p. 117), high anxious people are fewer in the distribution. Even though people may experience high anxiety level at one stage in their lives or development, for instance during adolescence, people in general, quickly learn to control anxiety during childhood because failure to control anxiety, is hazardous to an individual.

The above discussion leads to a conclusion that, in any society the number of people experiencing low and high anxiety levels are less than those who experience moderate anxiety. According to Cattell et al., (1968, p. 12) high anxious individuals need counselling because it is a level which indicates psychological mobility that may have adverse effects on his or her work and social-emotional adjustment.

4.9.2 The relationship between gender and anxiety

The second aim of the study focused on establishing the relationship between gender and anxiety and also the relationship between gender and co-operative behaviour.

The findings of this study show that males and females differ on their anxiety levels. This means that there is a relationship between gender and anxiety. These findings on the differences between the levels of anxiety and gender are consistent with those by Mwamwenda (1994, p. 228) in his study of the "gender differences in scores on test anxiety and academic achievement among South African University graduate students". In this study he concluded that women are more anxious than men. Similarly the findings

of this study are consistent with those by El-Zahhar study (1991, p. 238) who found that there are gender differences with regard to anxiety. He further argues that the reason for gender differences in test anxiety is due to the defensive nature of males compared to females. Men claim to be less anxious in test writing situations than they are in reality.

This finding shows that from moderate anxiety level to high anxiety level, males show co-operative tendencies.

4.9.3 The relationship between gender and co-operative behaviour

The subdivision of the second aim of the study focused on establishing the relationship between gender and co-operative behaviour.

The findings show that there are significant differences between males and females with regard to co-operative behaviour. It is found that at low anxiety levels 13% of the males are not willing to co-operate and 11% of females are not willing to co-operate. This means that in the total sample, more males are not co-operative at

low anxiety levels than females. At high anxiety levels 28% of males are co-operative and 48% of females were co-operative.

It can be deduced from the above discussion that the findings of the study on gender and co-operative behaviour show that people with moderate anxiety are more co-operative than high anxiety which in turn are more co-operative than those with low anxiety. Also it is clear from the discussion that more females than males are co-operative at high anxiety levels. This is not consistent with Schachter's findings (1959, p. 15) that at high anxiety levels people are more co-operate It can therefore be concluded that there is a relationship between gender and co-operative behaviour.

4.9.4 The effect of heightened anxiety among people

The third aim is about determining the effect of induced anxiety on people.

The findings of this study establish a connection or relationship between induced anxiety, and co-operative tendency. This is consistent with Schachter's findings (1959, p. 15) as well as Sarnoff and Zimbardo's findings (1961, p. 356)

which concluded that at high anxiety levels people are more co-operate.

The picture portrayed by these findings is that:

(i) at low anxiety levels co-operation is non-existent.

(ii) as anxiety levels increase 17% of the sample is not co-operative whereas 51% of the sample was co-operative.

(iii) at high anxiety levels 9% of the sample is not co-operative while 24% of the sample is co-operative.

(iv) at very high anxiety level, the findings show that the willingness to co-operative and not to co-operate is more or less the same.

At moderate anxiety level, the willingness to co-operate increased dramatically.

4.9.5 The relationship between co-operative behaviour and performance.

The fourth aim of the study is to determine the relationship between co-operative behaviour and academic performance. A scale that allows respondents to make a choice whether they prefer company of others or not combined with the

teacher made academic performance test derived these findings. The findings show that academic performance of the group which shows co-operative tendencies is not significantly different to academic performance of the group which does not show co-operative tendencies. This is consistent with Daniel's findings (1994, p. 1011) that co-operative behaviour does not result in improved test performance. The findings show that there is no relationship between co-operative tendencies and academic performance.

The relationship between the two factors, this is, co-operative behaviour and performance establishes that people with poor academic performance are also not likely to co-operate. Individuals who have poor academic performance and low frequency of co-operative tendencies consisted of 20% of the sample, while those with average academic performance and high frequency of co-operative tendencies consisted of 62% of the sample and those with high academic performance and lower frequencies of co-operative tendencies consisted 18% of the sample.

From the above findings one can conclude that at moderate anxiety level individuals' academic performance as well as co-operative behaviour are

higher than among individuals who experience either low or high anxiety. These findings clearly show that socially acceptable or desirable behaviour such as academic performance and co-operative behaviour assume a normal distribution curve. Other studies (Ialongo et al., 1995, p. 427) found that anxious children seek to avoid engaging in new and challenging tasks and consequently fall behind in academic performance.

4.10 CONCLUSION

This chapter is about the presentation and analysis of data. The presentation of data was done in according with the aims of the study. The findings according to the first aim of the study, that is, the relationship between anxiety and co-operative behaviour were established and revealed that there is a weak positive relationship between anxiety and co-operative behaviour. The findings based on aim two, that is, the relationship between gender and anxiety showed that more men than women were anxious.

This chapter also was about the findings gathered on the investigation between anxiety and co-operative behaviour, gender and co-operative

behaviour and academic performance. Different studies have come-up with different findings on the relationship between anxiety and co-operative behaviour. The findings on gender differences with regard to anxiety show that women are more anxious than men, but there are more women who are less anxious than those who are anxious. In terms of co-operative behaviour women are comparatively more co-operative than men. The effect of induced anxiety in this study was similar to findings of previous studies. The effect of induced anxiety in both gender groups is that, as anxiety increase, more people show co-operative tendencies. An increase in co-operative tendencies reaches an optimal level, after which a negative effect occurs. At high anxiety levels people become less and less co-operative as anxiety levels increases beyond an optimal point. The findings of this study came to all-encompassing conclusions about the relationship between factors (anxiety, gender, co-operative behaviour, performance) which were previously studied exclusively by other researchers.

CHAPTER FIVE

SUMMARY, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

5.1 SUMMARY

5.1.1 The problem ✓

The present study investigated the relationship between anxiety and co-operative behaviour. The extent to which different anxiety provoking situations encourage co-operative behaviour were explored. A study of these two factors contributes knowledge to psychological processes involved in co-operative behaviour and co-operative learning.

5.1.2 Aims of the study

The aims of this study are:

- (i) To investigate the relationship between anxiety and co-operative behaviour.
- (ii) To find out whether the variable of sex is related to:
 - (a) anxiety level
 - (b) co-operative behaviour

- (iii) To observe whether inducing anxiety to people would lead to co-operative behaviour.
- (iv) To find out whether co-operative behaviour is a function of academic task performance.

5.1.3 Hypotheses developed.

It was hypothesised that inducing anxiety to people would cause an increase in their tendency to seek the company of others.

This can be extrapolated as follows:-

- (i) Those who experience anxiety will prefer company of others and those who do not experience anxiety will prefer to be alone.
- (ii) Women are more prone to anxiety and consequently more inclined to co-operative behaviour than men.
- (iii) Inducing anxiety among people leads to cooperative tendencies.
- (iv) There is no difference in academic task performance between people working in groups and those working alone.

5.1.4 Methodology

This study was conducted in the form of a field experiment. A stratified random sampling procedure was employed. The study sample for the present study consisted of registered students from tertiary institutions. The sample consisted of 137 males and 193 females. A standardized IPAT Anxiety Scale was used to achieve the objectives of the first and second aims of the study. The researcher constructed his own Co-operative Behaviour Scale to achieve the objectives of aim number three. Research assistants helped with the construction of Academic Performance Scale to achieve the objectives of aim number four. Data were collected from groups of students. Three hundred and six questionnaires were analyzed using advance statistical techniques.

5.1.5 Results

The analysis of data according to aims of the study led to the following conclusions:

(i) The findings according to the first aim of the study, that is, the relationship between

anxiety and co-operative behaviour revealed that there is a weak positive relationship between anxiety and cooperative behaviour.

(ii) The findings based on aim number two, that is, the relationship between gender and anxiety show that while more men appear anxious, more women are willing to co-operate than men.

(iii) The findings based on aim number three, that is, the effect of induced anxiety among people, show that increased anxiety level leads to more co-operative tendencies, up to an optimal point, after which co-operative behaviour decreases as long as anxiety increases.

(iv) The findings according to the fourth aim of the study, that is, the relationship between co-operative behaviour and academic performance, show that poor performers as well as above average performers are less co-operative; whereas average performers are more cooperative.

5.2 LIMITATIONS FOR THE STUDY

Although this study is successfully completed and achieved its objectives, the following limitations are noted:

5.2.1 Demographic limitations

The sample was obtained in Umlazi area which by a large margin is an area over represented by a particular racial group. Moreover the language used in questionnaire, scales and instruction served as a sampling frame. The study was confined to tertiary institutions because the students from these learning centres understand English.

5.3 RECOMMENDATIONS

On the basis of findings and conclusions reached the following recommendations can be made:

- (i) that students who consistently perform below average be given the IPAT Anxiety scale and if their scores are very high they can be referred for counselling for test and examination anxiety management.

- (ii) that new students in tertiary institutions be trained on study skills, to enable them to study effectively even when they prefer to co-operate during test and examination preparations.

The avenues for further research:

(a) Further research which will establish the anxiety coping strategies, students use over time during their training in tertiary institutions is needed. This will provide information on the need for diagnosing anxiety among students. This will lead to attempts on controlling anxiety among students.

5.4 CONCLUSION

This chapter was about the summary of results as presented in chapter four. Limitations of the study were highlighted but despite these limitations, the success of this study led to formulation of appropriate recommendations.

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APPENDICES

Appendix A: IPAT Anxiety measurement Scale

QUESTIONNAIRE

You are asked to honestly fill in this questionnaire. All information will be kept confidential and only be used for research purposes. PLEASE DO NOT WRITE YOUR NAME.

A. PERSONAL PARTICULARS.

Kindly make a cross in the appropriate space below e.g X

1.	SEX	Male		Female	
		_____		_____	
		_____		_____	
2.	Age Group	16-21	22-25	26-40	41-65
		_____	_____	_____	_____
		_____	_____	_____	_____

3. Marital Status Never Married Divorced Widowed
married

_____	_____	_____	_____
_____	_____	_____	_____

4. Highest STD 10 Diploma Degree Other
Qualification certificate

_____	_____	_____	_____
_____	_____	_____	_____

The following statements deal with difficulties that most people experience at one time or another.

It will help a lot in this study if you mark honestly what applies to in you.

NB: A can be used for True / Yes and B can be used for False or No.

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| 1. I find that my interests, in people and amusements, tend to change fairly rapidly | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. If people think poorly of me I can still go on quite happily and without worrying too much | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. I like to wait till I am sure that what I am saying is correct, before I put forward an argument | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. I am inclined to let my actions get influenced by feelings of jealousy | Sometimes | Seldom | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. If I had my life to live over again I would:
(A) plan very differently, (B) want it the same | A | In between | B |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. In general, I admire my parents | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. I find it hard to "take 'no' for an answer", even when I know what I ask is impossible | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. I doubt the honesty of people who are more friendly than I would naturally expect them to be | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. In demanding and enforcing obedience my parents (or guardians) were:
(A) always very reasonable, (B) often unreasonable | A | In between | B |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. I need my friends more than they seem to need me | Rarely | Sometimes | Often |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. I feel sure that I could "pull myself together" in an emergency | Always | Often | Seldom |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. As a child I was afraid of the dark | Often | Sometimes | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. People sometimes tell me that I show my excitement in voice and manner too obviously | Yes | Uncertain | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. If people take advantage of my friendliness I:
(A) soon forget and forgive,
(B) resent it and hold it against them | A | In between | B |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. I find myself upset rather than helped by the kind of personal criticism that many people make | Often | Occasionally | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Often I get angry with people too quickly | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. I feel restless as if I want something but do not know what | Very Rarely | Sometimes | Often |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. I sometimes doubt whether people I am talking to are really interested in what I am saying | True | In between | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. I have always been free from any vague feelings of ill-health, such as funny pains in my head, stomach or heart | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. In discussion with some people, I get so annoyed that I can hardly trust myself to speak | Sometimes | Rarely | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Continue on next page.

A SCORE

- | | | | |
|--|--------------------------|--------------------------|--------------------------|
| 21. Through getting "worked-up" I use up more energy than most people in getting things done | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. I make a point of not being absent-minded or forgetful | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. However difficult and unpleasant the obstacles, I always stick to my original intentions | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. I tend to get over-excited and "rattled" in upsetting situations | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. I occasionally have vivid dreams that disturb my sleep | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. I always have enough energy when faced with difficulties | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. I sometimes find myself counting things for no particular reason | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. Most people are a little queer mentally, though they do not like to admit it | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. If I make an awkward social mistake I can soon forget it | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. I feel grumpy and just do not want to see people:
(A) occasionally, (B) rather often | A | In between | B |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. I am brought almost to tears by having things go wrong | Never | Very Rarely | Some time |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. In the midst of social groups I am nevertheless sometimes overcome by feelings of loneliness and worthlessness | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. I wake in the night and, through worry, have some difficulty in sleeping again | Often | Sometimes | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. My spirits generally stay high no matter how many troubles I meet | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. I sometimes feel guilty or very sorry over quite small matters | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. My nerves get on edge so that certain sounds, e.g. a screechy hinge, are unbearable and give me the shivers | Often | Sometimes | Never |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. If something badly upsets me I generally calm down again quite quickly | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. I tend to tremble or perspire when I think of a difficult task ahead | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 39. I usually fall asleep quickly, in a few minutes, when I go to bed | Yes | In between | No |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. I sometimes get very excited or "worked-up" as I think about things that have happened recently | True | Uncertain | False |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix B: Co-operative Behaviour Scale

Read the following statement and give your opinion. Make a cross in the appropriate space below:

" when you finish this questionnaire you will be given a test on mental alertness. A number of observers will observe you as you write the test."

Would you like to write the test ?

Alone in a room	<u>or</u>	With the rest
with observers		of the group
		and observers

ANNEXURES

Annexure A: Letter asking permission to conduct the study.

Mr E.N NENE
Mangosuthu Tech.
Student Couns. Unit
P.O Box 12363
Jacobs 4011
6 May 1996

The Principal/HOD/Lecturer
University of Zululand Umlazi
Extramural Division
Umalzi

Dear Professor/HOD/Lecturer

REQUEST TO CONDUCT A STUDY AMONG STUDENTS IN YOUR INSTITUTION.

I am a Master's student at the University of Zululand
I am currently conducting an investigation among
students in tertiary institutions on factors like
anxiety and performance .

I will appreciate if I get an opportunity to include some of the students in your institution , during the months July - August 1996 .

Faithfully yours



Eric N Nene (Student)

**Annexure B: Letter requesting the list of all
registered students.**

Mr E.N NENE
Mangosuthu Tech.
Student Couns. Unit
P.O Box 12363
Jacobs 4011
6 May 1996

The Principal/HOD/Lecturer
University of Zululand Umlazi
Extramural Division
Umalzi

Dear Professor/HOD/Lecturer

**REQUEST TO CONDUCT A STUDY AMONG STUDENTS IN YOUR
INSTITUTION**

I am a Master's student at the University of Zululand
I am currently conducting an investigation among
students in tertiary institutions on factors like
anxiety and performance .

I will appreciate if you can provide me with the list of all courses offered in your institution . I have already obtained permission to conduct the study .

Faithfully yours



Eric N Nene (Student)

**Annexure C: Letter to course co-ordinators requesting
time to conduct the study.**

Mr E.N NENE
Mangosuthu Tech.
Student Couns. Unit
P.O Box 12363
Jacobs 4011
6 May 1996

The Principal/HOD/Lecturer
University of Zululand Umlazi
Extramural Division
Umalzi

Dear Professor/HOD/Lecturer

**REQUEST TO CONDUCT A STUDY AMONG STUDENTS IN YOUR
INSTITUTION DURING YOUR LECTURE PERIOD**

I am a Master's student at the University of Zululand
I am currently conducting an investigation among
students in tertiary institutions on factors like
anxiety and performance .

I will appreciate if you can give me the list of all
students in your classes . I have already obtained

permission to conduct the study .

Faithfully yours



Eric N Nene (Student)

**Annexure D: Consent form for the release of tests
marks for research purposes**

I hereby give Mr/Mrs permission
to release my test / exam results for the course
..... to Mr E. N NENE to be used only
for research purposes . Student signature
.....