Perceptions of epilepsy: A Q-methodology study

by

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DECLARATION

I declare that the dissertation hereby submitted to the University of Limpopo, for the degree of Master of Arts in Psychology has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

_____ _____

N Moseya Date

[redacted]

DEDICATION

Let the glory be to God who gave me life and strength to complete this study.

(*Ke leboga wena Modimo wa Bo-Engenas)*

This study is dedicated to my late sister and friend Anna Mushaathama Musia for her love, guidance and support during my study. She will be always loved and remembered. May her soul rest in peace.

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TABLE OF CONTENTS

	Content	Page
	CHAPTER 1: INTRODUCTION	1
1.1	Introduction and background	1
1.2	Statement of the problem	2
1.3	Aim of the study	3
1.4	Objective of the study	3
1.5	Scope of the study	3
1.6	Operational definitions of terms	4
1.6.1	Perception	4
1.6.2	Epilepsy	4
1.6.3	Subjectivity	4
1.6.4	Concepts of Q-methodology that have been used in the study	4
	CHAPTER 2: THEORETICAL PERSPECTIVES	6
2.1	Theoretical framework	6
2.2	Lay theories of epilepsy	11
2.3	Theoretical perspective	13
2.3.1	Perceptions	14
2.4	Conclusion	15
	CHAPTER 3: LITERATURE REVIEW	16
3.1	Introduction	16
3.2	The subjective understanding of epilepsy by people	17
3.3	Application of Q-method	18

	Content	Page
3.4	African perceptions of epilepsy	25
3.5	Religious perceptions of epilepsy	26
3.6	Medical perceptions of epilepsy	27
3.6.1	Introduction	27
3.6.2	Classifications of epilepsy	28
3.6.3	Causes and treatment of epilepsy	29
3.6.4	The prevalence of epilepsy	32
3.6.5	The prevalence of epilepsy in childhood and adolescence	32
3.6.6	Epilepsy and old age	33
3.6.7	Epilepsy and gender	34
3.7	Other beliefs about epilepsy	34
3.8	General construction of epilepsy	35
3.9	Research question	36
	CHAPTER 4: METHODOLOGY	37
4.1	Introduction	37
4.2	Description of Q-methodology	38
4.3	Study design	38
4.4	Participants	39
4.5	P-set/sample	41
4.6	Stages of Q-methodology	41
4.6.1	Devising the concourse/Q-population	41
4.6.2	Sampling the concourse/Q-sample	42
4.6.3	Constructing the Q-set	43
4.6.4	Procedure for Q-sorting	43

CHAPTER 5: RESULTS 45

CHAPTER 6: FACTOR INTERPRETATION 48

6.1 Introduction 48
6.2 Interpretation of four factors 49
6.2.1 Medical perceptions of epilepsy (Factor 1) 49
6.2.2 Equality of treatment for epileptics (Factor 2) 50
6.2.3 Traditionalist perceptions of epilepsy (Factor 3) 52
6.2.4 Religious beliefs of epilepsy (Factor 4) 54

CHAPTER 7: DISCUSSION 57

7.1 Conclusion 60
7.2. Recommendation 62
REFERENCES 64

LIST OF TABLES

Table		Page
Table 1	Demographic information of participants	40
Table 2	Statements and factor scores for each item	46
Table 3	Summary of participants loading in Factor 1	49
Table 4	Summary of participants loading in Factor 2	51
Table 5	Summary of participants loading in Factor 3	52
Table 6	Summary of participants loading in Factor 4	54

LIST OF APPENDIXES

Appendix		Page
Appendix 1	Q-sort diagram	75
Appendix 2	Q-sort instructions	76
Appendix 3	Informed consent to participate	79
Appendix 4	Factor loadings	81
Appendix 5	Factor arrays	82
Appendix 6	Raw statements	91
Appendix 7	Statements and factor scores for each factor	97

ABSTRACT

Conceptions of epilepsy were studied using Q-methodology. The study was conducted at the University of Limpopo (Turfloop Campus) and the surrounding communities. The aim was to examine perceptions of epilepsy among different categories of people and to explore and differentiate between these categories' individual construction of what epilepsy is. Thirty three participants were recruited for the study. They included medical professionals (doctors and nurses), traditional and spiritual healers, university students (consisting of both health sciences and non-health sciences students), two ethnic groups (namely, the Bapedi and Vhavenda), people who are from both rural and urban areas, and high school teachers. Each category was represented by three people. Participants sorted thirty six statements developed from interviews. Four factors emerged from the analysis, and were labeled as medical perceptions of epilepsy, equality of treatment for epileptics, traditionalist perceptions of epilepsy, and religious beliefs of epilepsy. These factors are discussed.

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

Epilepsy is one of the most common brain disorders worldwide with no age, racial or social class, and no national or geographical boundaries (Baskinda & Birbeck, 2005; Choulamany, 2002). Jilek-Aall, Jilek, Kaay, Mkombachep and Hillary (1997) emphasize that the social position of epileptics in many African societies is often not favorable. Their social position is characterised by rejection, discrimination and even outright ostracism. There is a clear lack of understanding of the condition and this might lead to varied interpretations and lay theories of what the condition is. It is common that, when people do not understand a condition or illness, they attach their own meaning to what it might be. Mental illnesses, including epilepsy, are not excluded from this phenomenon of misperception (Gardit, 1997).

The common way of understanding people with epilepsy in most communities is to consider them as disabled. Epileptics are ostracised and excluded from many social activities. In the past, prejudice and stereotypical thinking amongst people led to the development of secluded homes to care for epileptics in European countries, such as Bielefeld-Bethel in Germany and Heemstede in Holland (Moenter, 2006). Prejudice may also be caused by what people observe but do not understand. For instance, the illness instills fear in family members who witness a next-of-kin suffering a seizure for the first time and they may mistake the attack for dying (Cull & Goldsein, 1997).

Many studies were conducted to investigate the different understandings of epilepsy (Ismail, Wright, Rhodes, Small, & Jacoby, 2005; Paschala, Ablah, Wetta-Hall, Molgaarda, & Liow, 2005). Although these studies provide details about what ordinary people believe about epilepsy, they do not provide a profile of an individual believer. These studies approached subjectivity in a fragmented way by asking people to tick off items in a questionnaire about what they believe and do not believe about epilepsy.

Subjective experiences or reality, other than etiology and treatment, are a neglected area of research in epilepsy.

This study mainly focused on the subjective reality of epilepsy rather than the objective elements. A study of this nature places its priority on people's opinions about epilepsy. The importance of this study lies in its emphasis on the varying discourses that exist when individuals from different backgrounds (such as ethnic group) are biased towards what is important for them concerning beliefs about epilepsy. The present study used the Q-methodological approach to examine the perceptions of epilepsy amongst a number of the University of Limpopo's different populations and its surrounding communities. Q-methodology is an approach designed to discover patterns in various subjective experiences and it was used as a method for data collection and theory generation. This method was able to elicit and respect an individual's choice, recognise his/her status as an individual and his/her capability for self-determination (Rogers, 2002).

1. 2 STATEMENT OF THE PROBLEM

Most studies about epilepsy were not interested in examining the subjective experience of the disorder (Govender, 2005; Peltzer, 2001). They focused on the objective reality of the disorder, asking questions such as: what is epilepsy, how is it treated and what are its causes? Moreover, most of these studies sampled people who would have had common experiences or beliefs about epilepsy. For example, Devinsky (2003) sampled a religious population, Peltzer (2001) selected subjects from classes of second-year social sciences students and Govender (2005) targeted mothers of epileptics. Although the samples seem to be diverse, in reality they are limited. As an example, no attempts were made to match people from different backgrounds on their knowledge of epilepsy. All things considered, there is still a need to compare the perceptions of a mixed group of individuals. Interestingly, epilepsy is important to a diversity of individuals and professionals. Little is known about how these interested parties compare with regard to their opinions about epilepsy. There are no studies reported that document the views of

medical professionals, traditional and spiritual healers, teachers, and university students. As a result, a decision was made to examine the perceptual differences that exist in each of these categories.

1.3 AIM OF THE STUDY

The aim of the study was to examine the perceptions of epilepsy amongst different categories of people at the University and in its surrounding communities, and to explore and differentiate between these categories' individual construction of what epilepsy is.

1.4 OBJECTIVE OF THE STUDY

The study was conducted with the intention to identify the viewpoints that different categories of people had about epilepsy.

1.5 SCOPE OF THE STUDY

The study was conducted at the University of Limpopo (Turfloop Campus) together with the surrounding communities. The University of Limpopo is situated east of Mankweng about 35 km from Polokwane. Interested staff members of the university and students (health sciences and non-health sciences students) as well as Sepedi and Tshivenda speaking people were used for data collection. The surrounding communities included Mankweng (urban area), Ga-Makanye (rural area) and Mamotintane (rural area). The teachers, pastors, doctors, nurses, and traditional healers were recruited to participate.

The study did not include participants with epilepsy. Participants were people who had witnessed a next of kin suffering from epilepsy. Some dealt with epileptics in hospitals

and surgeries, treated epilepsy or experienced someone with an epileptic attack in a public place. Included were also those who did not know anything about epilepsy.

1.6 OPERATIONAL DEFINITIONS OF TERMS

The following are key words used in the study

1.6.1 Perception

In this study perception is defined as the act of perceiving epilepsy. It also means how the selected categories of people think about epilepsy.

1.6.2 Epilepsy

Epilepsy is defined as a chronic neurological disorder characterized by recurrent seizures (Sadock & Sadock, 2007).

1.6.3 Subjectivity

Subjectivity means information that is not based on fact, but exists in the person/subject's mind or point of view.

1.6.4 Concepts of Q-methodology that have been used in the study

Concourse/Q-population - are all the opinions gathered through interviews.
Q-sample - a list of statements that represents the opinions in the concourse or a set of items.
P-set/sample - these are individuals selected to sort the statements.
Q-set - these are printed individual statements with consecutive numbers.

Q-grid/Q-diagram - diagram onto which participants sort Q-sample statements (see an illustration in Appendix 1).

CHAPTER 2: THEORETICAL PERSPECTIVES

2.1 THEORETICAL FRAMEWORK

Theoretical explanations of epilepsy were developed many years ago. They focused on the medical and supernatural views of the disorder. Hippocrates, Galen, John Huglings Johnson, and other philosophers and authors explain epilepsy as an outcome of brain damage and inheritance (Tempkin, 1971). All these theories seek to explain the facts about the disorder. However, professional theories in psychology sometimes arise from a combination of facts and lay-theories of the illness. Therefore, what was true and what was not true about epilepsy was not the focus in the present study. The focus was on the opinions held by different people regarding epilepsy. Studies conducted so far were unable to capture the complex nature of these opinions and viewpoints. The present study used a theory suited for fishing and capturing a diversity of opinions held about particular objects or phenomena (Brown, 1999). In other words, the study sought to capture any available discourse about epilepsy, and used Q-methodology to accomplish the task.

William Stephenson, a physicist and psychologist, introduced a theoretical innovation of Q-methodology, which was based on intra-individual differences (what is inside the person or what the person is thinking). According to Brown (1980), the theory was developed due to fewer attempts to examine the world from the internal or personal standpoint of the individual being studied. Stephenson developed a Q-methodology which is a mechanical way of testing theoretical issues and which brings subjectivity into the open. Q-methodology is a set of procedures, theories and philosophies that supports the study of the same kind of subjectivity (Brown, 1991). Brown (1980) noted that the fundamental concern of Stephenson's Q-methodology is with subjectivity and, therefore, Stephenson's Q-method provides a scientific method for identifying perception structures that existed within certain individuals or groups. For example, Yeun (2005) investigated the perceptions of elderly Koreans about death and dying by using Q-methodology.

Using Stephenson's Q-theory, the fundamental focus of this study was with subjectivity, meaning people's viewpoints about epilepsy. According to Yeun (2005), subjectivity means nothing more than a person's communication of his/her point of view. By using Q-methodology this study allowed the participants to demonstrate what issues were important to them and which ones were not.

William Stephenson was not the only one to study subjectivity. Philosophers such as Immanuel Kant, Edmund Husserl and others, were also concerned about the concept. Immanuel Kant, in particular, postulates that a person is marked by subjectivity, has a subjective point of view, and a special moral status (Marcelle, 2002). He adds that every person must be regarded as an end in him- or herself, that is, as having intrinsic value. For Husserl, phenomena can be studied subjectively. He emphasises that supporters of this approach do not deny objective reality, but emphasize the importance of each person's unique subjective experience of events and the way he/she reacts to the events (Marcelle, 2002).

In Q-methodology, the procedures are different from the traditional survey techniques such as questionnaires. When using traditional survey techniques the "population" refers to individual units of the people to be sampled. In Q-methodology "population" refers to all opinions collected from the subjects on the topic through unstructured interviews (or any other type of interview), which are referred as the concourse/Q-population. Furthermore, in Q-methodology a sample refers to a set of items, whereas in the traditional survey technique a sample refers to a set of individuals selected for a study. The main goal in selecting a Q-sample is to provide the statements that represent all the opinions in the concourse. Those will be the statements of which selected subjects sorted them.

There are two types of Q-samples: the "naturalistic" (statements taken from the respondents' oral or written communications) and "ready-made" Q-samples (statements derived from sources) (McKeown & Thomas, 1988). Attachment Q-sort developed by Waters and Deane in 1985 is the example of a ready-made Q-sample (Van Ijzendoorn,

Vereijeken, Bakermans-Kranenburg, &, Riksen-Walraven, 2004). The naturalistic Q-sample was considered appropriate for the present study because the statements would be developed from the concourse. The main advantage of developing the naturalistic concourse was to minimise ambiguity and maximise readability to the participants. Due to this procedure, the high quality of the data collection materials was ensured.

The Q-method focuses on correlating persons instead of tests (Brown, 1991). Correlation is used to discover which items belong together, while factor analysis is used to discover which clusters or groups of people belong together or have similar viewpoints about a topic studied.

Q-methodology is most often associated with quantitative analysis due to its involvement with factor analysis (Brown, 1996). For the present study the Q-method was seen as having the potential to enable the formation of consensus within the university population and the surrounding community's stories to identify similarity and differences on their perceptions of epilepsy. Q-methodology allows a systematic interpretation of subjective views and generates factors, each of which represents a perspective or "story" of epilepsy held by the participants (Herron-Marx et al. 2006).

The qualitative methods for collecting data were found relevant and appropriate for the present study because of its exploratory nature. The qualitative method was selected as it involves collecting data in the form of naturalistic verbal reports. Furthermore, the current study was conducted within the field of psychology where the method helped to explore, describe and interpret the personal and social experience of participants about epilepsy. For this study, an attempt was made to understand a small number of the participants' own views of the illness rather than just test a preconceived hypothesis on a large sample.

When Q-methodology is compared with the traditional survey techniques, it offers a number of potential advantages. Firstly, it identifies and interprets viewpoints of participants on a particular topic or issue under study. Many traditional survey techniques

fail to provide potential information about the views of people on psychological illnesses and Q-methodology was found relevant because it reveals viewpoints about epilepsy.

Another advantage of Q-methodology is that the Q-sort statements are developed from the concourse which is the transcripts of the interviews conducted in the first place with the participants. Their views and opinions are used in the construction of statements that they sorted. Using their views and opinions lessens the risk of creating statements that have ambiguous meaning to participants and are not valid (Chinnis, Debra & Stephen, 2001). It becomes easy and simple for participants to sort the statements which were developed from their responses during interviews. It also increases the chance that all or most of the relevant opinions of the study participants, regarding epilepsy, will be included in the study.

Avoiding low responses is also an advantage when using Q-methodology because it uses a small sample size. When using the traditional survey techniques, for an example open ended questionnaires, participants have the problem of leaving some items incomplete. Because of their large samples it becomes a problem to trace the participant who was unable to complete the questionnaire. It is easy in Q-methodology to see if the participant has not completed all the statements in the Q-sort diagram.

Despite these advantages, there are also disadvantages and limitations to Q-methodology when compared with other traditional survey techniques. Firstly, a forced bell-shaped distribution of items in the Q-sort diagram becomes a problem to participants. They are not allowed to leave open spaces in the Q-sort diagram. Secondly, Q-methodology uses a small number of participants. The results may not be generalised.

Other than the method used in this study, there are several types of qualitative methods for data collection, such as focus groups, the grounded theory, phenomenology and discourse analysis. A focus group is a way of collecting data using a small number of people in an informal group discussion on a particular topic or issue. It is used particularly on people with similar experiences. For example, for the present study it was

going to be mothers with epileptic children, epileptics, nurses or doctors who are taking care of epileptics, and traditional healers or pastors who sometimes deal in treating epileptics.

Grounded theory uses methods consisting of systematic inductive guidelines for gathering, analysing and conceptualising qualitative data to construct a theory. For example, the researcher collected data about what people, who had experience of epilepsy, said and done about it. They then developed a theory from that information. Phenomenology clarifies situations lived through by persons in everyday life. According to Giorgi and Giorgi (2003), this means that to study a particular phenomenon such as epilepsy, a situation is sought in which individuals have first-hand experiences that they can describe because it actually took place in their lives.

Phenomenology, focus groups, the grounded theory, and discourse analysis are able to provide information on different viewpoints within a study population sample. The problem with these survey techniques is that they lack a quantitative method for revealing different viewpoints present in individual participants. Q-methodology is able to do this because of its involvement with factor analysis. In addition, these survey techniques rely on natural observations of where some of the viewpoints might be missed out or misinterpreted. Similarly, these qualitative methods and Q-methodology uses tape recordings and transcriptions of conversations and interviews. However, in the Q-method, the transcriptions of interviews are useful in constructing the statements for Q-sorting. For other methods transcriptions are used for the interpretation of results.

Despite the medical occurrence of the illness as described by Galen, Hippocrates and other theorists of epilepsy, it is not enough to rely on their theoretical framework of the illness. This study was conducted in the African context with 100% Africans. The illness must be understood from both the Western and the African perspectives. Some African researchers developed ideas of epilepsy though systematic investigation in the African context which is referred to as the lay theories. These ideas will also serve as a framework in the study to understand the illness.

2.2 LAY THEORIES ON EPILEPSY

In most African cultures, illnesses such as epilepsy are not curable except that medication is used to regulate the occurrence of seizures. The incurable illnesses usually create many inconsistent beliefs. According to the African cultures, the lay theories of illnesses have been developed in order to explain how and why people became sick. In most instances, illnesses are believed to manifest as a result of supernatural spells. The major disease causing agents, as stated by Burhmann (1984), Mabunda (1999) and Rankoana (2000), are the ancestor spirits, malevolent activity that is manipulated by witches and sorcerers, other magically caused conditions which manifest themselves in various forms of ritual impurity and also a wide range of naturally caused diseases. According to Rankoana (2000), these spirits have unlimited powers and are feared. Phenomena such as diseases, deaths or disasters are often regarded as direct intervention by dissatisfied ancestors. Therefore, Heaney and Sander (2007) found that epilepsy was perceived by the majority of their sample as a result of ancestral and evil spirits or a result of witchcraft.

Witchcraft and sorcery involve the use of magic for productive, protective, curative, and destructive purposes. It also uses magical forces which involve the manipulation of substances and the use of verbal spells. The evil deeds are ascribed to evil-minded people who are jealous of others and have the intention of harming or kill others by the use of magic. An example of the statement by Mabunda (1999) from the respondents states that witches and sorcerers have the ability to cause illness for their enemies. It is believed that these people can cause illness by having someone eat what they (the witches and sorcerers) have mixed with their medicine. It is not as if they need to poison the victim, but they make him/her suffer from their desired illness and eventually kill or make the person go mad. Their medicines can change themselves to a living organism in the stomach of the victim such as a lizard frog or snake. This point of view is similar to the results from the Benin sample which indicates that seizures are related to a lizard-like reptile which provokes torsions, jerking and frothing at the mouth (Tran, Odermatt, Singphuoangphet, Druet-Cabana, Preux, Strobela, & Barennes, 2007). Another

statement, by Mabunda's (1999) participants, indicates that mental disturbances and unusual nightmares are caused by witches.

Another source of illnesses in the African context includes breaking taboos and norms of the society. It is believed that behaviour that threatens and violates the moral codes endangers ones life (Tempkin, 1980). The elders of the community grew up with the rules and continue to teach their generation. For example, young people are taught that they must respect older people. Magesa (1967) in Mabunda (1999) emphasises that disrespect for elders implies disrespect for the ancestors as well. This is because the ancestors view the elders as their visible "representatives" on earth. Therefore, the manifestation of illness may occur as a result of disrespecting the ancestors. The ancestors have all powers to bless or to chastise their kin members.

Other causes of illnesses as outlined by Burhmann (1984) are:

- Not fulfilling simple customs such as the brewing of beer. It is a lack of respect for the needs and wishes of the ancestors.
- Omitting a particular custom such as bringing home a dead household member as an ancestor or neglecting a particular custom and ritual.
- A ceremony was performed without due regard having been given to essential ritual details.
- Unethical behaviour by the member of a family or clan.

Those who believe in Christianity also believe that illnesses are a result of witches and sorcerers, and demons. Most of these people reject the usage of traditional medicines to cure illnesses. One of the participants stated as follows;

> The religious beliefs and practices of the traditional healers are against the will of God. They adore idols and spirits. The supernatural powers that they have are from the devil and as such nothing good can come from them. God has created human beings and he is responsible for their lives. Through believing in him all health problems may be solved (Mabunda, 1999).

Western cultures depend on psychopharmacology after the diagnosis of some of the psychological illnesses. Sometimes psychotherapy is recommended. In most cases, both methods are preferred for the treatment of an illness. For example, medication is prescribed for an epileptic in order to control the occurrence of seizures. On the other hand, psychotherapy will be recommended to help the patient cope with the illness.

The same treatment methods apply in African cultures. Illnesses are treated using traditional healing. The application of traditional medicine and psychotherapy are common. The vast majority of medicines used are derived from plant materials, many of which are reputed to have magical powers (Rankoana, 2000). Rankoana (2000) further notes that the traditional divination and remedial actions are used to remove the root causes of the physical or mental affliction. Most Africans prefer the traditional treatment methods. Mabunda (1999) argues that the traditional healers are more accessible and their tariffs are much more affordable to poor people than those of medical practitioners.

2.3 THEORETICAL PERSPECTIVE

The theoretical perspective for this study was based on the research question: "What are the perceptions held by different categories of people about epilepsy?" In reality people usually attach different meanings to the world and its objects. However, particular objects are attached to various explanations according to the individuals' inner experiences. This way, perceptions are formed. Because people form perceptions of a particular object, it was considered helpful for this study to be guided by the perspectives regarding perception.

2.3.1 PERCEPTIONS

Perceptions can be defined as a process through which individuals organise and interpret their sensory impressions in order to give meaning to their environment (Odendaal, 2001). What people perceive might be different from the objective reality. In many instances, people's perceptions of an object might also be similar or different. For example, it is possible that all people might look at the same thing for instance epilepsy as an illness, but they differ on how they perceive epilepsy. The reason people may perceive the same thing differently can reside in the perceiver, in the object perceived or in the situation in which the perception is made.

The personal characteristics of the perceiver may influence how she/he interprets the object. Most personal characteristics that affect perception are attitudes, past experiences and expectations. In some cases, a person who has a negative attitude towards an epileptic will generally have negative perceptions about epilepsy as an illness. If a person falls down due to an epileptic attack in a public place, it is more likely that those who are experiencing the event for the first time might pay much attention. However, those who are not experiencing the attack for the first time may view the event as a usual occurrence. Expectations can distort perceptions in that you will see what you expect to see. If you expect an epileptic to fall down during an attack, you may always expect such a person to fall down when you see him/her.

Situations can affect people's perceptions. The context in which we see objects or events is important. Where we find ourselves in the environment will at some point influence our perceptions. Traditional healers spend most of their time preparing concoctions of herbs for different illnesses. It is possible that such people may perceive epilepsy as the illness that can be controlled using those herbs and concoctions. Even though traditional healers specialise in herbs, some might have the perception that medication might help control seizures. It will depend on the individual believer and the situation in which one finds him or herself.

The social environments of medical practitioners are hospitals and private surgeries. They spend most of their time reading books and prescribing medication for patients. It is possible that the way these people form the perceptions of illnesses are different from those of other people who do not read books. It will also depend on what and how they belief epilepsy is. That will be the same to a pastor or a bishop who always kneels down to pray to God to heal illnesses. The perception of what epilepsy is will differ according to the situation in which one finds oneself.

2.4 CONCLUSION

Thus, the theoretical framework for the current study is based on Q-methodology and the lay theories. Q-methodology was used as a method for data collection, theory generation and also to reflect what can be produced by this method. The method has the ability to produce the subjectivities in an individual. The lay theories are discussed in order to understand what people believe about epilepsy.

CHAPTER 3: LITERATURE REVIEW

3. 1 INTRODUCTION

The first part to be discussed in the literature review is the nature of subjective reality. This is the starting point of understanding that people are separate individuals who attach their own meaning to a phenomenon they come across in life. They have their personal experiences of the world and they must be given a chance to express those realities within themselves.

Secondly, the literature review documents the findings of other researchers who used Q-methodology, and its application to different settings. This part helps us to understand whether the Q-method has been helpful to previous studies. The focus was also on what the researchers achieved using Q-methodology. This part of the literature also shed light on whether the current study would be successful in using Q-methodology to study the subjective experience of people about epilepsy.

The African perception of epilepsy forms the third part of the literature review. Because the participants are Africans it was necessary, before going through the study, to review the findings of people who studied epilepsy in the African context. Even though the researchers used the traditional survey techniques during the data collection, their results were found useful in guiding the current study. Fourthly, the literature review examined the religious perception of epilepsy. The medical occurrence of the illness and its prevalence amongst both old and young were then reviewed. Lastly, the literature review examined other beliefs about epilepsy.

3.2 SUBJECTIVE UNDERSTANDING OF PEOPLE ON EPILEPSY

Previous investigations concentrated on studying the objective aspects of epilepsy. Subjective issues such as opinions or points of views and beliefs about epilepsy were underexplored. When investigating the perceptions of epilepsy, what emerged was how various people construct their own meaning of the disease. It was assumed that people, according to their personal experience, construct a similar or different understanding of the illness. The accurate result of what was expected in this study was to study the subjects (diversity of people) rather than the variable (epilepsy). It is scientifically proven that the appropriate method for studying the subject's view about a particular problem is through the use of Q-methodology (Shinebourne & Adams, 2007). Shinebourne and Adams (2007) note that Q-methodology is suitable for identifying commonality and diversity and has a powerful capacity for thematic identification and analysis.

The interest of a few researchers who studied the subjects was to index a speaker's perspective or viewpoint or attitude of the object being studied. Pandira and Knight (2006) argue that subjectivism admits the possibility of differences in judgment despite the objective properties of the object; one subject may find an object beautiful while another may find it ugly. People must be given a chance to express their knowledge about and experience of a particular illness.

Some researchers concentrated on the subject. They allowed people to give their opinion or point of view on a given topic and through the use of Q-methodology, they came up with different perspectives from their findings. Morecroft, Cantrill and Tully (2006) conclude that their study has successfully used Q-methodology to systematically investigate people's subjectivity. They developed a novel approach to elicit the views of individual patients, and to explore, and differentiate, between groups of patients. Yon, Loas and Brien (2005) explored the relationships between subjective experience and objective symptoms in schizophrenia and their results support the view that subjective experience is a construct that is separate and distinct from the objective symptomatology in schizophrenia. The results obtained in these studies concur with Stephenson's

emphasis on bringing subjectivity into the open. Stephenson's Q-technique is capable of facilitating the identification of similarities, the categories of people with their personal view of epilepsy and the exploration of patterns and relationships within and between these categories.

The present study involves the examination of the thoughts and feelings which people had when they reflect on how they perceive epilepsy. It is believed that one's subjectivity is typically expressed about ordinary things that anyone else understands to a greater or lesser extent (Brown, 1999). Like any other psychological disorders (for instance schizophrenia), epilepsy can be defined in many ways depending on the subjective experiences of the subject regarding the disorder.

3.3 APPLICATION OF Q-METHOD

The main work involved in Q-method is to bring people's concerns, perceptions, beliefs, attitudes or viewpoints into the picture and to assess the needs of people in any given situation. The method can be applied in many social settings such as in the communities and clinical settings to examine the perceptions of people regarding a particular psychological illness (Bryant, Green & Hewison, 2006; Yon, Loas & Brien, 2005), in the work environment (Chinnis et al., 2001), in subjects such as psychotherapy and the health sciences. Even though Q-methodology was not used to study epilepsy, it has been used by several researchers to study the subjectivity of a particular object in different populations. It has been found to be a successful method to discover the similarities and differences amongst subjects on the same issue being studied. It has also been found a relevant method to develop different perspectives on one problem.

With regards to the understanding of psychological illnesses using Q-methodology, a few studies have been conducted. Many of these studies were conducted in the American and other countries. Such studies in South Africa and its neighbouring countries have not been published. The study was carried out by Bryant, Green and Hewison (2006) at the

University of Leeds to identify “competing equivalent stories” of Down's syndrome and to highlight the shared and distinct themes within these stories with the use of Q-methodology. The participants were asked to Q-sort 50 statements about Down's syndrome. The statements were selected to reflect different views about the condition in terms of its impact on the affected person, on families with an affected child and on society. Five statistically independent factors were extracted that reflected a range of views towards, and experiences of, people with Down's syndrome.

This is an indication that people do not hold the same view regarding a particular illness. There must always be variations amongst individuals which must be taken into consideration and be respected. That will be accomplished through giving the subjects a chance to express their concerns or opinions and through the Q-sorting exercise in order to establish the distinct viewpoints amongst themselves.

In clinical settings Q-methodology has been used to investigate the perceptions of patients as well as staff members on the understanding and the treatment of certain diseases, illnesses as well as the subjective experience of pain. The use of Q-methodology in such settings is important in order to give patients a chance to express how they feel about and understand of a particular illness. Even in the clinical settings, South Africans have never tried to use this effective method to reveal peoples opinions and experiences on a particular disease.

Watkins and Plant (2005) conducted individual interviews using Q-methodology with 25 staff directly involved in the delivery of TB-treatment services in 18 different public sector health centers in Bali. Factor analysis was used to identify shared perceptions of TB-treatment delivery in Bali among the sample studied. Three distinct perspectives were discovered, indicating that all staff does not have shared understandings of difficulties and priorities in TB-treatment. The demonstrated variation in the perceptions of TB-treatment delivery found by Watkins and Plant (2005) in Bali will have important implications for the design of strategies to improve treatment delivery and the control of TB. Similarly, Morecroft, Cantrill and Tully (2006) systematically explored and elicited

individual patient's preferences in the management of their hypertension using Q-methodology. Five factors were discovered which all varied in the degree of involvement these patients had, or wished to have, in their hypertension management.

Kim, Kim, Schwartz-Barcott, and Zucker (2006) discovered patterns of hope in hospitalised chronically ill patients and identified the major threads that structure various patterns of hope experienced by those patients in a general acute-care, tertiary hospital in New England in the United States. They obtained a convenient *P*-sample of 20 subjects from the hospitalised patients with a diagnosis of chronic conditions and subjects were asked to Q-sort thirty seven (37) statements. The results of this study indicated that hospitalised chronically ill patients view hope in five different patterns. People may experience pain at the same time but they can have similar hope regarding their pain experiences. According to the findings of this, study every individual has his/her own beliefs about his/her experiences.

Furthermore, a study was conducted amongst people in the United Kingdom to understand the acceptance of chronic pain using Q-methodology (Risdon, Eccleston, Crombez, & McCracken, 2003). People who may have divergent understandings of the term "acceptance" were invited to participate and to suggest a further person who may be willing to contribute in a limited snowballing technique. Sixty people were contacted. No attempt was made to recruit or exclude people with a history of chronic pain. Finally, eight separate accounts were reported that reflected ways in which sense can be made of the idea of accepting chronic pain. In contrast, Aldricha and Eccleston (2000) were curious about how sense is made of everyday pain with the use of Q-methodology. These researchers did not choose the participants with chronic pain as Risdon, Eccleston, Crombez, and McCracken (2003) did, but were concerned to include any person in their study, regardless of whether the person has pain or not. Participants were drawn from a wide background, similarly with enlisted participants being asked to suggest another possible participant in a limited "snowballing" technique. Eight factors or accounts of everyday pain were derived successfully with the use of Q-Methodology.

It has been found useful to design an instrument capable of establishing what difference a given illness or condition makes to the life of a patient, or the related question of what difference a treatment makes. Q-sorts have been found relevant in investigating such concerns (Stenner, Cooper, & Skevington, 2003). Similar to the present study of the subjective experiences of epilepsy, Stenner, Cooper and Skevington (2003) considered their study of the identification of subjective constructions of health-related quality of life, as "subjective" since such a question can only be adequately answered from the patient's point of view. Participants were obtained using theoretical sampling to ensure that a wide range of views and opinions on health-related quality of life were incorporated into their study. The study successfully used Q-sorts and identified eight clear and distinct shared subjective constructions of the health-related quality of life (QOL).

In social settings Raje (2007) used Q-methodology to develop more perceptive insights on transport and social inclusion. The main idea of his study was to investigate the perceptions of transport's role in people's lives. He selected 18 from a range of respondents from different socio-demographic and geographic backgrounds. The participants were asked to rank-order 60 opinion statements about transport and their neighbourhood within the context of the impact of transport and personal connections. In this study, Q-methodology helped Raje (2007) to reveal four distinct attitudes towards transport amongst participants. The findings suggested that Q-methodology offers an innovative way of defining discourses which frame participants' views on transport and that such a micro-scale analysis can facilitate the development of a more nuanced understanding of transport and social inclusion.

In social settings Q-methodology can also be used to see the distinct groups of people who agree or disagree with a particular method that they prefer when doing their daily duties. Van Exel, De Graaf and Brouwer (2007), with the use of Q-methodology, investigated the informal caregivers' attitudes toward respite care at Informal Care Support Centres in the city of Rotterdam in the Netherlands. Informal caregivers were asked to rank-order 39 statements regarding motivation for providing informal care; supporting capacity; physical, psychological, practical, financial; relational and social

obstacles; subjective burden; need for support; experienced support; and propensity and impediments to make use of respite care. Van Exel, De Graaf and Brouwer (2007) found three distinct groups of caregivers: informal caregivers who need and ask for respite care, those who need but will not ask for respite care, and those that do not need respite care.

In the work environment most researchers used the Q-method to assess and meet the expectations of the employees and also for promotion purposes. Chinnis et al. (2001) used Q-methodology to assess the needs of emergency medicine support staff employees. Out of 55 statements, two distinct viewpoints were identified about the needs of support staff employees amongst the employees themselves. It was also found that Q-methodology has the capacity to allow a more effective form of policy making and implementation process (Barry & Proops, 1999). In their study titled "Seeking sustainability discourses with Q-methodology" Barry and Proops (1999) conclude that Q-methodology has great potential for ecological economics. They further noted that Q-methodology allows a responsive but statistically rigorous approach to the subjective perceptions of human–nature relationships. Its results could be extremely useful in informing environmental policy making. According to the above mentioned studies in the work environment, it is convincing that Q-methodology has produced the expected results and has been found useful to explore people's attitudes towards nature in a way that is responsive to the attitudes held by the respondents.

Promotion might represent a source of motivation within the departments, but it is considered to be a significant source. Gaines, Van Tubergen and Paiva (1984) have successfully used Q-methodology to investigate police officer perceptions of promotion as a source of motivation in their work environment. Their study investigated the need structure (which needs were important) of police officers as well and the extent to which promotion satisfied these needs. Officers from two Connecticut Police Departments were used in this study and the results indicated that these officers felt that the higher order needs were more important than the lower order needs. Moreover, the officers were divided over the instrumentality of promotion fulfilling their needs and there were demographic characteristics which appeared to contribute to these differences.

In the educational environment, Q-methodology has also been found useful. It is able to capture the individual perception and effectiveness of a particular teaching procedure or programme. Bracken and Fischel (2006) applied Q-sorts to assess the pre-school classroom practices. Q-sort was tested in a sample of 66 pre-school teachers and assistants. The results demonstrated the existence of a 2-cluster structure within the Q-sort, comprised of Cognitive Development Activities and Socio-Emotional Development Activities.

Q-methodology has also helped Reid and Slinger (2006) to investigate the trainees and the university mentors' perceptions of the flexible initial teacher programme which was introduced by the British government at a time of teacher shortage. The programme was designed to attract people into teaching from other careers. A Q-methodology investigation of the trainees' perceptions of their course indicated that it has been a mainly successful innovation, but that there are significant issues that need attention from school and university based mentors. It was not going to be easy for Reid and Slinger (2006) to discover that the programme was an innovative bid to make the teaching profession available to a wider group of graduates without studying their perceptions towards the programme. Q-methodology is a qualitative but statistical approach to enable the discovery of a variety of discourses concerning how individuals understand their behaviour, and how they understand the social and environmental worlds in which they live (Barry & Proops, 1999). The present study was basically focusing on the application of Q-methodology in a social context to identify how different categories of people perceive epilepsy.

In a summary of the above reported literature Q-methodology has been used extensively in various settings to examine the perceptions, beliefs and attitudes of subjects towards affects such as particular psychological illnesses, experiences and preferences in different settings. The method has been applied in the psychiatric environment to identify the perceptions of Down's syndrome and has successfully revealed five distinct viewpoints (Bryant, Green, & Hewison, 2006). Q-methodology has also been used in the clinical settings to investigate the perceptions of patients as well as staff members on the

understanding and the treatment of certain diseases. Watkins and Plant (2005) discovered three distinct perspectives while studying TB-treatment delivery. Similarly, Morecroft, Cantrill and Tully (2006) systematically explored and elicited individual patient's preferences in the management of their hypertension using Q-methodology and discovered five factors. In social settings, the method was found useful to investigate how people in a social environment perceive, for example, their daily routine activities either in the workplace or in their homes (Raje, 2007; Van Exel, De Graaf & Brouwer, 2007). In the work environment, most researchers use the method to assess and meet the expectation of the employees and also for promotion purposes. For example, Gaines, Van Tubergen, and Paiva (1984) have successfully used Q-methodology to investigate police officer perceptions of promotion as a source of motivation in their work environment. In the educational environment, Q-methodology was found useful and was able to capture the individual perception and effectiveness of a particular teaching procedure or programs. Reid and Slinger (2006) investigated the trainees and the university mentors' perceptions of the flexible initial teacher programme. Not all studies that used Q-methodology will be mentioned, but these few mentioned are the examples that have successfully been used.

Despite using the Q-method in different settings to study different topics, there was a need to look at the illness itself in terms of whether other people had an interest in studying its causes and treatment options. It has stated that most researchers who studied epilepsy used traditional methods of data collection and analysis. According to the literature already reported, this is the first study which intends to use Q-methodology for the purpose of examining the perceptions of epilepsy amongst different categories of people at University and its surrounding communities, and to explore and differentiate between these categories' individual construction of what epilepsy means to them. The results gained from previous researchers, who studied epilepsy, were more descriptive than exploratory due to the methods used. Due to the sample studied, however, the African perception of the illness was more dominating than the western perspective. Below is the literature reported about the African views of epilepsy.

3.4 AFRICAN PERCEPTIONS OF EPILEPSY

Researchers who studied epilepsy in the African context report that there are different perceptions and explanations of the condition. Epileptics are generally considered to be mentally ill (Tran et al., 2007). Epilepsy is also considered as a divine or sacred illness (Ndiaye, Ndiaye & Tab, 1982). Recent studies used more comprehensive instruments to study perceptions of epilepsy and found that it is perceived by the majority of the sample as caused by ancestral spirits (up to 65%), evil spirits (up to 63%), or a result of wichtrcaft (up to 66%) (Govender, 2005; Heaney & Sander, 2007). According to the study by Millogo, Ratsimbazafy, Nubukpo, Barro, Zongo and Preux (2004), a sample of traditional healers of Bobo-Dioulasso (Burkina Faso) perceives epilepsy as contagious (44%) and hereditary (40%). Fifteen percent of the sample thought that the problem is localised in the head of a person, while 7.8% thought that epileptics have worms in their heads.

The disease is known by many names in the indigenous languages of South Africa. For instance, in Sepedi it is called *dikokotwane*, in Xitsonga it is known as *switshetshela*, in Tshivenda it is *tshifakhole*, and in Isizulu it is *xhuzula*.

Ndiaye et al. (1982) found several ideas of epilepsy in different African countries. They found that a sample in Senegal regarded epileptic seizures as due to possession by a rab (ancestral spirit). According to the same sample, seizures can also be present as a result of penetration by an ill wind or to staying in or passing through a place or a road haunted by spirits. The population of Gambia River believes that the agent responsible for seizures is a powerful devil dwelling in the river. Whenever that devil raises its head above the water epileptics fall into convulsions. The results from the Benin sample indicated that seizures are related to a lizard-like reptile which provokes torsions, jerking, and frothing at the mouth. On the other hand, Tanzanians consider epilepsy as a punishment for some hidden transgression (Tran et al., 2007).

According to the African view, epilepsy is perceived as a form of possession or a natural disease. When a victim has convulsions, it can either be in a form of spiritual possession or as a natural disease. According to Tempkin (1971), when a victim suddenly falls down, is unconscious, has convulsions of the hands, feet and neck, it is regarded as a natural disease of epilepsy. Secondly, when a victim froths and trembles, his/her limbs not convulsed and at the same time the demon might speak in foreign languages while the person is lying down, this can be called a demon or possession.

It is not only in Africa that traditional theories of epilepsy persist. Ismail et al. (2005) found that communities in the north of England saw people with epilepsy as having a disability and therefore as being in some way devalued.

African culture conceives of epilepsy according to two alternative orientations, namely, the supernatural and religious. This amounts to two groups who believe in supernatural forces (Tran et al. 2007) and those who believe in God's power (Ismail et al. 2005). These groups always have different perception of illnesses. The literature above concentrated on the ancestral view. The literature that follows indicates how people who believe in God perceive epilepsy.

3.5 RELIGIOUS PERCEPTIONS OF EPILEPSY

Religious activities include beliefs, experiences and practices of members in a community. Social background, religious beliefs and cultural norms may contribute substantially to the propensity for some subgroups to serve as propagators versus alleviators of epilepsy-associated stigma (Atadzanov, Chombad & Bierbeck, 2007). Muslims believe that epilepsy is caused by the spirit possession while Sikhs and Hindus believe that epilepsy is attributable to sins committed in a past life (Ismail et al. 2005). In most cases religious healing involves consultation with priests and/or prophets. That is where informants are required to drink blessed water, or bathe, and also to recite from holy texts. Depending on ones religious or cultural belief, people were sometimes asked

to pray frequently or either through fasting as a way of defeating the devil involved in the illness. According to Ismail et al. (2005), Muslims were instructed to wear a *taweez* (amulet) containing verses from the Koran.

Other people who believe in a particular religion explain that they had an "Aura" before an epileptic attack and state that they heard voices from God. Hansen and Brodtkor (2003) cited the words of a person who had such experiences in the church as follows: "… I heard voices, enjoyable and frightening at the same time…." Hansen and Brodtkor (2003) were of the opinion that the participant imagined those words to come from God. Similarly Devinsky (2003) found that a man who had a personal experience of an epileptic attack mentioned "…I have really touched God. He came into me myself, yes God exists, I cried, and I don't remember anything else…."

It can be that people have a belief in the African perception of epilepsy, the religious perception or both beliefs. Some would prefer only the medical view and its treatment. Below is a brief outline of the medical perception of epilepsy.

3.6 MEDICAL PERCEPTIONS OF EPILEPSY

3.6.1 INTRODUCTION

This part of the literature review deals with the clinical information on epilepsy and its occurrence according to the medical perception. The information included contains the prevalence rates during childhood and adolescence. The review includes the occurrence of the disorder among the elderly as well as the role of gender.

Epilepsy is a syndrome of different cerebral disorders of the central nervous system and affects approximately 50 million people worldwide (Avode, Houinato, Tevoedjre, Adjien, Adoukonou, & Guedou, 2003; Jäger, Mohoto, van Heerden & Viljoen, 2005).

Pincus and Tucker (1985) and Lothman and Collins (1990) in Lezak, (2003) noted that a seizure can arise from any condition that heightens the excitability of the brain tissue.

3.6.2 CLASSIFICATIONS OF EPILEPSY

Epileptic seizures are divided into generalized seizures which affect the entire brain and partial seizures which affect a particular part of the brain. The International League Against Epilepsy (ILAE) issued a classification of types of seizures which are generalised seizures such as tonic-clonic seizures, clonic seizures, absence seizures, and focal seizures such as focal sensory seizures with elementary sensory symptoms and experiential sensory symptoms and gelastic seizures. (Pellock, Dodson & Bourgeois, 2001).

The types of generalized seizures are:

Clonic – they are characterized by repetitive, rhythmic jerking of limbs. These movements are seen on both sides of the body simultaneously.
Myoclonic – these are non-rhythmic jerks resulting from involuntary muscle twitching. These seizures usually target the neck, shoulders, and upper arms.
Tonic - the patient's muscles stiffen and the full body becomes rigid including arms, legs, and torso. This type of seizure is usually limited to 20 seconds or less.
Atonic - the patient temporarily loses muscle tone.
Generalized Tonic-Clonic (also called Grand Mal) - the patient loses consciousness likely resulting in a fall. The patient then enters the "tonic" phase in which the patient's muscles stiffen for 30 seconds to 1 minute. This is followed by the "clonic" phase of muscle jerking convulsions that affect the entire body for an additional 30 seconds to 1 minute. After this phase the patient may remain unconscious or be tired and confused. Common problems associated with tonic-clonic seizures are tongue biting, and loss of bladder and/or bowel control.

Absence (also called Petit Mal) - they are typically characterized by brief episodes of abruptly stopping activity and blankly staring for up to 20 seconds. During this time the patient is unconscious of his or her environment or actions.

The types of partial seizures are:

Simple (consciousness/awareness retained during seizure)
Motor - the patient's muscles become rigid and he or she makes sudden jerks which may include turning of the head.
Sensory - the patient perceives strange sensations affecting one or more of the five senses (taste, touch, sight, hearing, or smell). When a seizure only involves these symptoms, it is referred to as an aura.
Psychological - these seizures include a variety of psychological experiences that include re-experiencing memory, falling into a dreamy state, and feeling intense emotions not brought on by environmental factors.

Complex (loss of awareness) - patients become unconscious as to their activity and perform common, coordinated actions such as lip smacking, chewing, fumbling of the hands, grunting, and even walking.
Partial Seizure with Secondary Generalization - the patient is conscious when the seizure begins, but as it continues they lose consciousness and begin convulsing and experiencing the symptoms of a generalized tonic-clonic seizure (Ficker, 2008).

3.6.3 CAUSES AND TREATMENT OF EPILEPSY

Epilepsy can be caused by anything that disturbs the normal functioning of the brain. The cause can be illness, brain damage, or abnormal development of the brain (Nordqvist, 2009; Slowik, 2009). Slowik, 2009 compiled a list of possible causes of epilepsy which are, namely, brain chemistry, hereditary causes, other disorders, head injury, prenatal injuries, and environmental causes.

Brain chemistry mean that a epilepsy may develop because of an imbalance in those chemicals in the brain that help the nerve cells in the brain transmit electrical impulses. These chemicals are called neurotransmitters. Low levels of Gamma-aminobutyric acid (a neurotransmitter) have been linked to epilepsy and an increased risk for seizure. The tendency to abnormal brain chemistry can sometimes be inherited and can sometimes be caused by an injury or a disease.

Hereditary causes mean that epilepsy tends to run in families, and some have been traced to an abnormality in a specific gene. These genetic abnormalities can cause subtle changes in the way the body processes calcium, potassium, sodium, and other body chemicals.
People who have progressive myoclonus epilepsy are missing a gene that helps break down protein. Those with a severe form of epilepsy called LaFora's disease are missing a gene that helps break down carbohydrates.
Hereditary factors are not always a direct cause of epilepsy but may influence the disease indirectly. Genes can affect the way people process drugs or can cause areas of malformed neurons in the brain.

Epilepsy can be triggered by brain damage caused by other disorders. Epilepsy can sometimes be stopped by treating these underlying disorders. In other cases, epileptic seizures will continue after the underlying cause is treated. Disorders that may trigger epilepsy include: brain tumors, alcoholism, and Alzheimer's disease; stroke, heart attacks, and other conditions that affect the blood supply to the brain (cerebrovascular diseases) can cause epilepsy by depriving the brain of oxygen; infectious diseases such as meningitis, viral encephalitis, and AIDS, can cause epilepsy; cerebral palsy, autism, and a number of other developmental and metabolic disorders can cause epilepsy.

Head injuries can cause seizures. If the head injury is severe, the seizures may not begin until years later. If the injury is mild, the risk is slight.

Prenatal injuries occur in a fetus, the developing brain is susceptible to prenatal injuries that may occur if the pregnant mother has an infection, doesn't eat properly, smokes or abuses drugs or alcohol. These conditions may cause cerebral palsy.

Epilepsy can be caused by environmental and occupational exposure to lead, carbon monoxide, and certain chemicals, use of street drugs and alcohol, lack of sleep, stress, or hormonal changes, withdrawal from certain antidepressant and anti-anxiety drugs

According to Nordqvist, (2009) the symptoms of epilepsy are aconvulsion with no temperature (no fever), short spells of blackout, intermittent fainting spells, unresponsive to instructions or questions, the person becomes suddenly stiff for no obvious reason, suddenly falls for no clear reason, sudden bouts of blinking without apparent stimuli, sudden bouts of chewing, the person seems dazed and unable to communicate, repetitive movements that seem inappropriate, the person becomes fearful for no apparent reason, peculiar changes in senses, and rapid jerking movements.

Epilepsy can be treated using medication, surgery and other forms of treatment. Antiepileptic drugs are the most frequently used treatment of epilepsy (Heaney & Sander, 2007; Landmark, Larsson, Rytter, & Johannessen, 2009; Slowik, 2009). The type of the drugs chosen will depend on the type of seizure a person has, how frequently they happen and also the age. The example of the drugs used are carbamazapine which is effective against partial or tonic-clonic (grand mal) seizures, clonazepam is used to treat myoclonic and atonic seizures, and ethosuximide is used for treating absence (petit mal) seizures (Nordqvist, 2009).

If seizures cannot be controlled by medication, doctors may recommend surgery. The examples of surgery are lesionectomy which aims to remove a seizure focus; a small area of abnormality in the brain where seizures originate, lobectomy or lobe removal takes away a larger area of the brain but is still intended to remove only the area of seizure focus and corpus callosotomy which is a surgical procedure that cuts the connection between the left and right sides, or hemispheres, of the brain (Slowik, 2009).

3.6.4 THE PREVALENCE OF EPILEPSY

Most authors have reported epidemiological information of epilepsy in Western countries only (Schlaug & Patel, 1997; Sadock & Sadock, 2003, Lezak, 2003). In that case, the lack of these epidemiological studies makes it difficult to get a clear picture of the number of epilepsy suffers in the continent of Africa. However, Jillek-All and Jillek (1989) have cited few studies on the prevalence of epilepsy on the African continent:
Levy et al. (1964) found the prevalence of 7.4 per 1000 in what is now known as Zimbabwe, Giel (1969) found 5-8 per 1000 in Ethiopia, and for Senegal Collomb et al. (1973) found 7-8 per 1000. Data (1970) computed 13-15 per 1000 in Lagos and Nigeria, and Jillek-All and Jillek (1970) about 20 per 1000 in Wagoporo Tribe of Tanzania. The highest prevalence was found in Liberia where Goudsmith et al. (1982) reported 28 per 1000 in certain tribal populations (Jillek-All & Jillek, 1989: 355).

The prevalence of epilepsy was also reported in the Western countries. According to Nordqvist, (2009) approximately 50 out of every 100,000 people develop epilepsy each year in industrialized nations. According to Epilepsy Action 460,000 people in the United Kingdom have epilepsy. According to The Epilepsy Foundation over 3 million Americans are affected by epilepsy and seizures. About 200,000 new cases of seizures and epilepsy occur in the USA each year. According to The National Society for Epilepsy (UK) about 50 million people have epilepsy globally (Nordqvist, (2009). Jeffrey (2008) reported an estimate of 2.1 to 2.7 million of people living in the United States.

3.6.5 THE PREVALENCE OF EPILEPSY IN CHILDHOOD AND ADOLESCENCE

Children and adolescents with epilepsy are known to have high rates of behavioral problems and psychiatric co-morbidity. Datta, Premkumar, Chandy, Kumar, Kirubakar, Gnanamuthu, and Cheriana (2005) found that seizure disorders are associated with significant psychopathology in 53.8% of children. They reported that the prevalence of epilepsy in children is about 4 per 1000 of the population (Cull & Goldstein, 1997). It

was also stated that among the psychiatric comorbid conditions in children and adolescents with epilepsy, depression and anxiety disorders require further attention because they carry the risk of reduced quality of life and life-threatening complications such as suicide (Ekincia, Titusb, Rodopmana, Berkema, & Trevathan, 2009). Epilepsy in childhood also complicates their social competence. Such children, especially with complicated epilepsy, had fewer age-appropriate social skills and more attention and behavior problems than the healthy children (Rantanen, Timonen, Hagström, Hämäläinen, K. Eriksson & Nieminen, 2009).

In children and adolescence video games and TV are known to be some of the triggers of epileptic seizures. Piccioli, Vigevano, Buttinelli and Dorothé, (2005) conducted a study to investigate whether video games are able to evoke specific types of epileptic seizures. They found that patients (67%) reported symptoms during IPS and VG playing, with visual disturbances—aura and amaurosis.

3.6.6 EPILEPSY AND OLD AGE

The prevalence of epilepsy increases with age. According to the National General Practice Study of Epilepsy (NGPSE), almost one quarter of newly diagnosed epilepsy occurs in people over 60 years of age (Cull & Goldstein, 1997). This is due to the fact that the prevalence of age-related neurological disorders such as neurovascular disorders, some malignancies and dementia are increasing. Since these disorders are associated with an increased risk for the development of seizures, the peak incidence of epilepsy is row in the older age groups in developed societies (Van Elsta, Baker & Kerr, 2009).

3.6.7 EPILEPSY AND GENDER

It was reported that more women than men were diagnosed with generalised epilepsy (Mullins, O'Sullivana, Neligan, McCarthy, McNamara, Galvin, & Sweeney, 2007). A study by Huifang, Huguenard and Robert (2006) reported that the absence of epilepsy is more prevalent in females but the reasons for this gender asymmetry are unknown.

3.7 OTHER BELIEFS ABOUT EPILEPSY

It is not only African, religious and medical beliefs about epilepsy which were studied around the universe. There were other beliefs that people revealed about the occurrence of epilepsy. For example, there was a belief that food had an impact on triggering epileptic attacks. Asadi-Pooya and Ghaffari (2004) conducted a cross sectional study using a questionnaire at the outpatient clinic in Iran. The study dealt with the possibility that certain foods were responsible for triggering epileptic attacks. The results showed that 55.2 % of the sample believed there was a relationship between specific foods and the occurrence of seizures. According to these results, patients experienced seizures after the consumption of specific foods such as dairy products, fruit and vegetables. These reported results were not considered African, religious or medical beliefs about epilepsy, but people may hold different opinions about epilepsy.

It will depend on people's position in the social environment on how they perceive epilepsy. Some people will either not fall in each of the above mentioned categories on how they perceiving epilepsy. It might be because people are not familiar with the illness or have never heard about epilepsy. Most of the psychiatric conditions such as schizophrenia, and medical conditions such as Down's syndrome, Tourette's syndrome, epilepsy, and others, seem to be distressing illnesses in the local communities, especially in rural areas due to a lack of information. So people end up not knowing what they will associate this kind of illnesses with.

3.8 GENERAL CONSTRUCTION OF EPILEPSY

Generally, people construct epilepsy in different ways. It might depend on ones cultural, religious, personal and social belief on how he or she constructs epilepsy. A sample of students in Kuwait considered epilepsy a contagious disease 1.7 %, and 10.5%, a form of insanity. About 25 and 34% of students thought that epilepsy is caused by an evil spirit and the evil eye, 17.4% thought epilepsy is punishment from God. About 8% believed patients with epilepsy should not marry, and 12.5% thought they should not have children. Similarly, 11.7% thought patients with epilepsy cannot think or judge like people without epilepsy, and 26.2% would not employ someone with epilepsy in a clerical job. Approximately 56% objected to marrying someone with epilepsy, and 12.5% would not allow their child to play with a child with epilepsy (Al-Rashed, Al-Yahya, Al-Kandari, Shehab, Al-Sabah and Al-Taiar, 2009). From these findings, students did not mention anything positive about epilepsy. For them, epileptics do not deserve to socialize with other community members, but to remain ostracized. Al-Rashed et al. (2009) concluded that university students in Kuwait have a vague knowledge of the causes of epilepsy.

Pandian, Santosh, Kumar, Sarm and Radhakrishnan, (2006) found more or less the same results as those found in a sample in Kuwait (Al-Rashed et al., 2009). Pandian et al., (2006) studied high school students' knowledge, attitude, and practice with respect to epilepsy in Kerala, southern India nearly. The results revealed that 60% of students thought that epilepsy was a form of insanity. Allopathic treatment was preferred by more than half of the respondents; however, many had faith in exorcism and visiting religious places as ways to cure epilepsy. Half of the students considered epilepsy a hindrance to education, employment, and marriage. Thirteen percent would be unwilling to sit adjacent to or play with a child with epilepsy.

A sample in Bosnia and Herzegovina constructed epilepsy differently. The results showed that approximately 15% of the sample would object if their child played with a child with epilepsy, and 39% believed that a child with epilepsy could not succeed as

well as a child without epilepsy. Although 55.9% would approach a person experiencing a seizure and help, 25.9% would call “911” (Bagić, Bagić & Živkovi, 2009).

Most of the above studies focused on the causes and treatment of epilepsy with little regard for the insights of the individual about the illness. Furthermore, most of the samples include a majority of uneducated people who will look at the illness from different dimensions (Millogo et al. 2004; Mbewe et al. 2007; Ndiaye, Ndiaye & Tab, 1982; Tran et al. 2007). Moreover, these studies used the quantitative research methodology, while in the present study the quantitative study is believed to restrict people’s thinking and concentrate on testing a hypothesis. This study intend on answering the research question stated below.

3.9 RESEARCH QUESTION

The research question for the study reads: What are the existing perceptions held by different categories of people about epilepsy?

CHAPTER 4: METHODOLOGY

4.1 INTRODUCTION

The present study was conceived within the subjective research paradigm. It was designed to investigate the perceptions of epilepsy amongst different categories of participants, using Q-methodology. The study involved studying the subjects' inner beliefs, opinions and/or personal views regarding the phenomenology of epilepsy. In other words, interest was in unveiling the subjective experience of the concerned individual: how he/she conceptualizes epilepsy from his/her point of view. A Q-methodology study was found to be helpful in revealing a range of views and experiences of people with different types of disorders including Down's syndrome (Bryant, Green & Hewison, 2006). It was believed that the method would be able to reveal the viewpoints held by various people about epilepsy.

The aim of Q-methodology was to access as many alternative views as possible and, with the use of correlation and factor analytic techniques, group and describe them in order to map the subjective scope of epilepsy. The method was selected because it is a well-established method of facilitating the expression of shared and distinct stories about a single social object (Bryant, Green & Hewison, 2006). Furthermore, it has an established history of clarifying agreements and differences among individual and group perceptions. It was also a method for exploring dominant perceptions within subjects (Brown, 2004).

The subjects studied are of different backgrounds and it was expected that they might have varying viewpoints about the illness. The researcher was willing to establish those similarities and differences as they did exist between those people by using Q-methodology. The emerged viewpoints about epilepsy acted as an answer on how these categories of people perceived epilepsy.

4.2 DESCRIPTION OF Q-METHODOLOGY

Q-methodology was invented in 1935 by the British physicist-psychologist William Stephenson (1953) and was specifically developed to explore the diversities of understandings and perceptions (Brown, 1996; Schmolck, 2007). In Q-methodology a person is presented with a set of statements about a topic of interest and is asked to rank-order them on a Q sort with a scale from "agree" to "disagree". This process is referred to as Q-sorting. In Q-methodology, the statements are matters of opinion only. The fact that the Q-sorter ranks the statements from his/her own point of view is what brings subjectivity into the picture (Brown, 1991). There is obviously no right or wrong way to provide a point of view. In conjunction with Stephenson's focus on subjectivity Q-methodology emphasises the importance of each person's unique subjective experience through sorting the statements to reflect various points of view about epilepsy.

A small number of participants are required in Q-studies due to the inverted factor matrix. In the standard method for analyzing data with factor analysis the researcher wants the number of row replicates, which are participants, to be several times larger than the number of entities being factored (variables). In that condition more participants than factored variables are needed. When using Q-technique, the procedure for analyzing data is vice versa, that is, more variables are needed than factored people.

4.3 STUDY DESIGN

The study was conducted applying a Q-methodological approach in order to explore and differentiate between categories of people regarding their individual construction of what epilepsy meant to them.

4.4 PARTICIPANTS

Interested individuals from the surrounding communities, including the University of Limpopo (Turfloop Campus), were interviewed to provide the raw material from which the Q-set was developed. Additionally, information from literature was also used. The categories of the individual participants who ranked the statements included the medical professionals (doctors and nurses), traditional and spiritual healers, university students (including those in the health sciences and those who were not), ethnic groupings (at least two ethnic groups, namely, the Bapedi and Vhavenda), people who were from both rural and urban areas, and high school teachers (see Table 1 for demographic information of participants). It is possible that an individual can belong to more than one category such as a Sepedi speaker who is a nurse from a rural area. The focus in this study was to compare the views of, for an example, a professional nurse and someone who her or his mother tongue is Sepedi. The categories were selected to discover if ones social environment (cultural, religious, personal, or ethnicity) can influence their view of epilepsy. For example, the social environment of a professional nurse is in the hospital or clinic.

Table 1: Demographic information of participants

Category	Gender	Occupation	Age range	Ethnic group	Residential Area
Pastor	M	Old age (pastor)	60 & 65	Sepedi	Mankweng
Pastor	M	Unemployed	30 & 35	Xitsonga	Mankweng
Pastor	M	Minister of Gospel	19 & 25	Tshivenda	Mankweng
Teacher	M	Teacher	25 & 30	Sepedi	Makanye Village
Teacher	M	Teacher	40 & 45	Ndebele	Mankweng
Teacher	M	Teacher	25 & 30	Xitsonga	Makanye Village
Nurse	F	Professional nurse	30 & 35	N. Sotho	Seshego
Nurse	F	Nurse	19 & 25	Sepedi	Mankweng
Nurse	F	Nurse	35 & 40	Sepedi	Mankweng
Doctor	M	Medical practitioner	40 & 45	N. Sotho	Mankweng
Doctor	M	General practitioner	35 & 40	Xitsonga	Mankweng
Doctor	M	Medical Doctor	30 & 35	Tshivenda	Polokwane
Health Science student	M	Medical scientist	19 & 25	Isizulu	University of Limpopo
Health Science student	M	Health Science student	19 & 25	Sepedi	University of Limpopo
Health Science student	F	Health Science student	25 & 30	Sesotho	University of Limpopo
Student	M	Student	25 & 30	Swati	Mankweng
Student	M	Student	20 & 25	Sepedi	University of Limpopo
Student	F	Student	19 & 25	Sepedi	Mafefe

Table 1 (continued)

Category	Gender	Occupation	Age range	Ethnic group	Residential Area
Traditional healer	M	Traditional healer	40 & 45	N. Sotho	Mankweng
Traditional healer	M	Traditional healer	30 & 35	Xitsonga	Mankweng
Traditional healer	M	Traditional healer	30 & 35	N. sotho	Mankweng
Sepedi speaking	F	Student	25 & 30	Sepedi	University of Limpopo
Sepedi speaking	F	Student	25 & 30	Sepedi	University of Limpopo
Sepedi speaking	F	Unemployed	35 & 40	Sepedi	Makanye Village
Venda speaking	M	Student	20 & 25	Tshivenda	Mankweng
Venda speaking	F	Student	20 & 25	Tshivenda	Mankweng
Venda speaking	M	Student	25 & 30	Tshivenda	Mankweng
Rural area	M	Unemployed	19 & 25	Sepedi	Mamotintane
Rural area	F	Unemployed	45 & 50	Sepedi	Mamotintane
Rural area	M	Self employed	25 & 30	Sepedi	Mamotintane
Urban area	F	Domestic worker	25 &30	Sepedi	Unit C
Urban area	F	Unemployed	40 & 45	Sepedi	Unit C
Urban area	F	Domestic worker	50 & 55	Sepedi	Unit C

4.5 P-SET/SAMPLE

A *P*-set/sample is a set of persons who are theoretically relevant to the problem under consideration. It is more theoretical and dimensional, than random or accidental (Brown, 1980). The researcher obtained a convenience *P*-set of 33 subjects from different categories. Each category was represented by three individuals.

4.6 STAGES OF Q-METHODOLOGY

All the stages of Q-methodology were observed. They included: developing the concourse, sampling the concourse, constructing the Q-set, and Q-sorting. The materials for data collection were developed from these stages of the Q-method.

4.6.1 Devising the concourse/Q-population

The main objective in constructing the Q-population was to acquire every available statement relating to epilepsy. A concourse/Q-population is a collection of self-referent statements made by a person in a social situation (Chinnis, Debra & Stephen, 2001; Kim, Kim, Barcott & Zucker, 2006). The concourse was drawn from the interviews conducted at the University of Limpopo (Turfloop Campus) including the surrounding communities. The interviews included all the categories of people selected for the study: doctors, nurses, students, traditional healers and pastors, high school teachers, as well as people from both rural and urban areas. All the recruited individuals agreed to participate in the study. Appointments were scheduled with the participants and they were visited individually for the interviews. The participants were informed about the aims and objectives of the study and that a tape recorder would be used during the interviews. All the participants were asked to present their opinions, perceptions and/or points of view about epilepsy. The main question of the interview was: “What are your views regarding epilepsy?”

4.6.2 Sampling the concourse/Q-sample

After the completion of the interview, all recorded opinions were transcribed. A total of 137 raw statements were developed (see Appendix 6). The statements that are developed from people rather than non-human sources are called naturalistic statements (McKeown & Thomas, 1988). Three themes were selected according to the broader meaning of the statements and they were described in order to give more meaning to the statements. The researcher independently groups the statements according the selected themes. The grouping themes were named biological, supernatural and socially based statements. Biological statements are statements where the meaning is based on the natural causes of epilepsy or due to damage to other parts of the body such as the brain, inheritance and/or infections. The supernatural realm included both the heavenly world of God and the angels and the world of Satan and demons. These are the statements where the meaning is based on both the angels' view (God) and the demons' side of view (witchcraft and spiritual possession). Lastly, social statements are statements that pertain to the interaction humans have with one another and, how people in the communities give mutual support to one another. Most statements tended to repeat themselves.

4.6.3 Constructing the Q-set

The aim of constructing the Q-set was to ensure that each statement was expressed as a single idea and represented the opinions of the concourse (Yeun, 2005). Two people were selected and agreed to sit together and select the statements according to selected themes. This was done to see if there was a correlation between the statements that the researcher selected independently and the statements to be selected by the group. The statements were generated and were examined for relevance, intelligibility and similarity to other statements. Duplications were removed. As a group, thirty-six statements were selected. A completed Q-set was independently reviewed and assessed by the

supervisors of the study to ensure statement validation. The validation process was generally aimed at enhancing clarity and non-repetitiousness of the statements.

4.6.4 Procedure for Q-sorting

The thirty-three participants were visited individually and presented with a Q-pack containing three types of material: the individually printed statements (Q-set); a response grid or measurement scale, indicating agreement or disagreement with the statements, a demographic information section, and a section where participants wrote comments (Q-grid; refer to Appendix 1); thirdly, an instruction list explaining the sorting process (refer to Appendix 2); and finally, a consent form which also included a brief explanation of the aim of the study (refer to Appendix 3).

The participants were asked to sort all thirty-six statements on a Q-diagram. The statements were presented on individual cards. The cards were numbered from one up to thirty-six at the back of each card. The numbers were written for the purpose of identifying items. The numbers also helped the Q-sorting process to become easy as the participants were asked to write only the number of the item chosen in the Q-diagram. The participants were asked to first read all statements and categorize them into three groups, namely, the statements they agreed with, the statements they disagreed with, and the statements that they were not sure/don't know/neutral (refer to Appendix 2 for more Q-sorting instructions). The participants were asked to sort the statements in response to the following question: "What is your opinion about epilepsy?"

CHAPTER 5: RESULTS

In Q-methodology, the initial stage of factor analysis establishes the degree of correlation between the scores of each possible pairing of Q-sorts using a correlation matrix (Herron-Marx et al. 2006). Q-sorts were found to be significantly correlated amongst the various factors. Varimax rotation was used to produce maximal separation of the factors. Six factors were extracted and they were unclear. Using the scree method, four factor solutions were considered. The four factor solutions were found to produce the best fit in terms of producing interpretable data. There were four significant factors of epilepsy that the participants recognised: the medical perceptions of epilepsy (twelve participants), equality of treatment for epileptics (eight participants), traditionalist perceptions of epilepsy (eight participants), and lastly, religious beliefs of epilepsy (five participants). The exemplar Q-sorts were merged manually to create factor arrays using a weighting formula devised by Spearman (Brown, 1980). The factor arrays produced a set of scores for each item by factor (see Appendix 5 for factor arrays) and acted as an idealized Q sort for a particular viewpoint. The factor loadings for each factor are shown in Appendix 4. Table 2 shows the statements and factor scores.

Table 2: Statements and factor scores for each item

Items	Statements	F1	F2	F3	F4
1	If anyone in the family had previously suffered from epilepsy, it is likely that another person in that family will also suffer from the disease.	+2	+2	-3	+2
2	I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.	+3	+4	+2	+1
3	I understand that epilepsy can be caused by an injury to the head.	+3	-2	+1	+1
4	It is important that epileptics must not default or forget to take their medication.	+4	+3	+3	+2
5	The type of food that we eat can sometimes affect the body of a person, and may cause epilepsy.	0	+2	-2	0
6	Epilepsy only affects people who have many personal problems.	-1	0	-1	0
7	I think that people with epilepsy also have sugar diabetics.	0	-1	-1	-1
8	When I was growing up as a child, I was always told that epilepsy can be contracted from pets and wild animals.	-1	-1	-1	-2
9	I would like to encourage epileptics not to drink alcohol.	+4	+4	+2	+3
10	I think that epileptics are people who are mad or mentally disturbed.	-2	-3	-2	-2
11	I believe that epilepsy is contagious.	-3	-2	-1	0
12	In children, epilepsy can be seen as mental retardation.	0	+1	+1	0
13	I think it is important for epileptics to take care of themselves.	+2	+2	+1	+1
14	It is important that epileptics must remain indoors and be given 24 hour care.	-2	-2	+1	-1
15	When I first saw the actions and behaviours of an epileptic, I was scared, and thought of many things such as the person having committed an abortion.	0	-1	-4	-3
16	It is a problem for me to help an epileptic, because I am not trained on what to do if such a person falls down.	+1	+3	-1	0

Table 2 (continued)

Items	Statements	F1	F2	F3	F4
17	Most people tend to avoid epileptics because they are afraid that the epileptics will die in their hands.	+1	+1	0	+1
18	I do not think that I can allow my child to marry an epileptic.	-1	-3	-3	-1
19	Epilepsy is very traumatic to both the patient and the people who take care of them.	+2	+1	+1	+3
20	Epileptics are usually not understood by the community.	+1	+2	+2	+4
21	Epileptics tend to have a problem of not socialising with other people.	0	0	0	+2
22	I think programs must be organised to teach our community about epilepsy.	+3	+3	+3	+3
23	I think that people who fall down and collapse are faking epilepsy, seeking to draw attention to themselves.	-1	-4	-3	-3
24	Sometimes epilepsy can come as a result of breaking taboos and societal norms.	-3	-1	+1	-2
25	I do not think epilepsy is a result of witchcraft.	+2	-1	-1	-2
26	Most people believe that epilepsy can be treated by traditional healers.	+1	+1	+4	0
27	Epileptics are persons who have been overpowered by a “tokološe”.	-4	-4	-2	+1
28	I think epileptic actions are caused by a powerful devil dwelling in the river.	-4	-2	-2	+2
29	I believe that epilepsy is curable with African treatment methods.	-1	0	+2	-4
30	According to African culture, epileptics are viewed as having spirit visitations.	+1	0	0	-1
31	I believe that if an epileptic has accidentally fallen into a fire or water before, the illness cannot be cured.	-3	0	+3	-3
32	I believe that epileptics have worms in their heads.	0	-3	0	-4
33	When we pray for epileptics we are not performing miracles, but we call upon God’s power to heal the illness.	+1	+1	+4	+4

Table 2 (continued)

Items	Statements	F1	F2	F3	F4
34	Sometimes it happens that a person who has never suffered from epilepsy may develop epileptic attacks during prayer.	-1	0	-4	-1
35	I think that epileptics have contracted this illness by staying in, or passing through a place or a road hunted by spirits.	-2	-1	0	-1
36	Epileptics must drink blessed water, or bathe, or recite from holy texts for healing.	-2	+1	0	+1

CHAPTER 6: FACTOR INTERPRETATION

6.1 INTRODUCTION

The results were interpreted using the completed Q-sorts, the written comments of participants as well as the biographical information provided by the participants. Extremely endorsed scores towards the middle were considered for interpretation. The extreme scores, which were in consensus, ended up with a medical perceptions of epilepsy, equality of treatment for epileptics, traditionalist perceptions of epilepsy, and religious perception of epilepsy. These four factors are possible views about epilepsy across cultures. There is nothing new about these viewpoints. The only difference is that previous studies have revealed the results which contribute one viewpoint, or two or more viewpoints incorporated in one study result. For example, Factor 2 stresses equality which concurs with the results found in Canada that epileptic students were treated equally with other students in their university (Andermann & Andermann, 1992).

6.2 INTERPRETATION OF FOUR FACTORS

6.2.1 Medical perceptions of epilepsy (Factor 1)

Factor 1 consisted mostly of health professionals. Most of them were males, and their ages ranged between 25 to 30 years. The participants in Factor 1 strongly emphasised medical beliefs about epilepsy, and strongly rejected supernatural causes. The participants emphasised that epileptics must take their medication, and discouraged the use of alcohol beverages (#4 and #9) (cf. Table 3). According to this group, epileptics were not seen as persons who had been overpowered by a "tokološe", or that their illness was caused by a powerful devil dwelling in the river (#27 and #28).

Table 3: Summary of the participants' loading in factor 1

Q-sorts/ Participants	Category	Gender & Age range	Occupation	Loading
Q sort 30	Doctor	Male, 30-35	Medical doctor	.822
Q sort 1	Nurse	Female, 30-35	Professional nurse	.792
Q sort 29	Doctor	Male, 35-40	Medical practitioner	.777
Q sort 2	Nurse	Female, 30-35	Professional nurse	.757
Q sort 5	Health science student	Male, 20-25	Student	.738
Q sort 28	Doctor	Male, 35-40	General practitioner	.640
Q sort 9	Tshivenda speaker	Male, 25-30	Student	.611
Q sort 31	Health science student	Male, 20-25	Student	.581
Q sort 21	Non-health science student	Female, 20-25	Student	.571
Q sort 3	Nurse	Female, 20-25	Professional nurse	.569
Q sort 18	High school teacher	Male, 25-30	Teacher	.562
Q sort 27	Urban area resident	Female, 25-30	Domestic worker	.516

The participants thought that there had to be the programme to educate the public about epilepsy (#22). In support to item 22, a Tshivenda speaking participant (participant 9) gave the following written comment: "Vhulwadze hovhu vhathu vhanzi a ri na thalukanyo ya ho. Arali hu nga vha na dzi wokishop dza uri gudisa nga hovhu vhulwadze ri kha thusalea nga maanda. Ndolivhuwa" ("Many people don't have information about this illness. It can be useful for us if there could be workshops to teach us about this illness. Thank you). The participants in this factor denied traditional and religious beliefs about epilepsy (#31, #24, #35, #25 and #36), and emphasised that epileptics must be treated like ordinary people (#2).

The participants in Factor 1 did not believe that head injuries can cause epilepsy (#3). They did not think that the illness can be contagious (#11). The participants also invoked a genetic or hereditary etiology of epilepsy (#1). This group highlighted the importance of epileptics' taking care of themselves rather than being kept indoors (#13). The participant viewed epileptics as normal and not as people who were mentally disturbed (#14, and #10).

6.2.2 Equality of treatment for epileptics (Factor 2)

The participants who loaded high in Factor 2 were mostly from the rural communities. Fifty percent of the participants in Factor 2 were females and fifty percent were males. The participants from the rural areas were the highest number to define the factor (cf. Table 4). The participants who shared Factor 2 felt that epileptics deserved to be treated like other people (#2). Similar to Factor 1, the participants would also like to encourage epileptics from drinking alcohol beverages, they also thought that education programme about epilepsy should be introduced in the communities (#9 and #22). In response to Item 22, a high school teacher (participant 17) wrote the following comment: "The issue of epilepsy must be considered and recognised as part of our learning areas especially with life orientation because it is one of the challenges facing our profession daily". This

group denied the idea that epileptics who fell down sought to draw attention to themselves (#23).

Table 4: Summary of the participants' loading in Factor 2

Q-sorts/ Participants	Category	Gender & Age range	Occupation	Loading
Q sort 23	Rural area resident	Female, 45-50	Unemployed	.710
Q sort 22	Rural area resident	Male, 20-25	Unemployed	.618
Q sort 24	Rural area resident	Male, 25-30	Self-employed	.585
Q sort 17	High school teacher	Male, 40-45	High school teacher	.562
Q sort 19	Non-health science student	Male, 20-25	Student	.559
Q sort 7	Tshivenda speaker	Female, 20-25	Student	.543
Q sort 25	Urban area resident	Female, 50-55	Domestic worker	.537
Q sort 26	Urban area resident	Female, 40-45	Unemployed	.510

Similar to Factor 1, the participants in Factor 2 rejected the traditional and/or supernatural beliefs about epilepsy. For example, the participants did not agree that epileptics were people who had been overpowered by a "tokološe" (#27). The participants did not believe that epileptic attacks were caused by the powerful devil (#28). According to the participants, it was difficult for them to help epileptics, because they did not have the skill or expertise to help epileptics during seizure attacks (#16). Whereas Item 16 was neutral or more weakly endorsed in the other factors, it turned out to be a distinct view in Factor 2. This group did not think that epileptics were mentally disturbed and that they had worms in their heads (#10 and #32). To emphasise the equality reported earlier in this factor, the participants did not think of restricting their children to marry an epileptic (#18). Similar to Factor 1, the medical view of epilepsy was present in this factor. The participants in Factor 2 thought that epileptics should not default their medication and they also agreed with the idea that heredity could be the possible cause of

epilepsy (#4 and #1). Even though the participants had a medical view of epilepsy, they did not believe that head injuries could cause epilepsy (#3).

The participants in Factor 2 reported similar views as with Factor 1. They reported that epileptics had to be responsible for their lives and that they should not be isolated from other people as the illness is not contagious (#13, #14, and #11). Even though the participants emphasised equality, they became aware that in most cases epileptics are not understood by community members (#20).

6.2.3 Traditionalist perceptions of epilepsy (Factor 3)

The most dominating participants in Factor 3 were traditional healers and Sepedi speaking people. The participant who had the highest loading on Factor 3 was a traditional healer (cf. Table 5).

Table 5: Summary of the participants' loading in Factor 3

Q sorts/ Participants	Category	Gender & Age range	Occupation	Loading
Q sort 10	Traditional healer	Male, 30-35	Traditional healer	.815
Q sort 14	Sepedi speaker	Female, 25-30	Student	.721
Q sort 11	Traditional healer	Male, 30-35	Traditional practitioner	.705
Q sort 20	Non-health science student	Male, 25-30	Student	.675
Q sort 15	Sepedi speaker	Female, 35-40	Unemployed	.589
Q sort 8	Tshivenda speaker	Male, 20-25	Student	.566
Q sort 12	Traditional healer	Male, 40-45	Traditional healer	.562
Q sort 13	Sepedi speaker	Female, 25-30	Student	.434

According to the participants in Factor 3, most people believed that epilepsy could be treated by traditional healers. The participants strongly agreed with this idea (#26). Item 26 was a distinct viewpoint in Factor 3. In all factors the item was found to be neutral. The traditional beliefs about epilepsy had stronger support in Factor 3 than in all the factors (#31 and #29). Surprisingly, these participants also showed a strong belief in the power of God to heal the illness (#33). The participants strongly agreed with the following statement "When we pray for epileptics we are not performing miracles, but we call upon God's power to heal the illness" (#33). Even though this group believed that prayer could heal epilepsy, they denied that prayer can trigger epileptic attacks in a person who had never experience the epileptic attacks before (#34).

Factor 3 shared some of the views positively endorsed in Factors 1 and 2. For example, the participants also thought that there should be programme to educate people about epilepsy (#22). A traditional healer wrote a comment in support of item 22: "It is not common in the communities to have masses educated about the effects and treatment of epilepsy, so that epileptics must not experience isolation or discrimination from the general public". The participants in Factor 3 reported that they were not surprised by seeing the actions of epileptics during the attacks. The group agreed that they where not scared and thought that those epileptics had an abortion (#15).

According to the participants in Factor 3, the genetic or hereditary passing of the illness was not possible (#1). Similar to Factors 1 and 2, the medical perception of epilepsy was present and strongly supported. The participants emphasised that epileptics should not default their medication (#4). Like Factor 2, the participants in this factor did not express reservations about their children marrying an epileptic (#18). They did not think that epileptics were engaging in attention-seeking behavior, or that they are mentally disturbed (#23 and #10). Even thought the traditional beliefs were strongly reported in this factor, the participants did not think that a "tokološe" or a powerful devil was responsible for causing epileptic attacks (#27 and #28).

6.2.4 Religious beliefs of epilepsy (Factor 4)

Factor 4 was mainly dominated by pastors. All pastors loaded highly on this factor (cf. Table 6). The participants in Factor 2 leaned on a strong religious belief of epilepsy and rejected traditionalist opinions and views. For example, the participants strongly agreed that praying for epileptics did not involve performing miracles, but was to invite the power of God to heal the illness (#33). This group felt that epileptics were not understood by members of the community due to their condition (#20). According to the participants in Factor 4, epilepsy becomes traumatic to the sufferers and people who took care of them (#19). This group denied that epileptics were people with worms in their heads (#32). This group strongly rejected the traditional beliefs about epilepsy (#29, #31, #25, #24 and #8). For example, they did not agree that epilepsy could be treated with African treatment methods (#29).

Table 6: Summary of the participants' loading in Factor 4

Q-sorts/ Participants	Category	Gender & Age range	Occupation	Loading
Q sort 33	Pastor	Male, 65-70	Pensioner	.796
Q sort 32	Pastor	Male, 60-65	Pensioner	.769
Q sort 4	Pastor	Male, 30-35	Unemployed	.701
Q sort 6	Health science student	Female, 25-30	Student	.621
Q sort 16	High school teacher	Male, 25-30	High school teacher	.349

The participants neither viewed people who fell down and collapsed as faking epilepsy to draw attention to themselves, nor as people who had an abortion (#23 and #15). Like Factors 1, 2 and 3, the participants in Factor 4 thought that there should be programmes in the communities to educate the public about epilepsy (#22). The participants discouraged epileptics to drink alcohol beverages because, according to some religious

beliefs, epileptics were not allowed to use alcohol. The participants reported that epileptics tended to have a problem of not socialising with other people (#21). The medical view about epilepsy was present in Factor 4 (#4, and #1). According to participants' beliefs, epilepsy was a result of a powerful devil found in the river (#28).

In view of the substantial commonalities between the factors, the following can be regarded as the distinguishing features of each factor. In Factor 1 the participants' main concern was based on the medical etiological factors of epilepsy and its treatment. What is unique about Factor 1 is that participants rejected the supernatural beliefs about epilepsy and thought that it would be important if the public could be educated on the possible causes and treatment of epilepsy. A different viewpoint emerged in Factor 2 when the participants emphasised the social aspects of epilepsy in the communities. The viewpoint was based on the importance of how community members had to socialise with one another regardless of their health, physical and mental status. The views in Factor 2 matched those in Factor 1. Both factors disagreed with the traditional perceptions of epilepsy.

The participants in Factor 3 mostly agreed with the views that were rejected in Factors 1, 2 and 4. Factor 3 was mainly based on the traditional beliefs of epilepsy. The participants believed in the traditional views of epilepsy together with the religious views of the illness. It was a surprise for the participants in Factor 3 to agree with what most people in the communities usually disagree with. They believe that God can heal illnesses. Practically, it is not common for traditional healers to recommend a pastor to heal a particular illness.

Factor 4 had a strong religious belief about epilepsy. Amongst all factors, Factor 4 was the only factor to prefer the religious view about epilepsy. Even though Factor 3 includes the religious belief, the items for religious opinions were weakly endorsed when compared to the item scores for factor 4. Similar to Factors 1 and 2, the supernatural views were also strongly rejected in Factor 4.

The participants in Factors 1, 2 and 4 were against epileptics using alcoholic beverages. A consensus view amongst all factors was about the initiation of education programme. Almost all participants in the study believed that people in the communities were not aware of or had no knowledge about epilepsy. The participants suggested that there should be educational programme in the communities to educate the community about epilepsy.

CHAPTER 7: DISCUSSION

This study aimed at exploring the diversity of understandings of epilepsy existing in different categories of people regarding epilepsy as a disease. Four viewpoints emerged, and were labeled as follows: the medical perceptions of epilepsy, equality of treatment for epileptics, traditionalist perceptions of epilepsy, and religious beliefs of epilepsy.

The medical perceptions of epilepsy were better demonstrated in Factor 1 than in any other factor. Most medical professionals and apprentices who participated in the study (doctors, nurses, and health science students) loaded on Factor 1. The Factor 1 profile was consistent with the social position of almost all of the participants loading on that factor. Most of them were medical professionals, their work and professional environment might have had an impact on their views of epilepsy. These participants viewed epilepsy according to how it is defined in standard medical sources such as medical text books and journal articles. For example, in Factor 1 the results are related to the writings of Bennett (1996) on the neuropsychology of epilepsy, where the medical causes of epilepsy are outlined.

In contrast, Factors 2, 3 and 4 also mentioned the medical viewpoint of epilepsy but it was weakly endorsed. The participants who loaded on Factor 1 indicated that they preferred medication rather than other treatment methods for treating epilepsy. The participants' belief was that medication can control seizures. The idea that medication can control seizures concurs with the findings of Elger and Schmidt (2008). These researchers found that medication such as anti-epileptic drugs (AEDs) block seizures, and are effective in many individuals.

The medical view of epilepsy reported in Factor 1 was further supported by the view of discouraging epileptics from using alcoholic beverages. The participants strongly agreed with Item 9: I would like to encourage epileptics not to drink alcohol**.** Item 9 in Factor 1 led to an assumption that the participants were concerned about the health of epileptics.

Previous studies pointed out that epileptics who depended on alcohol were also at risk of alcohol-related seizures if they decided to quit or abstain. For example, during clinical experimental observations Rathlev et al. (2006) found that partial or complete abstinence in chronically alcohol-dependent patients was a major prerequisite for seizures caused by alcohol withdrawal. Rathlev et al. (2006) reported that the seizures occur in chronically alcohol-dependent patients with high blood alcohol concentrations that exceed the legal limit of intoxication. The strong endorsement of Item 9 in Factor 1 led to the assumption that participants were knowledgeable about the risk of epileptics in using alcohol.

It was clear that almost all the participants in Factor 1 aligned their perceptions of epilepsy with the medical perspective of epilepsy outlined earlier in the literature. Furthermore, the participants in Factor 1 strongly rejected the supernatural view of epilepsy. According to the participants' conception of epilepsy, possession by an evil spirit or demon and being cursed by a god, were not causes of epilepsy. The participants believed that medication was important for epileptics because it can control the occurrence of seizures even though it does not cure the illness itself. This idea was further supported by Heaney and Sander (2007) who found that medication was not curative. It tended to help control the seizures if taken as prescribed.

According to the results in Factor 2, there were acceptance and appreciation of epileptics by the participants. The participants loading on Factor 2 were highly concerned with the rights of epileptics in social situations. The emphasis of equality was strongly articulated in Factor 2 and slightly supported in the other factors. The participants believed that epileptics should not be discriminated against and they should be treated like any other persons with any type of disability.

Despite their acceptance by the participants in Factor 2, it is not clear whether epileptics themselves feel socially discriminated against. The participants might have emphasised non-discriminatory relationships with epileptics, yet it is not clear how epileptics feel about themselves and other people. Some studies found that epileptics are satisfied with how they are treated by community members (Andermann & Andermann, 1992). For

example, a study was conducted on epileptic students in a Canadian university. The results concurred with the views expressed in Factor 2. The results reported that students had equal opportunities at school, at work, and also had family and social support (Andermann & Andermann, 1992). The participants loading on Factor 2 seem not to harbour any negative attitudes towards epileptics. This finding is not universal. For example, the findings in Factor 2 and those from the previously mentioned Canadian study (Andermann & Andermann, 1992) contradicted the results found in England (Ismail et al. 2005). In that study, samples drawn from communities in England considered epileptics to be disabled, and therefore in some way being of a lesser value than ordinary people. Similar contradictory views were identified in Tanzania (Jilek-Aall et al. 1997), Turkey (Demirci, Dönmez, Gündoğar, & Baydar, 2007) and Korea (Lee, Yoo & Lee, 2005), suggesting that epileptics are often characterised by rejection, discrimination and even ostracism.

The traditional belief about epilepsy was clearly expressed in Factor 3. Here the participants preferred the cultural and traditional belief of epilepsy. Similar traditional views about epilepsy were identified in a sample of South Asians (Ismail et al. 2005). The participants in Factor 3 not only supported the traditional beliefs of epilepsy, but also supported the religious and medical perceptions about epilepsy. It is not surprising in the South African context for traditional healers to agree with both religious and medical beliefs. This is a result of the emphasis on holistic approaches to health and the collaborations that are fostered in that regard. Traditional healers have been granted the opportunity to work together with medical professionals, including psychiatrists and psychotherapies, to treat illnesses according to the patients' beliefs. Most of the traditional healers stated that it is God who gave their gods the powers to help them (traditional healers) cure illnesses using concoction of herbs. They also believe that it is God who grew herbs for healing purposes.

In the literature (under the heading "African perceptions of epilepsy") the causes of epilepsy, for example that epilepsy is caused by spirit possession, were attributed to spirit possession or thought to be caused by the devil (Govender, 2005; Heaney & Sander,

2007). However, in Factor 3 the causes of epilepsy were not linked to spirit possession. The participants focused on the possible methods which they thought could cure the illness. The treatment methods included medication and/or treatment involving traditional healers.

The religious perception of epilepsy was articulated in Factor 4. According to the religious beliefs in this factor, the power of God is able to heal the illness. Almost similar results were reported in a sample from Norway (Hansen & Brodtkor, 2003). It is common that religious people might relate or link the occurrence of epilepsy with the divine, demonic and supernatural. It was also emphasised in Factor 4 that devils were responsible for causing epilepsy, and that the breaking of taboos and societal norms also caused the disease. The participants in Factor 4 were more likely to deny the traditional treatment, but endorsed the medical treatment of epilepsy.

7.1 CONCLUSION

In conclusion, using Q-methodology in this study brought to light an understanding of the distinct and the shared viewpoints about epilepsy that were present amongst the participants. The participants were able to group themselves according to the categories selected for this study.

Several previous studies about epilepsy have used a wide range of traditional survey techniques such as group and individual interviews and questionnaires. Furthermore, they have focused mainly on studying epilepsy in a particular group of individuals who had the same experience of the illness such as mothers who have epileptic children (Govender, 2005), or students with epilepsy (Andermann & Andermann, 1992). These epilepsy studies failed to bring into light the different viewpoints about epilepsy. The viewpoints were possible to reveal in this study because the method used involved factor analysis. Furthermore, when using traditional survey techniques (especially questionnaires) the researcher developed a scale which was be used to measure the study

sample. In some instances, a questionnaire might have questions or statements that have ambiguous meanings to the participants and not valid. When using Q-methodology, the participants' views and opinions are used in the construction of statements that they will eventually be sorting. This procedure increased the chances that almost all views about epilepsy were incorporated in the statements sorted.

It was not clear in the previous studies whether epilepsy had different viewpoints or was viewed as a single entity. Epilepsy was studied on collective perceptions across cultures, educational backgrounds or preference of treatment rather than the individual percept. In this study, individuals grouped themselves to form viewpoints which were different according to the participants' personal knowledge of the illness. Other studies about epilepsy ended up not making it clear whether the results found consisted of viewpoints or a single viewpoint. For example, a cross-cultural analysis regarding the treatments and perceptions of epilepsy in Kashmir and the United States was conducted (Khan, Huerter, Sheikh, & Thiele, 2004). The results from the interviews which were conducted with epileptics revealed that both samples were found to be fairly similar with regard to the attitudes and practices relating to epilepsy and its treatment. From these reported results, it was not clear between the two cultures which group had particular attitudes and the type of treatment practices they preferred. If Q-methodology was used, the patients would group themselves, that is, on the type of treatment method they preferred.

The results of this study will not be used to generalise the views of people about epilepsy. Further studies about epilepsy must be conducted using Q-methodology to further understand peoples' perceptions of the illness across cultures. It is believed that this study will stimulate other researchers to explore Q-methodology as another methodological tool for exploring the subjectivities in the field of psychology and other social science disciplines.

7.2 RECOMENDATION

The study seemed to refine the understanding of existing discourses of epilepsy. Through the use of Q-methodology, different viewpoints had arisen from the participants. A factor analysis of these separate viewpoints helped to identify alternative perspectives, and therefore, highlighted whatever differences existed in the perceptions that the diversity of people had concerning epilepsy. Not only the distinctions were refined through the use of Q-methodology, but similarities among various verbal and written expressions which existed through sorting the statements, were highlighted to further understand where agreement existed amongst the participants. Lack of information about epilepsy was the common challenge that existed amongst participants. The written expressions shared a light on the need for education programmes within the community members. However, the viewpoints raised awareness that individuals were able to form their own meaning of an object. Therefore, there was an understanding that people do not perceive the same object in the same manner.

It was not only participants of this study who showed a lack of information about epilepsy. Other community members, in other countries, indicated that they still lacked information about epilepsy. For example, a sample of parents with epileptic children in African-American communities demanded more knowledge about epilepsy (Nei Wu, Lieber, Siddarth, Smith, Sankard, & Caplan, 2008), and in Turkey there was a need to implement public education campaigns about epilepsy (Demirci et al. 2007). Similar views were obtained from Brazilian psychiatrists who demanded urgent need for improvement in education on epilepsy (Marchetti, Werneck de Castro, Daltio, Cremonese, Ramos, & Neto, 2004).

Educating the public about epilepsy might influence positive outcome on the management and treatment of the illness. It will become easier for people to know how to take care of themselves and others. According to the reported literature, it has become more apparent that people with epilepsy in communities are socially discriminated against because of widespread lack of knowledge, negative public attitudes, and

misconceptions about the disease (Al-Rashed et al., 2009). Prejudice, discrimination and even ostracism will be minimized amongst the public due to the fact that people will be aware of what the illness is. Educational programs can be beneficial in reducing the stigma and negative attitudes of epilepsy as well as other chronic diseases. It will therefore be important if the communities are educated about epilepsy. More studies should be conducted and concentrate much on how epileptics themselves view epilepsy, what is happening when they experience seizures or either how would they like the experience to be. The studies will also be useful in revealing whether epileptics are knowledgeable about their illness.

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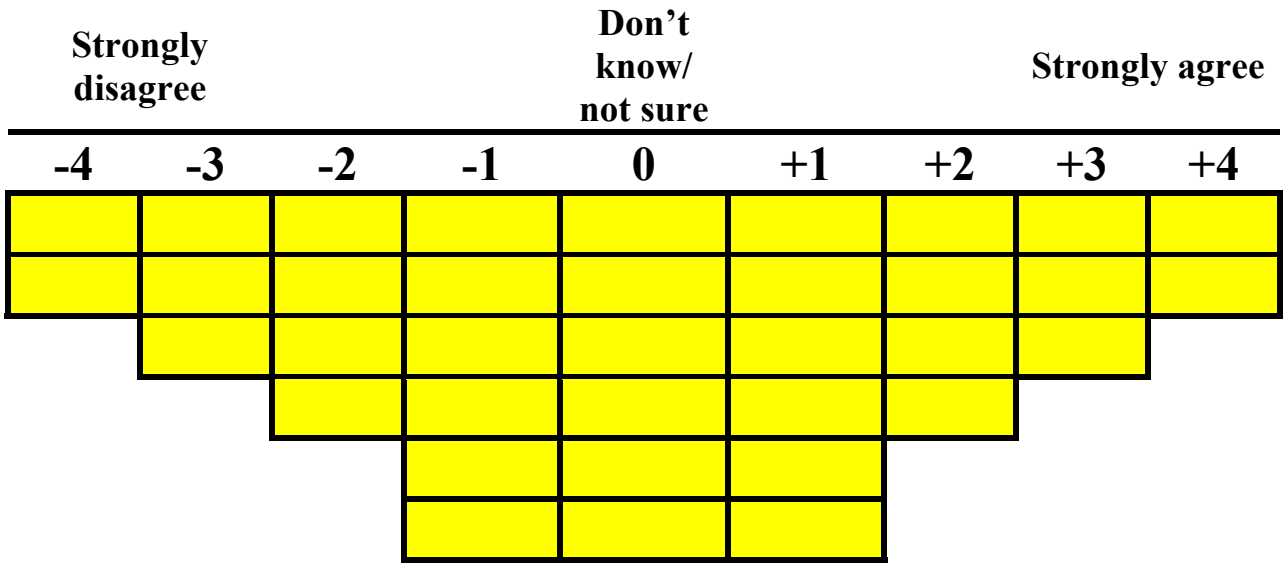
APPENDIX 1: Q-SORT DIAGRAM



APPENDIX 2: Q-SORT INSTRUCTIONS

NB: This is just an example of how the instructions will look like.
For the purpose of the present presentation, the number of statements is estimated.

You are required to arrange a set of statements according to the following three steps on a Q sort diagram (example on appendix 1).

Step I: Note that the materials of the exercise consist of the following items:

1. A deck of 36 cards
2. Labels of a scale ranging from -4 to +4, and
3. A recording sheet

Each of the 36 cards has a statement written on it. The statements describe various opinions of epilepsy. The cards are presented to you in random order. (The numbers at the back are for recording purposes only.) Please read all the statements and familiarize yourself with their overall content. Whilst you are reading the statements, divide them into three groups, namely

1. Statements which you strongly agree with
2. Statements which you strongly disagree with
3. Statements which you are unsure about, or don't know

Step II: The scale ranges from -4 to +4. Arrange the labels of the scale as indicated below.

-4	-3	-2	-1	0	+1	+2	+3	+4
(3)	(4)	(5)	(5)	(6)	(5)	(5)	(4)	(3)

The numbers in brackets represent the number of cards you are required to select for that level. For instance, under -4 you are required to select (3) statements; under 0 you must place (6) statements; and under +3 there should be (4) statements, and so on. Important to remember is that -4 represents statements you most disagree with and 4 are the statements you most agree with.

Step III: To complete the card arrangement you will use all the 36 cards.

Please follow these instructions;

1. Spread out the statements which you strongly agree with in front of you, and once again read them through.
2. Amongst the statements chosen at (1) select 3 most strongly agree statements, those you regard as most opinion of epilepsy and place them one on top of the other under the +4 label.
3. Spread out the statements which you strongly disagree with in front of you, and once again read them through.
4. Amongst the statements chosen at (3) select 3 most strongly disagree statements, those you regard as most disagree opinions of epilepsy, and place them one on top of the other under the -4 label.
5. Please proceed to the next level of the scale, which is level 3. Amongst the most agree statements choose 4 of those you regard as next strongly agree opinions of epilepsy, and place them under the +3 label.
6. Thereafter, among the most disagree statements choose 4 of those you regard as next most strongly disagree statements of epilepsy, and place them one on top of the other under the -3 label.

Please note that the procedure is followed until all the labels have cards placed on them. At that point you are required to spread out the cards (as shown on the top half of the score sheet), preserving the arrangement you have made.

You are allowed to change or rearrange the cards. However, the number of cards required for a label must still be retained. This means that if you decide to remove a card from a label, another card must replace it. When you have satisfied yourself that the arrangement is exactly as you would like to have it, record your arrangement in the recording sheet.
At the back of every card is a number to be used for recording purposes.

Name of Participant _____ **Date: 2007** _____

Current Occupation(s):_____ **Sex**_____

Age range: e.g., between 15 & 19; 19 & 25, 25 & 30; 30 & 35; 35 & 40; 40 & above ___

Ethnic group_____

Residential area_____

Once I have completed analyzing all the arrangements, are you available and willing to have a brief, clarification interview on the outcome of your sorting? Yes/No

If "yes" to the question above, please provide the following details:

Personal Telephone number: _____

Alternative contact number: _____

Times available: _____

Participant comments:

_____

_____

_____

_____

APPENDIX 3: INFORMED CONSENT TO PARTICIPATE

I am the researcher from the University of Limpopo (Turfloop Campus) in the Department of Psychology. I am conducting a research on the opinions of epilepsy. The purpose of this study is to examine the perceptions of epilepsy amongst different groups of people in the university and its surrounding communities, and to explore and differentiate between groups of people regarding their individual construction of what epilepsy is.

Activities of the project

- I' m going to ask for about 30-60 minutes of your time to conduct this study
- I'm going to ask for biographical information, for example, age, ethnic group, level of education and occupation.

Ethical consideration to inform your consent

- You are under no obligation to participate in the study. If you feel that you don't want to be part of the study you are free to withdraw.
- Your biographical information will be kept confidential at all times.
- The information we get from you will not be used to inform others about your opinions of epilepsy.
- You have the right to ask questions about the study.
- No monetary compensation is offered to your participation.

I now request you to participate in the study

Participant response:

- I have heard the proposed study and the activities are clear to me;
- I have not been pressurized to participate in the study;
- I understand that participation in this study is completely voluntary;
- I confirm that I will provide my biographical information;
- I understand that this research is been approved by the relevant committees of the University of Limpopo;
- I agree to participate in this project.

_____ _____ _____

Respondent signature **Place** **Date**

Statement by Researcher

I have provided verbal information regarding this research project. I agree to answer any questions from the participant concerning the project. I will adhere to the approved research protocol.

_____ _____ _____

Signature of Researcher **Place** **Date**

_____ _____ _____

Witness **Place** **Date**

APPENDIX 4: FACTOR LOADINGS

Rotated Component Matrix (a)

	Component			
	1	**2**	**3**	**4**
Qs30	.822			
Qs1	.792			
Qs29	.777			
Qs2	.757			
Qs5	.738			
Qs28	.640			
Qs9	.611			
Qs31	.581			
Qs21	.571			
Qs3	.569			
Qs18	.562			
Qs27	.516			
Qs23		.710		
Qs22		.618		
Qs24		.585		
Qs17		.562		
Qs19		.559		
Qs7		.543		
Qs25		.537		
Qs26		.510		
Qs10			.815	
Qs14			.721	
Qs11			.705	
Qs20			.675	
Qs15			.589	
Qs8			.566	
Qs12			.562	
Qs13			.434	
Qs33				.796
Qs32				.769
Qs4				.701
Qs6				.621
Qs16				.349

Qs = Q sort

APPENDIX 5: FACTOR ARRAYS

Factor weight

Q sorts	Factor loadings	Factor weight	1/largest weight	Lw × weight	Rounded
Factor 1					
Qs30	.822	2.54	0.39	0.99	10
Qs1	.792	2.13		0.83	8
Qs29	.777	1.96		0.76	8
Qs2	.757	1.77		0.69	7
Qs5	.738	1.62		0.63	6
Qs28	.640	1.08		0.42	4
Qs9	.611	0.97		0.38	4
Qs31	.581	0.88		0.34	3
Qs21	.571	0.85		0.33	3
Qs3	.569	0.84		0.33	3
Qs18	.562	0.82		0.32	3
Qs27	.516	0.70		0.27	3
Factor 2					
Qs23	.710	1.43	0.70	1.00	10
Qs22	.618	1.00		0.7	7
Qs24	.585	0.89		0.62	6
Qs17	.562	0.82		0.57	6
Qs19	.559	0.81		0.57	6
Qs7	.543	0.77		0.54	5
Qs25	.537	0.75		0.53	5
Qs26	.510	0.69		0.48	4
Factor 3					
Qs10	.815	2.43	0.41	1.00	10
Qs14	.721	1.50		0.62	6
Qs11	.705	1.40		0.57	6
Qs20	.675	1.24		0.51	5
Qs15	.589	0.90		0.37	4
Qs8	.566	0.83		0.34	3
Qs12	.562	0.82		0.34	3
Qs13	.434	0.53		0.22	2
Factor 4					
Qs33	.796	2.17	0.46	1.00	10
Qs32	.769	1.88		0.86	9
Qs4	.701	1.38		0.63	6
Qs6	.621	1.01		0.46	5
Qs16	.349	0.40		0.18	2

Qs = Q sort
Lw = largest weight
1/ largest weight = 1 divide by largest weight

Factor 1 Array

Items	Q sort: 30 Weight: 10		Q sort: 1 Weight: 8		Q sort: 29 Weight: 8		Q sort: 2 Weight:7		Q sort: 5 Weight: 6		Q sort: 28 Weight: 4		Q sort: 9 Weight: 4		Q sort: 31 Weight: 3	
	Raw data × weight															
1	7	70	8	64	6	48	7	49	8	48	7	28	6	24	4	12
2	8	80	7	56	8	64	9	63	7	42	6	24	8	32	9	27
3	9	90	7	56	9	72	7	49	7	42	9	36	6	24	5	15
4	8	80	9	72	9	72	9	63	9	54	9	36	9	36	9	27
5	6	60	4	32	4	32	4	28	3	18	6	24	5	30	5	15
6	5	50	4	32	4	32	3	21	5	30	7	28	2	8	5	15
7	3	30	5	40	4	32	3	21	5	30	5	20	3	12	7	21
8	2	20	6	48	4	32	5	35	5	30	4	16	4	16	2	6
9	9	90	8	64	8	64	7	49	9	54	8	32	7	28	8	24
10	3	30	6	48	3	24	6	42	4	24	6	24	1	4	1	3
11	4	40	1	8	3	24	4	28	4	24	6	24	4	16	3	9
12	6	60	3	24	5	40	6	42	4	24	3	12	4	16	4	12
13	6	60	7	56	7	56	8	56	6	36	8	32	8	32	7	21
14	3	30	4	32	3	24	1	7	4	24	6	24	3	12	4	12
15	5	50	6	48	3	24	5	35	2	12	4	16	4	16	6	18
16	4	40	4	32	4	32	6	42	7	42	4	16	6	24	8	24
17	6	60	8	64	6	48	6	42	6	36	4	16	8	32	8	24
18	4	40	6	48	5	40	2	14	2	12	5	20	2	8	4	12
19	7	70	5	40	8	64	8	56	7	42	8	32	7	28	6	18
20	7	70	5	40	7	56	7	49	6	36	3	12	6	24	6	18
21	4	40	5	40	6	48	5	35	5	30	1	4	6	24	6	18
22	7	70	9	72	7	56	8	56	6	36	7	28	9	36	7	21
23	3	30	5	40	5	40	5	35	4	24	5	20	2	8	4	12
24	4	40	3	24	2	16	5	35	4	24	1	4	4	16	4	12
25	8	80	7	56	7	56	6	42	8	48	2	8	7	28	5	15
26	5	50	5	40	5	40	2	14	6	36	5	20	6	24	7	21
27	2	20	2	16	1	8	3	21	2	12	2	8	1	4	1	3
28	1	10	4	32	2	16	3	21	1	6	4	16	3	12	2	6
29	5	50	4	32	1	8	2	14	3	18	5	20	5	30	5	15
30	6	60	6	48	6	48	6	42	8	48	5	20	5	30	6	18
31	1	10	1	8	5	40	4	28	5	30	3	12	4	16	2	6
32	5	50	2	16	4	32	4	28	1	6	7	28	3	12	3	9
33	6	60	6	48	6	48	5	35	6	36	7	28	7	28	6	18
34	5	50	3	24	5	40	4	28	3	18	2	8	5	30	5	15
35	2	20	3	24	2	16	4	28	5	30	3	12	5	30	3	9
36	4	40	2	16	6	48	1	7	3	18	4	16	5	30	3	9

Factor 1 Array (continued)

Items	Q sort: 21 Weight: 3		Q sort: 3 Weight: 3		Q sort: 18 Weight: 3		Q sort:27 Weight:3		Total x	∑x²	Factor Scores Z	Rounded
1	8	24	9	27	8	24	6	18	436	190096	1.19	+2
2	7	21	4	12	7	21	8	24	466	217156	1.48	+3
3	6	18	7	21	6	18	6	18	459	210681	1.41	+3
4	8	24	9	27	7	21	9	27	539	290521	2.18	+4
5	5	15	5	15	5	15	4	12	296	87616	-0.15	0
6	3	9	4	12	3	9	4	12	258	66564	-0.51	-1
7	2	6	6	18	5	15	5	15	260	67600	-0.49	0
8	6	12	5	15	2	6	4	12	248	61504	-0.61	-1
9	9	27	8	24	8	24	7	21	501	251001	1.82	+4
10	1	3	2	6	3	9	4	12	229	52441	-0.79	-2
11	5	15	2	6	4	12	3	9	215	46225	-0.92	-3
12	6	18	5	15	6	18	5	15	296	87616	-0.15	0
13	7	21	7	21	6	18	5	15	424	179776	1.08	+2
14	5	15	6	18	3	9	5	15	222	49284	-0.86	-2
15	3	9	1	3	6	18	4	12	261	68121	-0.48	0
16	5	15	3	9	8	24	8	24	324	104976	0.12	+1
17	4	12	3	9	4	12	6	18	373	139129	0.59	+1
18	4	12	6	18	6	18	3	9	251	63001	-0.58	-1
19	8	24	8	24	7	21	7	21	440	193600	1.23	+2
20	5	15	7	21	4	12	8	24	377	142129	0.63	+1
21	6	18	5	15	5	15	7	21	308	94864	-0.03	0
22	9	27	8	24	9	27	9	27	480	230400	1.61	+3
23	2	6	1	3	4	12	5	15	245	60025	-0.64	-1
24	4	12	3	9	2	6	5	15	213	45369	-0.94	-3
25	7	21	7	21	7	21	2	6	402	161604	0.88	+2
26	6	18	6	18	5	15	6	18	314	98596	0.02	+1
27	4	12	4	12	3	6	1	3	125	15625	-1.79	-4
28	3	6	4	12	4	12	2	6	155	24025	-1.50	-4
29	6	18	6	18	5	15	6	18	256	65536	-0.53	-1
30	4	12	5	15	1	3	4	12	356	126736	0.43	+1
31	4	12	2	6	5	15	3	9	192	36864	-1.14	-3
32	1	3	5	15	2	6	1	3	208	43264	-0.1	0
33	7	21	6	18	9	27	7	21	388	150544	0.73	+1
34	5	15	3	9	4	12	2	6	255	65025	-0.54	-1
35	3	9	4	12	6	18	3	9	217	47089	-0.90	-2
36	2	6	4	12	1	3	6	18	223	49729	-0.85	-2

∑x =11212 **∑x²** =3884332
Mean = 311.4
Standard deviation = 104.41

Factor 2 Array

Items	Q sort: 23 Weight:10		Q sort: 22 Weight: 7		Q sort: 24 Weight: 6		Q sort: 17 Weight: 6		Q sort: 19 Weight: 6		Q sort: 7 Weight: 5		Q sort:25 Weight: 5		Q sort: 26 Weight: 4	
	Raw data × weight															
1	8	80	6	42	7	42	7	42	8	48	6	30	4	20	4	16
2	7	70	9	63	8	48	8	48	8	48	6	30	6	30	9	36
3	3	30	7	49	2	12	5	30	5	30	5	25	4	20	2	8
4	6	60	8	56	9	54	8	48	7	42	5	25	7	35	2	8
5	8	80	6	42	9	54	6	36	4	24	5	25	5	25	8	32
6	8	80	4	28	7	42	4	24	4	24	4	20	4	20	4	16
7	3	30	4	28	8	48	5	30	5	30	5	25	5	25	2	8
8	6	60	3	21	4	24	4	24	3	18	3	15	9	45	4	16
9	7	70	8	56	6	36	5	30	9	54	9	45	7	35	7	28
10	2	20	2	14	2	12	2	12	3	18	3	15	2	10	3	12
11	4	40	2	14	5	30	4	24	2	12	4	20	3	15	3	12
12	4	40	2	14	4	24	5	30	3	18	5	25	5	25	6	24
13	6	60	7	49	7	42	7	42	6	36	9	45	6	30	5	20
14	2	20	1	7	6	36	3	18	6	36	4	20	1	5	6	24
15	5	50	4	28	3	18	7	42	4	24	6	30	2	10	3	12
16	7	70	8	56	6	36	6	36	7	42	7	35	7	35	9	36
17	5	50	9	63	4	24	4	24	9	54	7	35	7	35	5	20
18	2	20	3	21	3	18	2	12	2	12	3	15	6	30	7	28
19	4	40	6	42	7	42	6	36	7	42	6	30	6	30	7	28
20	6	60	7	49	6	36	7	42	6	36	7	35	8	40	6	24
21	3	30	4	28	5	30	6	36	6	36	7	35	6	30	5	20
22	6	60	6	42	7	42	9	54	8	48	8	40	6	30	8	32
23	1	10	4	28	1	6	1	6	1	6	2	10	2	10	1	4
24	4	40	5	35	4	24	3	18	5	30	8	40	4	20	1	4
25	3	30	5	35	3	18	8	48	6	36	6	30	3	15	6	24
26	7	70	7	49	3	18	6	36	6	36	4	20	8	40	8	32
27	1	10	1	7	1	6	1	6	5	30	2	10	5	25	4	16
28	5	50	4	28	2	12	3	18	1	6	2	10	4	20	4	16
29	6	60	5	35	4	24	5	30	4	24	4	20	8	40	6	24
30	4	40	5	35	5	30	9	54	4	24	3	15	4	20	7	28
31	9	90	6	42	5	30	6	36	3	18	1	5	9	45	5	20
32	5	50	3	21	4	24	2	12	2	12	1	5	1	5	5	20
33	8	80	6	42	6	36	3	18	7	42	8	40	4	20	6	24
34	5	50	3	21	8	48	4	24	5	30	5	45	3	15	4	16
35	5	50	5	35	5	30	3	18	5	30	4	20	5	25	5	20
36	9	90	5	35	5	30	4	24	4	42	6	30	5	25	3	12

Factor 2 Array (continued)

Items	Total x	$\sum x^2$	Factor Scores	
			Z	Rounded
1	320	102400	0.96	+2
2	373	139129	1.65	+4
3	204	41616	-0.57	-2
4	328	107584	1.06	+3
5	318	101124	0.93	+2
6	254	64516	0.09	0
7	224	50176	-0.30	-1
8	223	49729	-0.32	-1
9	354	125316	1.40	+4
10	113	12769	-1.72	-3
11	167	27889	-1.05	-2
12	200	40000	0.62	+1
13	324	104976	1.01	+2
14	166	27556	-1.07	-2
15	214	45796	-0.44	-1
16	346	126736	1.30	+3
17	305	93025	0.76	+1
18	156	24336	-1.15	-3
19	290	84100	0.56	+1
20	322	103684	0.98	+2
21	245	60025	-0.03	0
22	348	121104	1.33	+3
23	80	6400	-2.20	-4
24	211	44521	-0.47	-1
25	236	55696	-0.15	-1
26	301	90601	0.71	+1
27	110	12100	-1.80	-4
28	160	25600	-1.14	-2
29	257	66049	0.13	0
30	246	60516	-0.01	0
31	286	81796	0.51	0
32	149	22201	-1.29	-3
33	302	91204	0.72	+1
34	249	62001	0.02	0
35	228	51984	-0.25	-1
36	288	82944	0.54	+1

$\sum$**x** =8897 $\sum$**x²** = 2407199
Mean = 247.1
Standard deviation = 76.09

Factor 3 Array

Items	Q sort: 10 Weight:10		Q sort: 14 Weight: 6		Q sort: 11 Weight: 6		Q sort: 20 Weight: 5		Q sort: 15 Weight: 4		Q sort: 8 Weight: 3		Q sort:12 Weight: 3		Q sort: 13 Weight: 2	
	Raw data × weight															
1	1	10	4	24	4	24	3	15	2	8	2	9	5	15	4	8
2	7	70	8	32	7	42	8	40	6	24	7	21	8	24	5	10
3	6	60	5	30	6	36	6	30	3	12	4	12	6	18	7	14
4	7	70	9	54	7	42	6	30	4	16	9	27	7	21	6	12
5	2	20	6	36	2	12	3	15	7	28	1	3	6	18	4	8
6	6	60	4	24	1	6	3	15	6	24	1	3	5	15	8	16
7	4	40	4	24	3	18	1	5	5	20	6	18	5	15	5	10
8	3	30	5	30	2	12	4	20	7	28	5	15	6	18	3	6
9	7	70	8	32	7	42	8	40	6	24	8	24	6	18	9	18
10	3	30	4	24	3	18	2	10	5	20	4	12	5	15	3	6
11	5	50	4	24	3	18	5	25	5	20	5	15	3	9	1	2
12	5	50	7	42	6	36	3	15	5	20	5	15	5	15	6	12
13	6	60	7	42	4	24	8	40	4	16	6	18	7	21	6	12
14	9	90	4	24	3	18	6	30	8	32	8	24	4	12	3	6
15	2	20	3	18	2	12	4	20	1	4	3	9	1	3	2	4
16	5	50	3	18	1	6	7	35	3	12	6	18	7	21	7	14
17	6	60	3	18	6	36	4	20	4	16	3	9	3	9	6	12
18	2	20	3	18	5	30	5	25	4	16	2	6	1	3	2	4
19	5	50	6	36	7	42	7	35	4	16	5	15	6	12	6	12
20	8	80	7	42	8	32	7	35	3	12	7	21	2	6	7	14
21	6	60	2	12	6	36	4	20	4	16	5	15	5	15	2	4
22	7	70	8	32	9	54	6	30	6	24	8	24	8	24	7	14
23	1	10	5	30	4	24	4	20	2	8	3	9	6	18	3	6
24	5	50	6	36	5	30	5	25	9	36	5	15	4	12	5	10
25	3	30	2	12	5	30	2	10	2	8	9	27	8	24	6	12
26	8	80	7	42	9	54	9	45	6	24	7	21	9	27	8	16
27	4	40	2	12	4	24	1	5	9	36	2	6	3	9	5	10
28	4	40	1	6	5	30	5	25	7	28	4	12	2	6	1	2
29	6	60	6	36	8	32	6	30	8	32	6	18	9	27	8	16
30	5	50	6	36	6	36	2	10	7	28	4	12	4	12	4	8
31	9	90	6	36	8	32	7	35	8	32	4	12	5	15	9	18
32	4	40	5	30	5	30	6	30	5	20	3	9	4	12	4	8
33	8	80	9	54	6	36	9	45	6	24	7	21	7	21	5	10
34	3	30	1	6	4	24	4	20	1	4	4	12	2	6	4	8
35	4	40	5	30	4	24	5	25	5	20	6	18	4	12	4	8
36	4	40	5	30	5	30	5	25	3	12	6	18	4	12	5	10

Factor 3 Array (continued)

Items	Total x	$\sum x^2$	Factor Scores	
			Z	Rounded
1	113	12769	-1.41	-3
2	263	69169	1.25	+2
3	212	44944	0.35	+1
4	272	73984	1.41	+3
5	140	19600	-0.93	-2
6	163	26569	-0.52	-1
7	150	22500	-0.75	-1
8	159	25281	-0.59	-1
9	268	71824	1.34	+2
10	135	18225	-1.02	-2
11	163	26569	-0.52	-1
12	205	42025	0.22	+1
13	233	54289	0.72	+1
14	236	55696	0.77	+1
15	90	8100	-1.81	-4
16	174	30276	-0.33	-1
17	180	32400	-0.22	0
18	122	14884	-1.25	-3
19	218	47524	0.45	+1
20	242	58564	0.88	+2
21	178	31684	-0.26	0
22	272	73984	1.41	+3
23	125	15625	-1.19	-3
24	214	45796	0.38	+1
25	153	23409	-0.70	-1
26	309	95481	2.06	+4
27	142	20164	-0.89	-2
28	149	22201	-0.77	-2
29	251	63001	1.04	+2
30	192	36864	-0.01	0
31	270	72900	1.37	+3
32	179	32041	-0.24	0
33	291	84681	1.74	+4
34	110	12100	-1.46	-4
35	177	31329	-0.27	0
36	177	31329	-0.27	0

$\sum$**x** = 6927 $\sum$**x²** = 1447781
Mean = 192.42
Standard deviation = 56.50

Factor 4 Array

Items	Q sort: 33 Weight:10		Q sort: 32 Weight: 9		Q sort: 4 Weight: 6		Q sort:6 Weight:5		Q sort: 16 Weight: 2		Total x	∑x²	Factor Scores Z	Rounded
1	8	80	6	54	3	18	7	35	6	12	199	39601	0.74	+2
2	6	60	7	63	7	42	5	25	4	8	198	39204	0.72	+1
3	6	60	7	63	4	24	7	35	6	12	194	37636	0.64	+1
4	7	70	6	54	6	36	7	35	8	16	211	44521	0.96	+2
5	5	50	5	45	5	30	6	30	5	10	165	27225	0.09	0
6	5	50	4	36	8	48	6	30	6	12	176	30976	0.30	0
7	5	50	5	45	2	12	4	20	3	6	133	17689	-0.52	-1
8	4	40	3	27	5	30	5	25	4	8	130	16900	-0.58	-2
9	7	70	6	54	8	48	9	45	7	14	231	53361	1.34	+3
10	2	20	5	45	6	36	2	10	4	8	119	14161	-0.78	-2
11	1	10	5	45	2	12	4	20	5	10	97	9409	-0.20	0
12	6	60	4	36	6	36	4	20	5	10	162	26244	0.03	0
13	7	70	6	54	7	42	3	15	3	6	187	34969	0.50	+1
14	5	50	2	18	6	36	6	30	3	6	140	19600	-0.39	-1
15	2	20	2	18	4	24	5	25	5	10	97	9409	-1.20	-3
16	2	20	3	27	5	30	3	15	6	12	104	10816	-0.07	0
17	7	70	4	46	6	36	4	20	7	14	186	34596	0.49	+1
18	5	50	5	45	3	18	6	30	2	4	147	21609	-0.25	-1
19	9	90	7	63	7	42	6	30	7	14	239	57121	1.49	+3
20	9	90	7	63	6	36	8	40	8	16	245	60025	1.61	+4
21	8	80	6	54	5	30	7	35	7	14	213	45369	1.00	+2
22	8	80	6	54	8	48	8	40	6	12	234	54756	1.40	+3
23	3	30	1	9	1	6	4	20	4	8	73	5329	-1.66	-3
24	4	40	5	45	4	24	2	10	5	10	129	16641	-0.59	-2
25	4	40	3	27	3	18	6	30	1	2	117	13689	-0.82	-2
26	4	40	8	72	4	24	5	25	8	16	177	31329	0.32	0
27	6	60	9	81	4	24	3	15	4	8	188	35344	0.53	+1
28	6	60	8	72	9	54	3	15	2	4	205	42025	0.88	+2
29	3	30	1	9	4	24	1	5	1	2	70	4900	-1.71	-4
30	4	40	4	36	5	30	4	20	8	16	142	20164	-0.35	-1
31	3	30	2	18	2	12	2	10	5	10	80	6400	-1.52	-3
32	1	10	3	27	1	6	1	5	4	8	56	3136	-1.98	-4
33	6	60	9	81	9	54	9	45	8	16	256	65536	1.82	+4
34	3	30	4	36	3	18	8	40	6	12	136	18496	-0.46	-1
35	4	40	4	36	7	42	5	25	2	4	147	21609	-0.25	-1
36	5	50	8	72	5	30	6	30	3	6	188	35344	0.53	+1

∑x = 5771 **∑x²** =1025139
Mean = 160.31
Standard deviation = 52.71

Factors rounded

Items	Factor 1	Factor 2	Factor 3	Factor 4
1	+2	+2	-3	+2
2	+3	+4	+2	+1
3	+3	-2	+1	+1
4	+4	+3	+3	+2
5	0	+2	-2	0
6	-1	0	-1	0
7	0	-1	-1	-1
8	-1	-1	-1	-2
9	+4	+4	+2	+3
10	-2	-3	-2	-2
11	-3	-2	-1	0
12	0	+1	+1	0
13	+2	+2	+1	+1
14	-2	-2	+1	-1
15	0	-1	-4	-3
16	+1	+3	-1	0
17	+1	+1	0	+1
18	-1	-3	-3	-1
19	+2	+1	+1	+3
20	+1	+2	+2	+4
21	0	0	0	+2
22	+3	+3	+3	+3
23	-1	-4	-3	-3
24	-3	-1	+1	-2
25	+2	-1	-1	-2
26	+1	+1	+4	0
27	-4	-4	-2	+1
28	-4	-2	-2	+2
29	-1	0	+2	-4
30	+1	0	0	-1
31	-3	0	+3	-3
32	0	-3	0	-4
33	+1	+1	+4	+4
34	-1	0	-4	-1
35	-2	-1	0	-1
36	-2	+1	0	+1

APPENDIX 6: RAW STATEMENTS

1. I think epilepsy is a disease that is spread through generation to generation.
2. If my mother of father has epilepsy, it is likely that I might have it.
3. The signs of epilepsy are seen through action when a person is running around with foam in the mouth.
4. I think epilepsy is a falling sickness.
5. Epilepsy can be inherited from both parents.
6. People are not bewitched and get epilepsy.
7. I think it is important for epileptics to take care of themselves.
8. Epileptics need help.
9. There is a possibility that an epileptic could die if he/she bite the tongue.
10. I think epilepsy is something that you can inherit from both parents.
11. I don't think epilepsy is a result of witchcraft.
12. What I know about epilepsy is that it is a hereditary illness.
13. Epilepsy does not attack a person depending on age.
14. If anyone in the family or ancestor had suffered epilepsy, it likely that another person in that family will have epilepsy.
15. Epilepsy is the illness that attacks many people.
16. Some epileptics do not want to show themselves in public places.
17. I met someone and the person suddenly fell in front of me and I did not know what to do.
18. I'm scared of epileptics because they produce foam in their mouth.
19. If I meet an epileptic having the attacks, I can help him/her.
20. I think epileptics have respiratory problems.
21. I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.
22. I don't think I can discriminate epileptics.
23. I was surprised to see an epileptic for the first time.
24. For the first time when I saw an epileptic falling, I thought she has done abortion because she was touching her tummy.

25. When saw the actions of an epileptic, I was scared and thought of many things such as the person has done abortion.
26. When I saw an epileptic for the first time I thought that the person has demons.
27. According to Bapedi ethnic group, epileptics are viewed as having ancestral spirits.
28. I think people with epilepsy have sugar diabetics.
29. Epilepsy is a natural disease and it is there.
30. I grew up knowing that there is epilepsy.
31. When I grew up I was told that epilepsy is a mountainous disease.
32. When I grew up I was told that children are not allowed to play with pests. (cats and dogs) because they will develop epilepsy later in life.
33. Epilepsy is curable with African treatment methods.
34. Epilepsy is a falling sickness whereby a person usually falls in public places.
35. Epilepsy is an illness that can attack every body at any time.
36. I think changes of weather conditions can cause epilepsy attacks.
37. I think too much cold or hot can cause a person to faint.
38. The size of one's body can cause epileptic attacks.
39. How healthy a person is can determine the chances of being an epileptic.
40. The type of food that we eat can sometimes have an impact on the body of a person.
41. My perception is actually that epilepsy is a condition which is caused by many factors.
42. Other causes of epilepsy could be tumors, injuries and infections of the brain.
43. In a large number of epileptics, the cause is unknown.
44. Epilepsy is a genetical disease.
45. Epileptics are usually not understood by the community.
46. Probably, the impact could be in the community.
47. Epileptics are likely to have emotional anxiety.
48. Epileptics tend to have a problem of not socializing with other people.
49. Most people tend to ignore epileptics because are afraid that they will die in their hands.
50. Epilepsy is very traumatic to both the patient and the people who take care of them.
51. Epilepsy is a condition that can affect anybody at any time.
52. A person with epilepsy needs to be taken care of.
53. It is helpful for epileptics to get treatment at early stage.

54. It is important that epileptics must not default or forget their treatment medication.
55. People must be aware that epileptics can be engaged in any activity i.e. sports.
56. Epileptics must also be active at school.
57. It is advisable that people with epilepsy must take care of themselves.
58. Adult people with epilepsy can work as normal as any person.
59. Epilepsy is a sickness that I think people are born with it.
60. It happens that some people fall down and become unconscious.
61. Sometime epileptic attacks some learners in the school environment.
62. As a teacher, I don't know what to do when a learner has fallen down
63. I don't know what to do to help an epileptic because I'm not trained to help such a person during the attacks.
64. I find it a problem to help an epileptic because some people are blamed to take an epileptic to hospital.
65. Epilepsy is beyond people's control.
66. Epilepsy is not curable.
67. I think epilepsy is an illness that needs to be taken care of.
68. It becomes a problem to help an epileptic because I'm not trained for that.
69. I think it is important for the public to be educated about epilepsy.
70. Before I knew of epilepsy, it was too scary for me to see a person having epileptic attacks
71. I was too scary to see epileptic releasing foam in their mouth.
72. When I saw a person with epileptic attacks I thought the person was dying.
73. When I see someone suffering from epilepsy I become worried.
74. It is not normal for me to see a person suffering from epilepsy.
75. Epilepsy tends to disappear when a person is alone.
76. Usually epileptic attacks occur when a person is with other people and dress up smart.
77. Other people don't know about epilepsy.
78. People tend to say epileptics are mad.
79. People tend to say epileptics are bewitched.
80. Other people can say epileptics have "tokolose".
81. other people just take epilepsy somehow
82. I understand epilepsy as a condition not necessarily based on witchcraft.

83. I understand that epilepsy can caused by trauma or head injury.
84. In babies epilepsy is caused by trauma during birth.
85. Sometimes epilepsy can be caused by prolonged labor.
86. In adults epilepsy is caused by head injury.
87. Most black people understand that epilepsy is a result of witchcraft of which is not.
88. Most people believe that epilepsy can be treated by traditional healers of which I don't believe.
89. Epilepsy can be controlled.
90. A patient must be on treatment on monthly basis to prevent frequent attacks.
91. I think programs must be organized to teach our community about epilepsy.
92. Most epileptics have a problem of defaulting treatment.
93. I view epilepsy as a dangerous disease.
94. Most epileptics bite their tongue during the attack.
95. Most epileptics take too much time lying down.
96. An epileptic body is shaking and the person is likely to kick nearby objects.
97. Epileptics need to be taken care of.
98. Other spiritual healers believe that epilepsy is a demonic disease.
99. As a spiritual healers I believe that during prayer demons are coming out of the person and she/he start to shiver and the person will fall down.
100. Sometimes it happens that a person without epilepsy may develop epileptic attacks during prayer.
101. I believe that epileptics must be given dedication.
102. It is important that epileptics must remain indoors and given 24 hours care.
103. Epileptics must not bite their lounge during the attacks.
104. Epileptics must be thought some skills to keep themselves busy.
105. I did not take epilepsy serious before.
106. I took epilepsy serous when I saw a leaner falling down in a class.
107. I thought that learners who fall down in class were faking to be epileptics.
108. I thought that female leaner's who fall down in class were trying to draw attention of male teachers.
109. My personal interpretation of epilepsy in the past was that it is an adult disease.

110. I think epilepsy affects people with their own personal problems.
111. I assume that epilepsy is associated with witchcraft.
112. I think learners with epilepsy are bewitched their attacks occur towards examinations period.
113. Sometimes suffering from epilepsy has to do with one's personal success and ambitions.
114. It seems as if there is a historical link of epilepsy, especially genetical.
115. I assume that epileptics are bewitched by a particular neighbor or relative.
116. Epilepsy is a type of sickness which goes hand in hand with the brain.
117. I think that the brain has something to do with the falling of the person.
118. I think the brain has something to do with shaking of the person during the attacks.
119. Perhaps the neurons or nerves together with the impulses delivered to the brain have the impact during the attacks.
120. Epilepsy is a horrible disease.
121. if an epileptics comes to me for healing, I ask him/her questions such as whether h/she has ones fallen in fire or water.
122. I believe that if an epileptic has fallen in fire or water before, the illness cannot be cured, but can be controlled.
123. Epilepsy is not a dangerous disease.
124. As a traditional healer I see an epileptic as someone who has the spirit possessions.
125. Medical professionals handle epilepsy in their own way.
126. Epileptics who have not fallen in fire or water before can be cured.
127. There is no identified area with a large number of epileptics.
128. I see epilepsy as one of the illnesses whereby in other places it does not happen time and again.
129. I cannot also say that a particular are has a large of epileptics.
130. I've been told by an epileptic that ones I prayed for her/him, the epileptic attacks have ceased.
131. I would like to encourage epileptics not to drink alcohol.
132. I told an epileptic not to default treatment medication.
133. Some epileptics believe that being prayed for by a pastor, they are touched by the power of God and they are healed.

134. In children epilepsy can be seen as mental retardation.

135. In children epilepsy can be seen as demon possession.

136. When we pray for epileptics we are not performing miracles but we call upon God's power to heal the illness.

137. I've never came across a person in church suffering from epilepsy.

APPENDIX 7: STATEMENTS AND FACTOR SCORES FOR EACH FACTOR

Factor 1

Items	statements	Factor scores
27	Epileptics are persons who have been overpowered by a "tokološe".	**-4**
28	I think epileptic actions are caused by a powerful devil dwelling in the river.	**-4**
31	I believe that if an epileptic has accidentally fallen in fire or water before, the illness cannot be cured.	**-3**
24	Sometimes epilepsy can come as a result of breaking taboos and societal norms.	**-3**
11	I believe that epilepsy is contagious.	**-3**
35	I think that epileptics have contracted this illness by staying in, or passing through' a place or a road hunted by the spirits.	**-2**
14	It is important that epileptics must remain indoors and be given 24 hours care.	**-2**
36	Epileptics must drink blessed water, or bathe, or recite from holy texts for healing.	**-2**
10	I think that epileptics are people who are mad or mentally disturbed.	**-2**
23	I think that people who fall down and collapse are faking epilepsy, seeking to draw attention to themselves.	**-1**
8	When I was growing up as a child, I was always told that epilepsy can be contracted from pets and wild animals.	**-1**
18	I don't think that I can allow my child to marry an epileptic.	**-1**
34	Sometimes it happens that a person who has never suffered from epilepsy may develop epileptic attacks during prayer.	**-1**
29	I believe that epilepsy is curable with African treatment methods.	**-1**
6	Epilepsy only affects people who have lots of personal problems.	**-1**
7	I think that people with epilepsy also have sugar diabetics.	**0**
15	When I first saw the actions and behaviors of an epileptic, I was scared, and thought of many things such as the person having committed an abortion.	**0**
12	In children epilepsy can be seen as mental retardation.	**0**
5	The type of food that we eat can sometimes affect the body of a person, and may cause epilepsy.	**0**
32	I believe that epileptics have worms in their heads.	**0**
21	Epileptics tend to have a problem of not socializing with other people.	**0**
26	Most people believe that epilepsy can be treated by traditional healers.	**+1**
16	It is a problem for me to help an epileptic, because I'm not trained on what to do if such a person falls.	**+1**
30	According to African culture, epileptics are viewed as having spirits visitations.	**+1**
17	Most people tend to avoid epileptics because they are afraid that they (epileptics) will die in their hands.	**+1**
20	Epileptics are usually not understood by the community.	**+1**
33	When we pray for epileptics we are not performing miracles, but we call upon God's power to heal the illness.	**+1**
25	I don't think epilepsy is a result of witchcraft.	**+2**
13	I think it is important for epileptics to take care of themselves.	**+2**
1	If anyone in the family had previously suffered from epilepsy, it is likely that another person in that family will also suffer from the disease.	**+2**
19	Epilepsy is very traumatic to both the patient and the people who take care of them.	**+2**
3	I understand that epilepsy can be caused by injury to the head.	**+3**
2	I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.	**+3**
22	I think programs must be organized to teach our community about epilepsy.	**+3**
9	I would like to encourage epileptics not to drink alcohol.	**+4**
4	It is important that epileptics must not default or forget to take their medication.	**+4**

Factor 2

Items	statements	Factor scores
23	I think that people who fall down and collapse are faking epilepsy, seeking to draw attention to themselves.	**-4**
27	Epileptics are persons who have been overpowered by a "tokološe".	**-4**
10	I think that epileptics are people who are mad or mentally disturbed.	**-3**
32	I believe that epileptics have worms in their heads.	**-3**
18	I don't think that I can allow my child to marry an epileptic.	**-3**
28	I think epileptic actions are caused by a powerful devil dwelling in the river.	**-2**
14	It is important that epileptics must remain indoors and be given 24 hours care.	**-2**
11	I believe that epilepsy is contagious.	**-2**
3	I understand that epilepsy can be caused by injury to the head.	**-2**
24	Sometimes epilepsy can come as a result of breaking taboos and societal norms.	**-1**
15	When I first saw the actions and behaviors of an epileptic, I was scared, and thought of many things such as the person having committed an abortion.	**-1**
8	When I was growing up as a child, I was always told that epilepsy can be contracted from pets and wild animals.	**-1**
7	I think that people with epilepsy also have sugar diabetics.	**-1**
35	I think that epileptics have contracted this illness by staying in, or passing through' a place or a road hunted by the spirits.	**-1**
25	I don't think epilepsy is a result of witchcraft.	**-1**
21	Epileptics tend to have a problem of not socializing with other people.	**0**
30	According to African culture, epileptics are viewed as having spirits visitations.	**0**
34	Sometimes it happens that a person who has never suffered from epilepsy may develop epileptic attacks during prayer.	**0**
6	Epilepsy only affects people who have lots of personal problems.	**0**
29	I believe that epilepsy is curable with African treatment methods.	**0**
31	I believe that if an epileptic has accidentally fallen in fire or water before, the illness cannot be cured.	**0**
36	Epileptics must drink blessed water, or bathe, or recite from holy texts for healing.	**+1**
19	Epilepsy is very traumatic to both the patient and the people who take care of them.	**+1**
12	In children epilepsy can be seen as mental retardation.	**+1**
26	Most people believe that epilepsy can be treated by traditional healers.	**+1**
33	When we pray for epileptics we are not performing miracles, but we call upon God's power to heal the illness.	**+1**
17	Most people tend to avoid epileptics because they are afraid that they (epileptics) will die in their hands.	**+1**
5	The type of food that we eat can sometimes affect the body of a person, and may cause epilepsy.	**+2**
1	If anyone in the family had previously suffered from epilepsy, it is likely that another person in that family will also suffer from the disease.	**+2**
20	Epileptics are usually not understood by the community.	**+2**
13	I think it is important for epileptics to take care of themselves.	**+2**
4	It is important that epileptics must not default or forget to take their medication.	**+3**
16	It is a problem for me to help an epileptic, because I'm not trained on what to do if such a person falls.	**+3**
22	I think programs must be organized to teach our community about epilepsy.	**+3**
9	I would like to encourage epileptics not to drink alcohol.	**+4**
2	I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.	**+4**

Factor 3

Items	statements	Factor scores
15	When I first saw the actions and behaviors of an epileptic, I was scared, and thought of many things such as the person having committed an abortion.	**-4**
34	Sometimes it happens that a person who has never suffered from epilepsy may develop epileptic attacks during prayer.	**-4**
1	If anyone in the family had previously suffered from epilepsy, it is likely that another person in that family will also suffer from the disease.	**-3**
18	I don't think that I can allow my child to marry an epileptic.	**-3**
23	I think that people who fall down and collapse are faking epilepsy, seeking to draw attention to themselves.	**-3**
10	I think that epileptics are people who are mad or mentally disturbed.	**-2**
5	The type of food that we eat can sometimes affect the body of a person, and may cause epilepsy.	**-2**
27	Epileptics are persons who have been overpowered by a "tokološe".	**-2**
28	I think epileptic actions are caused by a powerful devil dwelling in the river.	**-2**
7	I think that people with epilepsy also have sugar diabetics.	**-1**
25	I don't think epilepsy is a result of witchcraft.	**-1**
8	When I was growing up as a child, I was always told that epilepsy can be contracted from pets and wild animals.	**-1**
6	Epilepsy only affects people who have lots of personal problems.	**-1**
11	I believe that epilepsy is contagious.	**-1**
16	It is a problem for me to help an epileptic, because I'm not trained on what to do if such a person falls.	**-1**
36	Epileptics must drink blessed water, or bathe, or recite from holy texts for healing.	**0**
35	I think that epileptics have contracted this illness by staying in, or passing through' a place or a road hunted by the spirits.	**0**
21	Epileptics tend to have a problem of not socializing with other people.	**0**
32	I believe that epileptics have worms in their heads.	**0**
17	Most people tend to avoid epileptics because they are afraid that they (epileptics) will die in their hands.	**0**
30	According to African culture, epileptics are viewed as having spirits visitations.	**0**
12	In children epilepsy can be seen as mental retardation.	**+1**
3	I understand that epilepsy can be caused by injury to the head.	**+1**
24	Sometimes epilepsy can come as a result of breaking taboos and societal norms.	**+1**
19	Epilepsy is very traumatic to both the patient and the people who take care of them.	**+1**
13	I think it is important for epileptics to take care of themselves.	**+1**
14	It is important that epileptics must remain indoors and be given 24 hours care.	**+1**
20	Epileptics are usually not understood by the community.	**+2**
29	I believe that epilepsy is curable with African treatment methods.	**+2**
2	I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.	**+2**
9	I would like to encourage epileptics not to drink alcohol.	**+2**
31	I believe that if an epileptic has accidentally fallen in fire or water before, the illness cannot be cured.	**+3**
4	It is important that epileptics must not default or forget to take their medication.	**+3**
22	I think programs must be organized to teach our community about epilepsy.	**+3**
33	When we pray for epileptics we are not performing miracles, but we call upon God's power to heal the illness.	**+4**
26	Most people believe that epilepsy can be treated by traditional healers.	**+4**

Factor 4

Items	statements	Factor scores
32	I believe that epileptics have worms in their heads.	**-4**
29	I believe that epilepsy is curable with African treatment methods.	**-4**
23	I think that people who fall down and collapse are faking epilepsy, seeking to draw attention to themselves.	**-3**
31	I believe that if an epileptic has accidentally fallen in fire or water before, the illness cannot be cured.	**-3**
15	When I first saw the actions and behaviors of an epileptic, I was scared, and thought of many things such as the person having committed an abortion.	**-3**
25	I don't think epilepsy is a result of witchcraft.	**-2**
10	I think that epileptics are people who are mad or mentally disturbed.	**-2**
24	Sometimes epilepsy can come as a result of breaking taboos and societal norms.	**-2**
8	When I was growing up as a child, I was always told that epilepsy can be contracted from pets and wild animals.	**-2**
7	I think that people with epilepsy also have sugar diabetics.	**-1**
34	Sometimes it happens that a person who has never suffered from epilepsy may develop epileptic attacks during prayer.	**-1**
14	It is important that epileptics must remain indoors and be given 24 hours care.	**-1**
30	According to African culture, epileptics are viewed as having spirits visitations.	**-1**
18	I don't think that I can allow my child to marry an epileptic.	**-1**
35	I think that epileptics have contracted this illness by staying in, or passing through' a place or a road hunted by the spirits.	**-1**
11	I believe that epilepsy is contagious.	**0**
16	It is a problem for me to help an epileptic, because I'm not trained on what to do if such a person falls.	**0**
5	The type of food that we eat can sometimes affect the body of a person, and may cause epilepsy.	**0**
12	In children epilepsy can be seen as mental retardation.	**0**
6	Epilepsy only affects people who have lots of personal problems.	**0**
26	Most people believe that epilepsy can be treated by traditional healers.	**0**
17	Most people tend to avoid epileptics because they are afraid that they (epileptics) will die in their hands.	**+1**
13	I think it is important for epileptics to take care of themselves.	**+1**
27	Epileptics are persons who have been overpowered by a "tokološe".	**+1**
36	Epileptics must drink blessed water, or bathe, or recite from holy texts for healing.	**+1**
3	I understand that epilepsy can be caused by injury to the head.	**+1**
2	I understand that if someone is an epileptic, she/he must be treated like any other person with any type of disability.	**+1**
1	If anyone in the family had previously suffered from epilepsy, it is likely that another person in that family will also suffer from the disease.	**+2**
28	I think epileptic actions are caused by a powerful devil dwelling in the river.	**+2**
4	It is important that epileptics must not default or forget to take their medication.	**+2**
21	Epileptics tend to have a problem of not socializing with other people.	**+2**
9	I would like to encourage epileptics not to drink alcohol.	**+3**
22	I think programs must be organized to teach our community about epilepsy.	**+3**
19	Epilepsy is very traumatic to both the patient and the people who take care of them.	**+3**
20	Epileptics are usually not understood by the community.	**+4**
33	When we pray for epileptics we are not performing miracles, but we call upon God's power to heal the illness.	**+4**