

AN ABSTRACT OF THE THESIS OF

Connie Zabel for the Master of Science

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Title: A Comparison of Problem-Solving Perceptions in Individuals with Controlled Versus Non-Controlled Seizure Activity

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Quality of life has been determined to be an important factor in the treatment for individuals who experience seizure disorder. Areas such as problem solving perceptions can be linked to quality of life through mastery, social supports, and seizure severity. This study investigated the effects of seizure activity on perceptions of problem-solving skills. Participants were 20 individuals who have a diagnosis of epilepsy from various support groups across the country. Participants were given the Problem-Solving Inventory (PSI), a measure of perceptions of problem-solving skills. The results indicated no significant difference in participants who experience seizure activity and participants who did not experience seizure activity. The lack of an effect of seizure activity on perceptions of problem solving were discussed with respect to the relevant theories.

A COMPARISON OF PROBLEM-SOLVING PERCEPTIONS IN INDIVIDUALS
WITH CONTROLLED VERSUS NON-CONTROLLED SEIZURE ACTIVITY

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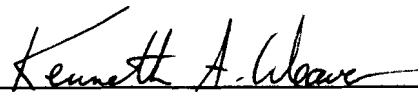
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Connie Zabel

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CHAPTER 1

INTRODUCTION

Epilepsy is a centuries old neurological disorder. In the past, treatment interventions have primarily focused on the physical aspects of the disorder. Recently, the focus has changed to include psychosocial aspects as well. Some of the psychosocial issues experienced by individuals with epilepsy are poor social functioning and learned helplessness. These issues contribute to a decrease in quality of life. Therapeutic interventions now include treatment targeted to quality of life as well as the traditional treatments of pharmacological and surgical interventions.

Epilepsy is a disorder that can present itself at any time in the individual's life. Once the diagnosis has been made, treatment begins for physical aspects and psychological aspects. Social dysfunction that many individuals experience may decrease with the use of therapeutic interventions targeted at specific psychosocial concerns. Epilepsy not only affects the life of the individual who suffers from it, but also the lives of people who serve as natural supports for the individual.

Statement of Problem

There are many myths that surround epilepsy. In the past much of society believed epilepsy was associated with mental illness. They also believed epilepsy was contagious and individuals who had epilepsy were severely limited in physical abilities and skills. Individuals with epilepsy were considered nonproductive members in society and were severely discriminated against. Today these negative social views have become

less intense. With the assistance of community supports and epilepsy organizations, social views have changed.

There are approximately 2.5 million children and adults in the United States who live with epilepsy. Each year there are approximately 300,000 new cases of seizure disorder diagnosed. It is estimated that approximately 1 to 4 % of the population lives with epilepsy.

Along with medical consequences there are many psychosocial consequences. Individuals with epilepsy are at a higher risk for psychosocial problems than the general population. People with epilepsy may experience effects that encourage them to become dependent on others, decrease their quality of life, and increase psychological and emotional stress. The psychological distress may be enhanced by perceived and experienced stigma. Individuals with epilepsy may also experience increased levels of daily stress and become socially isolated.

People with epilepsy report the most paralyzing aspect of epilepsy is not the physical condition of the disorder, but the stigma that surrounds the false beliefs of society. Education is a major factor in extinguishing these false beliefs and eliminating the negative stigma.

Treatment can assist individuals with epilepsy in dealing with psychosocial dysfunction and social stigma. Individuals with epilepsy are at higher risk than non-epileptics for a variety of mental and emotional disorders. Some of these disorders include depression, dysthymia, anxiety, paranoia, and psychosis. There is also evidence

that individuals with epilepsy are at higher risk of suicide than individuals with other neurological disorders.

Psychosocial issues, such as difficulty conceptualizing oneself as separate from the disorder, may become incorporated into the person's personality. Issues that cause a decrease in quality of life occur. Individuals feel powerless to control various aspects of their lives. Individuals who lack confidence in their ability to control their lives, become stagnate. They lack skills needed to be self sufficient and become dependent on others. Problems with employment, interpersonal relationships, and social functioning may occur. Often individuals with epilepsy seek treatment from therapists for psychosocial problems such as an inability to be self sufficient.

Positive coping skills are needed in order to be self sufficient. Positive coping skills include effective problem solving skills. Psychologists need to consider the individuals perceptions of the problem solving in clinical assessment and in evaluating treatment outcomes.

As a psychologist working with individuals who have epilepsy, the information gathered for this research will help me understand the many aspects that individuals experience when dealing with psychosocial dysfunction. The knowledge gained will also assist in the development of community programs to support individuals' living more productive lives.

Statement of Purpose

The present study was designed to investigate the relationship between perceptions of problem solving and seizure frequency. There are many variables involved

in the causal effects of psychosocial issues of people who have epilepsy. This is a study of two variables describe a relationship and explore the possibility of cause and effect. No intervention or manipulation was made by the researcher. The two variables are naturally occurring phenomena and were not altered.

Correlational studies about epilepsy indicate that quality of life is the most important factor to consider in the treatment of psychosocial consequences of individuals with epilepsy. Quality of life is a complex variable and correlations disaggregate the complex relationships. In regard to quality of life, depression appears to serve as a starting point for more detailed descriptions of problem areas.

Depressive mood is increased when issues such as external versus internal locus of control, learned helplessness, problem solving attributes are present. Mastery over the epilepsy, as measured by locus of control and self-efficacy, mediates between disease severity and quality of life. Social support is identified as a mediator of disease severity and mastery. Self-efficacy is defined as one's power or capacity to produce desired effects. In order for individuals to exhibit self-efficacy, they would need to use positive coping skills.

Positive coping skills increase successful problem solving skills. Poor problem solving skills decrease quality of life in areas such as employment, marital status, achievement, and independence.

Few studies describe a direct relationship between problem solving and seizure frequency. Such that poor problem solving skills decrease mastery over the seizure

disorder and progresses down to more detailed descriptions. Creating effective programs and treatment plans for individuals with epilepsy means targeting specific problem areas such as increasing positive problem solving skills. Considering previous research studies, I hypothesized that individuals with seizure activity would have higher levels of maladaptive problem-solving skills as compared with individuals who are seizure free.

Statement of Significance

This study is important to professionals working with individuals who have epilepsy. The individuals who seek professional assistance are usually individuals with uncontrolled seizures. Perceptions of problem solving could serve as a starting point for therapy. Community supports and services could also use problem solving skills development as a training tool. The insight as to how seizure frequency affects such psychosocial issues as perceptions of problem solving will create better understanding for both the clients and professionals. The professional could generalize perceptions of problem solving to include issues such as employment, interpersonal relationships and other areas of daily life. Increased confidence in problem solving will positively affect many areas of the individuals quality of life. The development of a treatment plan could begin with problem solving and progress to mastery over the disorder.

Problem solving is one of many psychosocial considerations for individuals who have epilepsy. This study focused on one small piece.

Community supports and services, that work with individuals who experience seizure disorder, would be more effective if they were able to create programs that target

specific areas, such as problem solving. There are extremely limited community resources available for individuals with epilepsy.

Research studies like this one help break down the problem into more manageable pieces. Community resources are usually limited on funding and rely on volunteers and nonprofessionals to deliver services. For example, support groups are usually facilitated by a volunteer or a member chosen from within the group. Educational information to promote the development of positive problem solving could serve as a base to direct conversation and promote ideas from within the group.

Literature Review

Professionals have known for many years that psychosocial problems are present in individuals with epilepsy. Only recently, however, have they included psychosocial issues in treatment and intervention plans. These clients generally have neuropsychological impairments that lower their educational and occupational levels of achievement, and many have additional emotional and behavioral disorders (Nichols, 1993).

Epidemiology, an area of medicine that focuses on the causes, distribution, and control of diseases, has stimulated the advances of epilepsy treatment and intervention. Medications, surgery, and the Vagus Nerve Stimulator were developed by the medical field to help decrease seizure frequency

Changes in technological advances in EEG and imaging have provided more accurate diagnosis of epilepsy by identifying specific forms of epilepsy. Improved antiepileptic drugs such as carbamazepine and sodium valproate provide greater chance

for seizure control which decreases frequency of seizure activity and also gives individuals with epilepsy the opportunity to include quality of life in treatment plans. Changes have occurred in the frequency and treatment of epilepsy, in the incidence of causes of epilepsy, and in the survival from those conditions that cause epilepsy (Berg, 1996).

Adding quality of life to treatment plans has increased the need for effective social supports. A need for community programs that provide training and social supports is evident considering the increased possibilities for individuals with epilepsy to live productive, independent lives. Interventions aimed at problem solving variables might play a role in reducing hopelessness and suicidal ideation (Heppner, 1997). This study may help identify possible problem areas that will be incorporated into a community program. The use of quality of life measures in epilepsy research is relatively recent compared with that in other chronic conditions such as coronary heart disease and diabetes (Baker, 1998). Quality of life has become an important quantifiable outcome measure. Feeling in control of problem solving tasks, and most importantly, having confidence in one's problem solving ability were related to multiple indexes of psychological health (Hanson, 1997). There are many factors included in quality of life such as mastery, social supports, and seizure severity. Due to the recent emphasis on quality of life, the information presented in this study included studies conducted within the last eight years.

Quality of Life

Quality of life is considered to be an important factor in the treatment of

individuals with chronic disorders where cures are not attainable. The extensive psychosocial ramifications of epilepsy have been acknowledged for many decades, but only recently has health-related quality of life been emphasized as an important, quantifiable outcome measure (Gilliam, 1997). The term quality of life allows treatment to include possible consequences of social, health, employment and family life deficits. Health-related quality of life is an individual's self-perception of well being in physical, mental, and social domains of life (Devinsky, 1999). The term depends on one's unique values and norms. The Epilepsy Foundation of America sponsored an international workshop in April of 1993 to address the issues of quality of life and created the following universal definition:

Quality of life in people with epilepsy is an individual's perception of the impact of his or her condition and its treatment. It reflects the discrepancy between the person's actual and desired physical and psychological health, level of independence, and social relationships. (Wildrick, 1996, p. 192)

Patients with seizures in remission were more likely to be employed and less likely to have experienced job problems, to feel limited by the epilepsy, or to experience stigma (Chaplin, 1998). Research has demonstrated that epilepsy has a profound effect on quality of life. Jacoby (1992) indicated that people with epilepsy, particularly if the disorder is severe or they have additional handicaps, are less likely to marry and have children, and a recent study of unemployment rates among people with epilepsy found higher rates among patients with active epilepsy than among those whose epilepsy was in remission. Studies suggest there are three overall variables that are inter-correlated with

quality of life. Mastery directly influences quality of life. Social supports and seizure severity directly influence mastery and seizure severity, again, directly influences social support. Mastery, social support, and seizure severity were found to decrease quality of life (Amir, 1999) and will now be discussed.

Mastery

Epilepsy is a paroxysmal disorder with unpredictable timing regarding the onset of seizures (Parker, 1999). The term mastery is defined as being a patient's general belief that one can control one's life outcomes in spite of unpredictable seizure activity.

Mastery is such an important factor in quality of life that many professionals believe it should be included in all treatment plans. Research suggests that mastery be included in treatment plans for individuals who are experiencing a decrease in seizure activity or experiencing remission. People with epilepsy, like people with other chronic medical disorders, may experience thoughts and feelings that in themselves interfere with normal behavioral efficiency (Seidenberg, 1992).

Locus of control and self-efficacy are used to represent mastery. Locus of control focuses on an individual's self-perceptions of internal and external control. Patients who are seizure free for one year fare better in terms of health related quality of life than those with persistent seizures during this time period, with the most remarkable differences appearing in mental health physical functioning, social activity, and general health perception (Leidy, 1999). When individuals believe they have the ability to control life events, they feel internal control. Individuals who believe their life is controlled by outer or environmental factors feel external control. Individuals who feel external control are

less likely to feel mastery over their disorder. External locus of control has been implicated in the development of psychosocial problems in epilepsy, and adults with epilepsy exhibit scores that are more external than those of the normative sample Multidimensional Health Locus of Control scales (Gehlert, 1998). Both external and internal control are personality characteristics and will determine at what level the individual will experience a sense of mastery.

Self-efficacy is defined as an individual's belief one is capable of producing a desired effect. Self-efficacy is thought to be the most influential factor of self-management. Amir (1999) reports self-efficacy is such a potent element because it is likely that the sense of one's ability to cope with the disease encourages actual coping, such as taking medication and performing other actions known to increase self-management.

Seizure Severity

Seizure severity and lack of social support negatively influence mastery. Seizure unpredictability is an important component of seizure severity, a term increasingly being used in the study of treatment outcome (Collings, 1995). Two variables that have been identified as influences on seizure severity are perceptions of the individual in regard to how unpredictable seizure activity affects one's life and post ictal states after seizure activity takes place. Post-ictal states, the recovery state right after seizure activity, may include confusion or a feeling of exhaustion. Patients with medically intractable epilepsy may suffer a variety of problems that include the effects of the disorder itself (uncontrolled seizures, increasing memory disturbances), the therapy (need to take

medications regularly, side effects of medication), and psychosocial aspects like restriction in vocational and recreational activities, stigmatization or altered perception of control (Krakow, 1998). Current seizure activity also clearly influenced subjects' perceptions about the impact of epilepsy and treatment on their daily lives (Jacoby, 1996).

Social Support

The amount of social support available to an individual affects their feelings of mastery over the seizure activity. The effects of epilepsy on social and psychological adjustment will, unless controls are instituted, be confounded with the effects of demographic background and family structure since these variables correlate with having epilepsy and in turn, affect adjustment (Carlton-Ford, 1995). Individuals with epilepsy experience social consequences as a result of having seizures in public. They may relate the level of available social support to social stigma. Epilepsy remains a hidden disease associated with discrimination in the work place, school, and home (Kale, 1997). If social supports are not available to the individual, the lack of support may indicate social rejection. The attitude of others towards a person who has epileptic seizures is a factor of great importance in the person's life (Gordon, 1997). A lack of social support diminishes the individual's sense of self worth. This also decreases the individual's ability to cope with the disorder. As reported by McLim (1992), effects of epilepsy include academic underachievement, severe emotional and psychological distress, broken families, high levels of daily stress, perceived and experienced stigma, and social isolation.

Coping Skills

Coping and problem-solving activities play a role in physical and psychological

well-being when people are confronted with negative or stressful events (Heppner, 1995). Coping skills are defined as individual action-oriented and psychological efforts to manage external and internal demands placed upon them in daily life. The study findings indicate that people with pseudoseizures experience their lives as stressful, as do people with epilepsy, and are likely to employ maladaptive coping responses (Frances, 1999). A long duration of the epilepsy and frequent seizures were associated with low levels of active coping (Krakow, 1998). Individuals with epilepsy believe active, problem-focused and compliance-related coping strategies are more helpful to psychosocial adjustment (Heppner, 1997). Kruger (1997) found that a lack of confidence in problem solving skills was related to use of inappropriate coping strategies (Kruger, 1997). Individuals who lacked confidence in problem solving skills exhibited inappropriate coping strategies. As reported by Krakow, Buhler, and Haltenhof (1999), the main emphasis of the current coping research lies no longer on the factors which cause illness but rather on the patient's resources and efforts which can support and restore psychosocial adjustment and health.

For individuals who have not successfully developed positive coping skills, learned helplessness may impair their quality of life. Epilepsy has an adverse effect on many areas including employment, financial status, social acceptance, academic achievement, and other areas that influence quality of life. These adverse events might not actually be due to the patient's epilepsy, but for the development of learned helplessness and subsequent depression it is the nature of the patient's causal attributions, right or wrong, that is of relevance (Hermann, 1996).

After classical helplessness training, the results of the participants indicate mechanisms for protecting self-esteem by withholding effort (Witkowski, 1997). Cognitive restructuring may be used to assist the individual with developing more appropriate coping skills. Factor analyses of data obtained from college students supported the existence of three distinct styles: a cognitive planful style, a denying style and an emotional distorting style (Altmaier, 1995). The individual's perception of the disorder may be altered by gaining knowledge and current information about the disorder. The use of cognitive restructuring coping strategy has been associated with a better psychological adjustment, which is defined as high levels of acceptance of the illness, and low levels of depression, anxiety and social avoidance (Krakow, 1998). Psychological interventions should helping the individual change from ineffective coping strategies to efficacious strategies in regard to coping skills. Intervention should include enhanced activity and rational coping strategies. Within the last decade, problem solving or coping plays an important role in adaptional responses to stress and psychological well-being in general (Heppner, 1995). In terms of practical implications, providing training in problem solving or social support skills might be useful interventions to enhance students psychological well-being (Wang, 1997).

Hypothesis

I hypothesized that individuals with seizure activity would have higher levels of maladaptive problem-solving skills as compared with individuals who are seizure free.

CHAPTER 2

METHOD

Participants

This study compared participants who have a diagnosis of epilepsy and experience various frequencies of seizure activity: participants who are seizure free ($n = 3$ men, 2 women) participants with seizure activity ($n = 6$ men, 11 women). Seizure free participants are defined as individuals who have not experienced a seizure for the past two years. The two year time line was used as with previous studies that served as a guide for this study. The mean age of seizure free participants was $M = 36.80$ ($SD = 6.61$). The mean age of seizure activity participants was $M = 44.40$ ($SD = 8.64$).

Participants were asked to complete a short demographic survey that included questions about frequency of seizure activity. Participants provided an approximate number of seizures they have experienced in the past four months.

Participants for the sample were found through the Epilepsy Resource Connection, a social organization that helps individuals who have seizure disorders. Epilepsy support group members were asked to volunteer for the study. The dependent variables were problem solving confidence, approach-avoidant problem solving style, personal control, and total for the three variables. The independent variable was seizure frequency.

Instruments

The instrument used in this study was the Problem Solving Inventory (PSI) developed by Paul Heppner in 1992. The PSI is a 32 item, factor analytically developed

self-report instrument that measures three problem solving attributes. The problem solving attributes consist of problem-solving confidence defined as self-assurance while engaging in problem-solving activities, approach-avoidant problem-solving style defined as a general tendency of individuals to approach or avoid problem-solving, personal control which indicates the extent to which individuals believe that they are in control of their emotions and behavior while solving problems, and total PSI score defined as the total of the three PSI subscales. Each item has a 6-point response format ranging from 1 (strongly agree) to 6 (strongly disagree). Summary scores for each of the problem-solving dimensions were formed by summing the individual items (after recoding reversed items). Higher subscale scores indicate lower levels of perceived problem solving confidence, approach-avoidant problem solving style, and personal control. Heppner and Peterson (1982) reported that alpha coefficients for the three dimensions were .90, .90, and .91, respectively, and test-retest stability coefficients across a 2-week interval were .89 and a 3-week interval were .81, respectively.

Validity data on the Problem Solving Inventory as indicated by Heppner and Peterson (1982) show the three scale scores and the Total PSI score were correlated with the School and College Ability Test, Series II (verbal, $r = .09$; quantitative, $r = .15$), Scholastic Aptitude Test (verbal, $r = -.19$; math, $r = -.31$; total, $r = -.28$), Missouri College English Test ($r = -.02$), Missouri Mathematics Placement Test ($r = .08$), Social Desirability Scale ($r = -.16$), and the Rotter Internal-External Scale ($r = .61$). The results of these correlations show no significant relationship between the PSI and aptitude measures, academic achievement, or social desirability. Statistical significance

was found in correlating PSI scores with the Rotter Internal-External Scale, but when compared to correlations with subjects ratings of their level of problem-solving skills, the PSI showed better correlation than the Rotter Internal-External Scale.

The total scores for each target group were compared with seizure frequency of each group. The groups were divided by gender to see if differences in problem solving perceptions exist.

Procedure

Requests for volunteers were placed in the Epilepsy Resource Connection newsletter. The request indicated approximate length of time volunteers would spend completing the information. The request also indicated that a self-report inventory would be completed by the volunteers. Individuals who volunteered were asked to call the Epilepsy Resource Connection Coordinator. The coordinator provided information on the location of the study site and the time of group testing.

The coordinator tracked the number of participants by placing a mark by the time designated by the volunteer. The coordinator provided information from a prepared script (see Appendix A) to help ensure all volunteers received the same information. If someone wanted to volunteer but did not drive, the volunteer's name and phone number were passed on to the researcher. The researcher called the volunteer and scheduled an individual testing time or arranged for transportation to the testing location.

The participants signed an informed consent form (see Appendix B). Participants were asked to complete a self-report survey. The survey took approximately 10 minutes

to complete. There was also a brief demographic questionnaire to complete after the survey was completed.

Two testing sessions were scheduled, the same location was used for the two sessions. The testing dates were different but took place no more than one day apart to reduce the chances of volunteers talking with each other about the study before they completed the inventory. After the participants arrived at the testing location, they were asked to complete the inventory (see Appendix C) and a demographic questionnaire (see Appendix D). The instructions were presented by a neutral person and were read from a prepared script (see Appendix E). Pencils were provided by the researcher along with the inventory and demographic questionnaire.

If individual testing sessions were needed, the researcher scheduled a time with the volunteer and read the prepared instructions from the same script used for the group testing.

CHAPTER 3

RESULTS

Descriptive Analyses

Table 1 provides the results for frequency of seizure type for the sample group. Over half, 55% of the sample group, identified complex partial as the seizure type most frequently experienced.

Hypothesis

Four analyses of variance were performed on each of the four dependent variables. For confidence, there was no statistically significant differences between the seizure free ($M = 23.40$, $SD = 9.07$) and seizure activity ($M = 30.40$, $SD = 10.72$) groups, $F(1, 18) = 1.71$, $p = .21$. For approach-avoidance style, there was no statistically significant differences between the seizure free ($M = 50.12$, $SD = 15.19$) and seizure activity ($M = 44.40$, $SD = 13.90$), $F(1, 18) = .55$, $p = .47$. For Personal Control, there was no statistically significant differences between the seizure free ($M = 19.33$, $SD = 6.90$) and seizure activity ($M = 15.40$, $SD = 7.09$), $F(1, 18) = 1.2$, $p = .29$. For total PSI, there was no significant differences between the seizure free ($M = 99.87$, $SD = 28.64$) and seizure activity ($M = 83.20$, $SD = 21.79$), $F(1, 18) = 1.4$, $p = .25$. See Table 2.

In regard to gender and how it may effect perceptions of problem solving skills, means for each of the PSI subtests were examined using four separate t tests. Table 3 shows results for the subtests and overall total score for the PSI. There are no significant differences between men and women and problem solving perceptions.

*Table 1**Number of Participants Experiencing Each Seizure Type*

<i>Seizure Type</i>	<i>n</i>	<i>Percent</i>
No Seizures	5*	25
Absence	1	5
Complex Partial	7	35
Drop Attacks	1	5
Generalized Tonic-Clonic	3	15
Myoclonic	1	5
Simple Partial	2	10

* The five seizure free participants reported having experienced Complex Partial and Generalized Tonic-Clonic Seizures.

Table 2

Seizure Activity Present in the Past Two Years and Perceptions of Problem Solving Skills

<i>Variable</i>	<i>Seizure Activity</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Confidence	Seizure Free	5	23.40	9.07
	Seizure Activity	15	30.40	10.72
Approach-Avoidance	Seizure Free	5	44.40	13.90
	Seizure Activity	15	50.13	15.19
Personal Control	Seizure Free	5	15.40	7.09
	Seizure Activity	15	19.33	6.90
Total	Seizure Free	5	83.20	21.79
	Seizure Activity	15	99.87	28.64

Table 3

Gender and Perceptions of Problem Solving Subtest and Total Scores

<i>Variable</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>
Confidence					
Women	9	30.11	11.75	13	-0.12
Men	6	30.83	10.02		
Approach-Avoidance					
Women	9	47.89	13.80	13	-0.69
Men	6	53.50	17.84		
Personal Control					
Women	9	18.78	6.42	13	-0.36
Men	6	20.17	8.13		
Total PSI					
Women	9	96.78	27.88	13	-0.50
Men	6	104.50	31.78		

CHAPTER 4

DISCUSSION

The focus of treatment for individuals with epilepsy is quality of life. Issues such as depression, learned helplessness, and social adjustment have been identified as factors that decrease quality of life for individuals with epilepsy. Individuals with epilepsy often isolate causing increased depression and decreased opportunity for social interaction. Feeling loss of control of internal and external factors, such as not knowing when a seizure might occur, who will see the seizure activity, and how to protect oneself from environmental surroundings decrease the individuals confidence in their ability to problem solve. These factors are associated with an individuals perceptions of their ability to problem solve, not their actual problem solving skill level.

Learned helplessness is a coping skill that is learned when an individual feels they have no control over their seizure activity. It is reinforced by unpredictable seizure activity and becomes a repeated response to problems that arise in the individuals life. The individual may experience a decreased level of confidence in one's perceptions of problem solving skills.

Depression is a consequence of learned helplessness. Feelings of low self worth, feelings of inadequacy, and feeling different from others play a major role in an individuals willingness to place themselves in situations where problem solving is needed. The individual has limited experience with problem solving and may avoid situations where problem solving may be required.

Social adjustment is a result of depression and also linked to learned helplessness. Seizure activity reduces the amount of social activities the individual participates in. This makes it difficult for the individual to feel comfortable around others and decreases confidence in social skill level. The individual feels increased stress when coping with social situations and avoids social events.

Quality of life may be improved by participating in programs designed to increase confidence in area's of problem solving. Increased confidence enhances independent problem solving and enhances independent decision making. The increased confidence allows the individual to participate in social activities, enhances their sense of belonging, and increases positive aspects of daily life.

Quality of life can be broken down into more defined issues such as mastery over the disorder, self-efficacy, and locus of control. Perceptions of problem solving skills are increased as an individual becomes more self reliant. They have the courage to try new situations and improve problem solving skills.

Mastery is a general belief that one can control the outcomes of life in spite of unpredictable events. Seizures are unpredictable and severely limit the individuals ability to function both cognitively and physically. Mastery of epilepsy or seizure activity is improved by encouraging the individual to focus on positive aspects of life. Feelings of mastery enhance the individuals concept that seizure activity is only a small part of the person's life.

No significant differences were found in the outcomes of seizure activity and perceptions of problems solving skills. There were no significant differences between

seizure activity participants and seizure free participants when compared to perceptions of their problem solving confidence, approach-avoidance, personal control, and total PSI scores.

If individuals experience higher levels of confidence, in turn they may help provide higher levels of perceptions of mastery. Participants who had not experienced seizure activity in the past two years were found to have no differences in problem solving confidence than those who had experienced seizure activity in the past two years. Seizure frequency had no effect on individual's self-assurance while engaging in problem-solving activities.

Self-efficacy is associated with style of problem solving approach. Individuals who lack adequate levels of self-efficacy exhibit an avoidance style of approach to problem solving. Participants who had not experienced seizure activity in the past two years were found to have no differences in how they approach problem solving situations than those participants who had experienced seizure activity in the past two years. There were no significant differences in general tendency to approach or avoid problem-solving activities.

Locus of control is also important when considering quality of life for individuals with epilepsy or seizure disorder. There were no significant differences in personal control, the extent to which individuals believe that they are in control of their emotions and behavior while solving problems. Participants who had not experienced seizure activity in the past two years were found to have no differences in how they perceive their control over the emotional and behavior aspects of a problem-solving situation.

A follow-up to this research should include a study that determines how perceptions of problem solving skills contributes to quality of life for individuals with epilepsy. The study should focus on programs created especially for individuals with epilepsy and determine if increasing perceptions of problem solving skills does improve quality of life. After establishing significant results that indicate perceptions of problem solving skills do effect quality of life, the study should provide information on the extent at which perceptions of problem solving skills effect quality of life. Programs should target problem solving skills training that can be generalized to various area's of problem solving. Further research needs to be done to verify whether gender plays a significant role in perceptions of problem solving abilities. The PSI should be studied to ensure that it is an appropriate tool to use with individuals who experience seizure disorder. The PSI may not be sensitive enough to accurately measure perceptions of problem-solving skills in individuals with seizure disorder. Finally, the sample size should be considered for future studies. The sample size for this study was not significant enough to provide the best possible results for the study.

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Appendix A

Epilepsy Resource Connection
2919 W. 2nd
Wichita, KS 67203

Dear Epilepsy Resource Connection,

My name is Connie Zabel. I am a Clinical Psychology graduate student at Emporia State University. I am working on my thesis entitled A Comparison of Problem Solving Perceptions in Individuals with Controlled Versus Non-Controlled Seizure Activity. The purpose of this study is to assist psychologist and agencies in understanding the various psychosocial issues that individuals with epilepsy struggle with daily.

My hope is to provide information that will enhance the services available for people who have epilepsy. I would like to request your assistance with finding participants for the study. The participants must be 18 years of age or older and have a diagnosis of epilepsy. I know your program is a valuable asset to the Wichita area and feel your knowledge and expertise would be of benefit to my study.

I would like to schedule a visit with you to explain the study in more detail. I will contact you by phone in a few days to schedule a day and time to meet. I look forward to visiting with you. Thank you for your assistance.

Sincerely,

Connie Zabel
Clinical Psychology Student

APPENDIX B
INFORMED CONSENT DOCUMENT

The Department of Psychology and Special Education, Emporia State University, supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. The information provided by this study will assist in the development of community services targeted to individuals who have epilepsy. If you decide to participate, you will be providing valuable information that would otherwise be unavailable. You should be aware that even if you agree to participate, you have the right to withdraw at any time.

The purpose of this study is to assess perceptions of problem solving in male and female adults who have been diagnosed with epilepsy. If you choose to participate you will be asked to complete a short survey and a brief questionnaire. Both survey and questionnaire will take approximately 20 minutes of your time. All names and data will remain confidential.

“I have read this informed consent form and have been fully advised of the procedures being used for this study. I also understand that I may choose to withdraw from this study at any time”.

Participant Signature

Date

The Problem Solving Inventory

Appendix C

FORM B

P. Paul Heppner, Ph.D.

Name _____ Date _____

Sex _____ Age _____ Grade or class (if you are a student) _____

Directions

People respond to personal problems in different ways. The statements on this inventory deal with how people react to personal difficulties and problems in their day-to-day life. The term "problems" refers to personal problems that everyone experiences at times, such as depression, inability to get along with friends, choosing a vocation, or deciding whether to get a divorce. Please respond to the items as honestly as possible so as to most accurately portray how *you* handle such personal problems. Your responses should reflect what you *actually* do to solve problems, not how you think you *should* solve them. When you read an item, ask yourself: Do I ever behave this way? Please answer every item.

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

	1	2	3	4	5	6
	Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1. When a solution to a problem has failed, I do not examine why it didn't work	1	2	3	4	5	6
2. When I am confronted with a complex problem, I don't take the time to develop a strategy for collecting information that will help define the nature of the problem	1	2	3	4	5	6
3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation	1	2	3	4	5	6
4. After I solve a problem, I do not analyze what went right and what went wrong	1	2	3	4	5	6
5. I am usually able to think of creative and effective alternatives to my problems	1	2	3	4	5	6
6. After following a course of action to solve a problem, I compare the actual outcome with the one I had anticipated	1	2	3	4	5	6
7. When I have a problem, I think of as many possible ways to handle it as I can until I can't come up with any more ideas	1	2	3	4	5	6
8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation	1	2	3	4	5	6
9. When confused about a problem, I don't clarify vague ideas or feelings by thinking of them in concrete terms	1	2	3	4	5	6
10. I have the ability to solve most problems even though initially no solution is immediately apparent	1	2	3	4	5	6
11. Many of the problems I face are too complex for me to solve	1	2	3	4	5	6
12. When solving a problem, I make decisions that I am happy with later	1	2	3	4	5	6

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

	1 Strongly Agree	2 Moderately Agree	3 Slightly Agree	4 Slightly Disagree	5 Moderately Disagree	6 Strongly Disagree
13. When confronted with a problem, I tend to do the first thing that I can think of to solve it	1	2	3	4	5	6
14. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead	1	2	3	4	5	6
15. When considering solutions to a problem, I do not take the time to assess the potential success of each alternative	1	2	3	4	5	6
16. When confronted with a problem, I stop and think about it before deciding on a next step	1	2	3	4	5	6
17. I generally act on the first idea that comes to mind in solving a problem	1	2	3	4	5	6
18. When making a decision, I compare alternatives and weigh the consequences of one against the other	1	2	3	4	5	6
19. When I make plans to solve a problem, I am almost certain that I can make them work	1	2	3	4	5	6
20. I try to predict the result of a particular course of action	1	2	3	4	5	6
21. When I try to think of possible solutions to a problem, I do not come up with very many alternatives	1	2	3	4	5	6
22. When trying to solve a problem, one strategy I often use is to think of past problems that have been similar	1	2	3	4	5	6
23. Given enough time and effort, I believe I can solve most problems that confront me	1	2	3	4	5	6
24. When faced with a novel situation, I have confidence that I can handle problems that may arise	1	2	3	4	5	6
25. Even though I work on a problem, sometimes I feel like I'm groping or wandering and not getting down to the real issue	1	2	3	4	5	6
26. I make snap judgments and later regret them	1	2	3	4	5	6
27. I trust my ability to solve new and difficult problems	1	2	3	4	5	6
28. I use a systematic method to compare alternatives and make decisions	1	2	3	4	5	6
29. When thinking of ways to handle a problem, I seldom combine ideas from various alternatives to arrive at a workable solution	1	2	3	4	5	6
30. When faced with a problem, I seldom assess the external forces that may be contributing to the problem	1	2	3	4	5	6
31. When confronted with a problem, I usually first survey the situation to determine the relevant information	1	2	3	4	5	6
32. There are times when I become so emotionally charged that I can no longer see the alternatives for solving a particular problem	1	2	3	4	5	6
33. After making a decision, the actual outcome is usually similar to what I had anticipated	1	2	3	4	5	6
34. When confronted with a problem, I am unsure of whether I can handle the situation	1	2	3	4	5	6
35. When I become aware of a problem, one of the first things I do is try to find out exactly what the problem is	1	2	3	4	5	6

	CON	AA	PC		Total
Page 1 Subtotal	_____	_____	_____		
Page 2 Subtotal	_____	_____	_____		
Score	_____	_____	_____		

Appendix D

Demographic Information

Please circle: Female Male

Please circle the answer that best describes your seizure activity. **Circle only one answer for each question.**

1. Have you experienced a seizure in the past 2 years?

YES

NO

2. How many seizures have you experienced in the past 4 months?

0 1 2 3 4 5 6 7 8 9 10 11 12 or more

3. What type of seizure do you most frequently experience?

Type of seizure

Description of seizure

Generalized tonic-clonic

Sudden cry, loss of consciousness, fall, stiffening followed by muscle jerks, frothy saliva, and / or shallow breathing.

Absence

Blank stare lasting only a few seconds. Maybe accompanied by rapid blinking and chewing movements of the mouth.

Simple partial

Person aware of what is happening but cannot stop it. May involve muscle jerking of extremities, may be sensory such as seeing or hearing something, feeling of fear, sadness, anger, etc. May experience nausea, odd smells, or a funny feeling in the stomach.

Complex partial

Blank stare followed by chewing and random activity. Person appears unaware of surrounding, may seem dazed and mumble. Unresponsive, actions clumsy, not directed. May pick at clothes, objects, or try to remove clothes. No memory of what happened during the seizure.

Drop attacks

Sudden loss of muscle tone. Individual will fall or slump to the side.

Myoclonic

Sudden brief massive muscle jerks that may involve the whole body or parts of the body.

Appendix E

Please read the following instructions.

This is a study developed to help individuals with epilepsy. Various agencies such as ours may use the study to create new programs. Please read the Informed Consent Document and sign it before looking at the next form. Please complete the demographic information before completing the inventory. Read the instructions on top of The Problem Solving Inventory and complete each question. Every question must be answered.

People respond to personal problems in different ways. The statements on this inventory deal with how people react to personal difficulties and problems in their day-to-day life. The term "problems" refers to personal problems that everyone experiences at times, such as depression, inability to get along with friends, choosing a vocation, or deciding whether to get a divorce. Please respond to the items as honestly as possible so as to most accurately portray how you handle such personal problems. Your responses should reflect what you actually do to solve problems, not how you think you should solve them. When you read an item, ask yourself: Do I ever behave this way? Please answer every item.

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1 = strongly agree, 2 = moderately agree, 3 = slightly agree, 4 = slightly disagree, 5 = moderately disagree, 6 = strongly disagree

If participants ask questions about the survey, respond with "the instructions are on the top of page one of The Problem Solving Inventory."

