2015

Learned Helplessness and Depression: Comparison of Skilled Nursing and Assisted Living Facilities

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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by

Paul Susic

MA, Lindenwood University, 1992

BS, University of Missouri: St. Louis, 1985

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Psychology

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February 2015

Abstract

Research with geriatric populations suggests high levels of clinical depression and greater financial and psychological costs of treatment in long-term care facilities with more restrictive care. Research on learned helplessness, a construct separate from depression, suggests learned helplessness and perceived control are useful theories for the study of elder depression, but the relationship between depression and learned helplessness in this population is not clear. This cross-sectional quantitative study examined the relationship between depression and learned helplessness by comparing residents over age 65 in less restrictive assisted living (*n =42*) versus those in more restrictive skilled nursing facilities (*n =63*). Data were collected using the Geriatric Depression Scale, the Helplessness subscale of the Cognitive Distortion Scales, and the Learned Helplessness and Instrumental Helplessness subscales of the Multi-Score Depression Inventory. Between-group ANOVA results confirmed a higher level of depression and state learned helplessness, but not trait learned helplessness, in restrictive skilled nursing residents when compared to those in less restrictive assisted living residents. There were positive correlations between learned helplessness, instrumental helplessness, and depression regardless of level of nursing care, and a positive correlation between perceived control and depression regardless of level of facility care. Identifying state learned helplessness and depression in long-term, restrictive care facilities can promote positive social change through increased awareness, intervention, and treatment to improve individual quality of life and maximize internalization of perceived control of the decision making process for elders.

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Dedication

This effort is dedicated to all of my patients and friends whom I've met over the years in my office and the nursing homes that I have served, in the community, and in the former Incarnate Word hospital in which I received many years of training as a psychologist and friendships that will last a lifetime.

Acknowledgments

There have been many times over the past several years in which it didn't seem that this dissertation would ever be completed. I would especially like to thank several people who have been incredibly supportive and have helped me to persevere, and have shown tremendous patience in allowing me the time to finally bring this effort to completion.

First and foremost, I need to thank my wife, Leslie, for her love, patience, and support. I have no doubt that I would have never been able to complete my dissertation without her standing behind me all the way. There were many moments when obstacles and my discouragement seemed monumental, and she got me through. She deserves almost as much credit as I do for its completion.

Next, I'd like to thank my children, Karl, Ryan, and Erin, for their patience and understanding over the years when their dad couldn’t always devote more time to them when he really wanted to. Also, I need to thank my parents for their support and my friends and family who didn't ridicule my continuing efforts although it took so long.

I would also like to thank Paul Lohkamp, LCSW, who's been my friend and colleague for about 20 years. He was my lead researcher, and I always was able to count on him to follow through and diligently complete the research almost as if it were his own.

Dr. Jay Greiner, my dissertation committee chairman, has been like a "gift from heaven" in guiding and assisting in this research process, and has helped and supported me through the discouraging moments when there did not seem to be any light at the end of the tunnel. Also, I would like to thank Dr. Amy Sickel who came in toward the end

and has been very helpful and supportive in bringing this dissertation to completion. The help, support and friendship of my committee will never be forgotten.

I would like to show my appreciation to all of the facilities that participated in my research and allowed me and my researchers to meet with their residents. Your help and trust were appreciated more than you may ever know.

Finally, I would like to thank God for guiding me and assisting me through this entire process. My faith and determination have grown phenomenally, but you knew that all along.

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Chapter 1: Introduction to the Study

Introduction

The 21st century has brought a great number of changes to individuals, families, cultures, and entire societies. These changes have created the need to incorporate new circumstances into the old. Some of these new ideas are now beginning to replace the old in terms of what it means to be a healthy senior, displacing tired assumptions of the inevitable physical and mental decline of the elderly. There is now a new set of assumptions that include a diversity of physical and emotional experiences in the elderly. Emotional distress is experienced in the form of everyday anxieties in a variety of forms, as well as depression, which may inhibit many aspects of individual functioning (Watson & Pignone, 2003). Research over the last several decades has continued to indicate that rather than being strictly a temporary mood state, depression frequently seems to be preceded and maintained by a perspective of learned helplessness (Seligman, 1975, 1998), in which individuals feel that they may have lost control over important aspects of their lives.

Contemporary research has identified that the concept of learned helplessness in depression applies to all age groups, including the elderly (Flannery, 2002; Hyer, Kramer, & Sohnle, 2004; Seligman, 1998, 2002). Research has also identified a higher level of depression in long-term care nursing facilities (Lasser, Siegel, Dukoff, & Sunderland, 1998) than in the general population of the elderly. While some of the previous research (Fishman, 1984) has indicated that learned helplessness may correlate with depression in restrictive long-term care environments, there has been a dearth of research

demonstrating this relationship. In addition, little research on this relationship controls for key extraneous factors that may impact upon these measures, such as the patient's cognitive ability and duration of stay, and uses measures of depression developed specifically for the elderly.

Depression

Depression has become a common experience for many in contemporary society. Comer (2001) concluded that in the general population, between 5% and 10% of adults in the United States may suffer from a severe unipolar depression in any given year, and that possibly another 3% to 5% may suffer from a milder form of depression. Ultimately, the high prevalence of depression manifests itself in serious consequences for both individuals and society as a whole. The experience of depression has been found to be a strong predictor of such factors as absence from work and leads to various other forms of personal emotional distress (Hardy, Woods, & Wall, 2003). Greenberg et al. (1997) concluded that the annual cost to society associated with depression in terms of lost production might be as high as $33 billion per year.

Depression studies among the elderly have consistently found prevalence rates of between 5% and 15% (Dunlop, Song, Lyons, Manheim, & Chang, 2003; Hope, 2003) among participants in noninstitutional, community-based research. Rates of depression among residents in long-term care facilities have been found to be even higher than among individuals in the community. In 1991, the National Institute of Health reported that approximately 15%-25% of individuals living in nursing homes and extended care

facilities had symptoms of depression. Other studies (Soon & Levine, 2003; Teresi, Abrams, Holmes, Ramirez, & Eimicke, 2001) have found rates of major depression among long-term care patients to be between 12% and 25%, and rates as high as 18%-30% at lower levels of minor depression among long-term care residents. While depressive symptoms and depressive disorders are more prevalent among the elderly than among the general population, the rates are even higher within populations of elderly individuals living in long-term care facilities.

The high incidence of depression among the elderly in the community and in long-term care facilities has numerous consequences. The negative, causative, and exacerbating influence of depression on the social circumstances and medical conditions of the elderly is well documented (Lelito, Palumbo, & Hanley, 2001; Oslin et al., 2002), significantly increasing levels of disability and even mortality (Bruce, 2001; Shultz, Martire, Beach, & Scheier, 2000).

While it is becoming increasingly well known that there are various characteristics differentiating depression among the elderly from that of depressive symptoms of younger individuals, research still is relatively sparse identifying specific etiology related to the biological, psychological, and social elements of elderly depression. As previously noted, there is a consistent recognition in the research literature (Soon & Levine, 2003; Teresi et al., 2001) of the increased level of depressive symptomatology among the elderly in long-term care facilities relative to those residing in the community. While there seems to be some level of conjecture among clinicians as

to why the institutionalized elderly seem to manifest a higher level of depression relative to their community-based counterparts, there still seems to be minimal exploration of the causative factors.

There are some well-recognized differences in the expression of depressive symptoms among the elderly relative to younger populations, including higher levels of psychosomatic symptoms (Watson & Pignone, 2003) and the exacerbating influence on comorbid medical conditions (Shinkawa, Yamaya, Ohrui, Arai, & Sasaki, 2002). Coincidentally, there is also recognition that many of the psychological, biological and social dynamics of depression are very similar (Hope, 2003). It seems, then, that a causative model for explaining the etiology of depression among specific groups of senior citizens would be appropriate and useful for facilitating the prevention and treatment of the disease.

Several models have been developed to explain the etiology of depression (Fishman, 1984; Seligman, 1998), including biological, psychodynamic and cognitive models. Currently, however, the biological and cognitive models seem to be the most highly supported by empirical research; these models are reviewed more extensively in the literature review. Cognitive models also include learned helplessness as an etiological factor and model of depression, which was the model of primary focus in this study.

Learned Helplessness

A cognitive model for understanding the etiology and treatment of depression that has become widely recognized and highly researched over the past several decades is the

learned helplessness model (Seligman, 1975, 1998). Learned helplessness is a model for understanding how an individual's perspective may become pessimistic over a period of time, resulting in a negative perceived control of his or her circumstances. As their individual perspective and perception of control over life circumstances change during aging, the elderly may ultimately become depressed.

Seligman (1998) concluded that literally hundreds of studies have shown that pessimists give up more easily and get depressed more often than optimists do. Conversely, he stated that optimists usually have better health, are more successful in their careers, and may even live longer. Seligman (1975, 1979, 1998) proposed that people become depressed when they feel that they are losing control of their lives. He concluded that they become depressed when they cannot control the social reinforcements in their lives and feel personally responsible for this state of helplessness (Comer, 2001).

Hundreds of studies have been conducted to support the relationship between individuals' perspectives, helplessness, and depression (Comer, 2001). Baltes (1995) made an important observation and conclusion about Seligman's research, suggesting that when systematic, predictable connections between behavioral and environmental rewards are lacking, both animals and humans learn that their behaviors have no differential consequences. He also suggested that with repeated exposure to noncontingent results, negative outcomes can occur such as cognitive, motivational and emotional deficits. He concluded that these deficits would eventually lead to lower performance, passivity and

depression (Comer, 2001).

Twenge, Zhang, and Im (2004) completed a meta-analysis related to increasing external locus of control on studies conducted between the years of 1960-2002 and concluded that locus of control orientation is learned. Their findings indicated that the larger social environment appears to have a strong mediating influence on how individuals choose their locus of control orientation. They concluded that changes in perspective are likely to be fairly linear as the social environment changes slowly, and that related beliefs also have a tendency to take some time to appear (Tweng et al., 2004).

Faulkner (2001) explored the mediating influence of a hospital environment on reducing a patient's sense of control. He found that when elderly patients experienced "disempowering care" (p. 677)—which ranged from mildly negative interactions such as invading patients' privacy and disturbing their rest to more severe negative experiences such as scolding, neglect and even physical restraint—the outcomes were negative. He concluded that while the events were undoubtedly unpleasant for the older patients, they also represented uncontrollable circumstances resulting in various negative outcomes independent of the patient's response (Faulkner, 2001).

The institutional environment has also been found to be a mediating influence in the development of depression in health care settings including long-term care facilities (Barder, Slimmer & LeSage, 1994; Fishman, 1984). Barder et al. (1994) found that elderly people in long-term care facilities were more vulnerable to experiencing learned helplessness and depression than elderly people in acute or rehabilitation settings.

Fishman (1984) found that an individual's perception of having choice and control was an important aspect of successful adaptation to residential care as measured by the level of depression. Unfortunately, Fishman did not have the opportunity to use the Geriatric Depression Scale (Yesavage et al., 1983) and did not control for whether individuals had the cognitive capacity to respond to research questions in a valid manner.

Statement of the Problem

The learned helplessness model of depression has been used to explain that as individuals become unable to effectuate control over various aspects of their environment, they tend to become depressed (Seligman, 1967, 1979, 2002). Additionally, they develop a sense of helplessness, and their personal initiatives seem to make little difference in changing aversive circumstances in their environment (Seligman, 1967, 1979, 2002). Previous research considering either learned helplessness or perceived control in long-term care environments has been minimal; however, Fishman (1984) identified a positive correlation between perception of locus of control and depression among elderly individuals at two different levels of residential care facilities. Barder et al. (1994) compared acute rehabilitation and long-term care facility residents on measures of learned helplessness and depression.

While Fishman (1984) considered two different levels of residential care, he did not choose to or have the opportunity to use more modern and specific research tools such as the Geriatric Depression Scale (Yesavage et al., 1983) and the Mini Mental State Examination (Folstien, Folstien & McHugh, 1975). One limitation in the Barder et al.

(1994) study was that the research did not appear to control for deficits in cognitive abilities in the participants when acute rehabilitation and long-term care were compared.

In summary, while the learned helplessness model seems to be appropriate for understanding depression among the elderly, research has been minimal and has not incorporated the use of more modern and specific research tools now available. Previous researchers also did not control for cognitive abilities to enhance the validity of the individual's responses, and also did not consider the duration of stay at the facility as an associated factor. In this research, I sought to more comprehensively consider these various factors as they impact upon the development of depression among the elderly in skilled nursing and assisted-living facilities.

Purpose of the Study

A review of the literature identified only two research studies of a relatively similar nature to this study, but neither study specifically identified the relationship between learned helplessness and depression while controlling for cognitive validity (Barder et al., 1994; Fishman, 1984). Fishman (1984) found a correlation between locus of control and depression when comparing two different levels of residential care without the use of some of the more contemporary assessment tools, and Barder et al. (1994) identified a relationship between learned helplessness and depression between acute care and long-term care facilities. The present study tested the hypothesis that there is a higher mean level of depression among individuals in skilled nursing care facilities than among individuals in assisted-living facilities. The Geriatric Depression Scale (Yesavage

et al., 1983) was used to measure depression, and the Folstien Mini Mental State Examination (Folstien et al., 1975) was used to control for cognitive deficits and improve the validity of research findings. The study also measured the concept of learned helplessness through the use of the Learned Helplessness and Instrumental Helplessness subscales of the Multi-score Depression Inventory (Berndt, Petzel, & Berndt, 1980). Perceived control was assessed through use of the Helplessness subscale of the Cognitive Distortions Scale (Briere, 2000) to understand the unique quality and etiology of elderly individuals with depression in long-term care facilities.

This hypothesized difference in depression levels between individuals from the two different types of facilities was believed to be due to a perception of a higher level of learned helplessness in the more highly structured environment. Learned helplessness was measured by the Learned Helplessness and Instrumental Helplessness subscales of the Multi-score Depression Inventory (Berndt et al., 1980). To test the hypothesis of differences in perceived control, perceived reduced personal decision making, and perceived control over life circumstances, the Helplessness subscale of the Cognitive Distortion Scales was used (Briere, 2000). The measures for this research on different levels of nursing care in the elderly included the Geriatric Depression Scale (Yesavage et al., 1983) to measure depression and Folstien's Mini Mental State Examination (Folstien et al., 1975), to control for cognitive validity.

Contemporary researchers (Dantz et al., 2003; Gaynes et al., 2002) are continuing to identify the tremendous impact of depression on modern society in terms of impaired

functioning, exacerbation of coexisting medical problems and mortality. There is probably no other demographic group that demonstrates this more than the elderly (Dantz et al., 2003), for whom a very high level of comorbid psychological and medical problems exists. Fortunately, research is continuing to demonstrate that effective biological (Howland & Thase, 2002; Moffaert & Dierick, 1999) and psychological (Alexopoulas, 2005; Hyer, Kramer, & Sohnle, 2004; Robertson & Montagnini, 2004) treatments for the elderly are being developed to assist in reducing the impact of depression on society's senior members.

The goal of the literature review in the following chapter is to explore the impact of depression on society (Comer, 2001; Antonuccio, Danton, & DeNelski, 1995) and the elderly in particular (Bruce, 2001; Shultz, Martire, Beach, & Scheier, 2000), as well as the effectiveness of related psychological treatments (Alexopoulas, 2005; Hyer, Kramer & Sohnle, 2004; Robertson & Montagnini, 2004). Further attention is given to the utility of cognitive behavioral theory (Hensley, Nadiga, & Uhlenhuth, 2004), including the concept of learned helplessness (Seligman, 1967, 1975, 1979, 2002), which may point the way toward an increased understanding of the etiology of depression and assist in the enhancement of more effective treatment modalities in the future.

Nature of the Study

The present quantitative study evaluated the hypothesis that there is a higher mean level of depression among individuals in skilled nursing care facilities than among individuals in assisted-living facilities. This hypothesized difference was found to be due

to a perception of a higher level of learned helplessness in the more highly structured environment, as a consequence of reduced perceived personal decision making or perceived control over life circumstances (Dantz et al., 2003). For example, in the State of Missouri, a higher level of need for physical and mental health care usually creates the necessity for a more highly structured environment of skilled nursing care. This is assessed using relatively objective criteria as part of the Initial Assessment—Social and Medical: Missouri Department of Health and Senior Services Division of Senior Services and Regulation (Missouri Code of State Regulations, 2004). For admission into a skilled nursing care facility, an individual must have a score of 21 or higher on the assessment, which is provided by a social worker or by admissions personnel. A score lower than 21 on the initial assessment meets the criterion for admission to the assisted-living level of care (Missouri Code of State Regulations, 2004).

Fishman (1984) found in a similar research study that losses of choice, control, independence, and autonomy are important factors for the elderly. His research used the Policy and Program Information Form (POLIF) of the Multiphasic Environmental Assessment Procedure (MEAP)—Modified (Moos & Lemke, 1979) to measure locus of control and the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) to measure geriatric depression. Contemporary research tools have been developed over the past several decades to more specifically assess geriatric depression and learned helplessness (Fishman, 1984).

This study of learned helplessness and depression, comparing the less structured

assisted-living level of care with the more highly structured skilled nursing level of care, was conducted using the Geriatric Depression Scale (Yesavage et al., 1983), Folstien's Mini Mental State Examination (Folstien et al., 1975) for prescreening for appropriate cognition, the perceived control (Helplessness) subscale of the Cognitive Distortion Scales (Briere, 2000), and the Learned Helplessness and Instrumental Helplessness subscales of the Multi-score Depression Inventory (Berndt et al., 1980). This study was conducted for a total of 105 participants who had been in their respective facilities for more than 7 weeks but less than 6 months.

Fishman's research (1984) identified a positive correlation between resident's perception of reduced locus of control and depression at two different levels of residential nursing care for the elderly, while the current study assessed whether there is a higher mean level of depression when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities. While Fishman's research identified a positive correlation between an individual's perception of locus of control and depression, Fishman did not control for whether an individual had the cognitive ability to respond appropriately to the measurement tools and did not have the benefit of the use of more recently developed assessment tools specific to measuring learned helplessness in the elderly.

Seligman's theory of learned helplessness (1967, 1975, 1979, and 2002) seems to consistently predict that an individual's perception of control over his or her environment has a strong correlation with consequent levels of depression. This research extended his

theory into long-term care environments with the elderly, using contemporary assessment tools such as the Geriatric Depression Scale (Yesavage et al., 1983), the perceived control (Helplessness) subscale of the Cognitive Distortion Scale (Briere, 2000), and the Learned Helplessness and Instrumental Helplessness subscales of the Multiscore Depression Inventory (Berndt et al., 1980). The Folstien Mini Mental State Examination (Folstien et al., 1975) was used as a prescreening assessment of whether an individual had the cognitive capacity to provide valid responses to research questions.

Research Questions

I sought to answer the following research questions in the present study:

Research Question 1

Do individuals in skilled nursing care facilities and assisted-living facilities have different levels of depression?

Null Hypothesis 1.

There are no significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 1.

There are significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 2

Are individuals in skilled nursing facilities more likely to experience learned helplessness than individuals in assisted-living facilities?

Null Hypothesis 2.

There are no significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 2.

There are significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 3

Are individuals in skilled nursing facilities more likely to experience instrumental helplessness than individuals in assisted-living facilities?

Null Hypothesis 3.

There are no significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 3.

There are significant differences in learned helplessness, as measured by the

instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 4

Are individuals in skilled nursing facilities more likely to experience differences in perceived control when compared to individuals in assisted-living facilities?

Null Hypothesis 4.

There are no significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 4.

There are significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 5

Is there a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care?

Null Hypothesis 5.

There is no significant relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression

as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 5.

There is a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Question 6

Is there a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care?

Null Hypothesis 6.

There is no significant relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 6.

There is a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Question 7

Is there a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents regardless of level of care?

Null Hypothesis 7.

There is no significant relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents regardless of level of care.

Research Hypothesis 7.

There is a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents regardless of level of care.

Theoretical Basis

It has already been noted that there is a very high level of depression among the elderly in long-term care facilities, with some researchers (Cohen, Hyland, & Kimhy, 2003; Soon & Levine, 2002) finding rates of major depression of between 6% and 24%, and between 12% and 50% for individuals with lesser levels of depressive symptoms. These issues are discussed in more detail in the literature review, where there is also a more detailed recognition of the viability of Seligman's (1967, 1975, 1979, 2002) concept of learned helplessness and why it may be important to understanding depression among the elderly in long-term care environments. Subsequently, psychotherapeutic treatment as alternative or adjunct treatment to pharmacologic treatments to reduce

depression, disability and mortality is reviewed.

While the literature review addresses details of the conceptual framework of learned helplessness (Seligman, 1967, 1975, 1979, 2002) and why it may be a useful model for considering the development and treatment of depression, a brief explanation of learned helplessness is warranted. Seligman (2002, 1979, 1975, 1967) stated that learned helplessness occurs when individuals experience uncontrollable life events and believe that they can do nothing to keep the outcome of these events from occurring. The individuals may then develop inappropriate expectations that future outcomes of events are also beyond their control. Barder and colleagues (1994) went on to explain that when individuals are convinced that there is no use in responding because it makes no difference for the outcome, they become apathetic and experience decreased incentive to initiate action and may give up. According to Barder et al. (1994), this state of helplessness is associated with feelings of hopelessness, loneliness, social withdrawal, prolonged crying episodes and sexual dysfunction. This study used these theoretical constructs to understand how learned helplessness may become institutionalized as an inherent byproduct of the structure of the circumstances and living experiences of elderly persons in long-term care environments. Considerable research was reviewed related to the concept of learned helplessness and how it translates into the experience of depression among the elderly.

Definitions of Terms

Assisted-living facility: A nursing care facility providing nursing services and

assistance with a minimum of activities of daily living to individuals with a score below 21 on the Initial Assessment—Social and Medical: Missouri Department of Health and Senior Services Division of Senior Services and Regulation (Missouri Code of State Regulations, 2004). This assessment is provided by a social worker or other personnel prior to admission.

Cognitive-behavioral therapy: Therapeutic model that emphasizes the effect of thoughts on related moods and behaviors (Beck, 1979).

Cognitive functioning: Level of thinking and memory skills as determined by assessment for placement in long-term care facilities in the state of Missouri (Missouri Code of State Regulations, 2004).

Depression: The presence of unipolar depressive symptoms meeting the syndromal criteria for major depressive disorder, dysthymic disorder or depressive disorder not otherwise specified, including but not limited to symptoms of depressed mood, diminished interest in usual activities, significant weight loss or gain, sleep disturbance, psychomotor retardation or agitation, fatigue, feelings of worthlessness, diminished concentration and recurrent thoughts of death (American Psychiatric Association, 2000).

Folstien Mini Mental State Examination: The Folstien Mini Mental State Examination (Folstien et al., 1975) is an individually administered screening examination used in assessing a person's cognitive mental status.

Functioning: Level of adaptive functioning as determined by assessment prior to

admission to long-term care facilities in the State of Missouri (Missouri Code of State Regulations, 2004).

Geriatric: Category consisting of individuals aged 65 and over; used in this and previous research to determine the minimum age for participation in research related to the elderly (Shinkawa et al., 2002).

Geriatric Depression Scale: A 30-item depression measurement scale frequently used to assess depression among the elderly (Yesavage et al., 1983).

Helplessness subscale: The measurement of perceived control of important aspects of an individual's life as measured by the helplessness subscale of the Cognitive Distortion Scale (Briere, 2000).

Instrumental Helplessness subscale: A measure of an individual's temporary state of feeling helpless according to the Multiscore Depression Inventory (Berndt, 1981).

Learned helplessness: The model of a self-explanatory style defined by Seligman (1967, 1975, 1979, 2002), who stated that depression develops when individuals learn to feel that environmental contingencies have the most significant consequences for their lives, and that their initiatives make little difference in escaping aversive circumstances, resulting in the affective response of depression.

Long-term care facilities: Facilities that provide several levels of long-term care to individuals in the State of Missouri (Missouri Code of State Regulations, 2004).

Learned Helplessness subscale: A measures of helplessness over time and situations, including components of anhedonia and lack of motivation according to the

Multiscore Depression Inventory (Berndt et al., 1980).

Locus of control: Self-explanatory style whereby an individual puts control of his or her life beyond his or her own efforts and perceives life as more subject to environmental contingencies (Hirito, 1974).

Perceived control: The perception of control or lack thereof, or perception of helplessness in important aspects of life (Briere, 2000).

Psychodynamic model: Therapeutic model originated by Freud that emphasizes the process of making unconscious mental processes conscious in order to facilitate long-term change (Comer, 2001).

Skilled nursing facility: A nursing care facility providing nursing services and assistance with activities of daily living to individuals with a score of 21 or over on the Initial Assessment—Social and Medical: Missouri Department of Health and Senior Services Division of Senior Services and Regulation (Missouri Code of State Regulations, 2004). This assessment is provided by a social worker or other personnel prior to admission.

Assumptions and Limitations

A primary assumption was that the skilled nursing and assisted-living facilities that participated in this research study are a reflection of the general population of similar facilities in the community and that facilities in the St. Louis, Missouri metropolitan area are similar to those that exist in other states and areas of the country that are dissimilar, such as rural areas. This is obviously of concern to provide the use of generalizability of

results to other areas of the country not involved in this research. This assumption of generalizability also includes the assumption that the results of this study are applicable to facilities with significant populations of elderly individuals with relatively distinct cultural characteristics, such as primarily African American, Hispanic, or residents who share specific socioeconomic characteristics that are very homogenous.

Another assumption was that individuals who participated in the research answered truthfully and accurately. There was an assumption that there was little manipulation of data to achieve individual agendas or objectives such as to minimize depression in assisted-living residents to maintain their residence in those facilities. Education by researchers of the participants concerning the confidentiality of their responses was assumed to rectify those concerns.

There was also a recognition and assumption that depression is multifactorial or multidimensional. There are many personal, social, physiological and cultural influences on the thought processes and behaviors of individuals. Although some specific variables may be significant and subject to some type of objective assessment and analysis, they do not explain personal responses conclusively or in totality. Many of the idiosyncratic influences may be impossible to ascertain, such as unconscious or subconscious influences on behavior.

Limitations of the current study include gaps in research related to the scarcity of previous research specific to the geriatric population, as well as the very limited number of research tools specific to the elderly. In addition, it is relatively difficult to isolate the

impact of some of the comorbid medical, psychological and cognitive concerns that may affect research findings.

The limitations of this research involved several other factors as well. Due to the number of study participants involved (n = 105), full representation of individuals from various socioeconomic and ethnic groups was limited. While I made every attempt to include equal numbers of men and women, it is well recognized that as individuals age, there are many more women than men available in nursing homes and the community at large (Haber, 2005). While a sufficient number of individuals was sampled (approximately 105 men and women) in this research, in future studies it may be beneficial to increase the sample size of men and incorporate a wider spectrum of minority candidates to increase generalizability to the diverse population of the elderly.

Limitations may also include factors associated with individuals with limited cognitive capacity. Although the Folstien Mini Mental State Examination (Folstien et al., 1975) has been found to be highly effective in identifying individuals capable of understanding and effectively completing the Geriatric Depression Scale (Yesavage et al., 1983), additional individuals experiencing "learned helplessness"(Berndt et al., 1980; Briere, 2000), and depression may have been screened from the research due to their cognitive limitations. In effect, the research may actually be more indicative of the experience of individuals who have higher levels of cognitive functioning.

Another limitation was that certain factors related to those specific facilities, including personnel, environmental, and various other factors, were possible confounding

variables. Standard research guidelines and procedures were implemented to increase control of confounding variables associated with specific facilities.

The Significance of the Study

Many research studies of the elderly suggest that the elderly may be unable to participate in psychotherapy and may not benefit from pharmacological interventions to the same degree as younger individuals (Reynolds, Alexopoulas, & Katz, 2002). This effectively leads to underdiagnosis and undertreatment, as well as somewhat of a treatment bias among practitioners in the medical community. Fortunately, contemporary research (Lelito, Palumbo, & Hanley, 2001; Reynolds et al., 2002) continues to refute those earlier stated limitations on effectively treating elderly individuals in the community and long-term care facilities. However, the amount of information available to individuals, families and treatment professionals is still very limited, which limits understanding of precipitating, exacerbating and ameliorating treatment factors associated with depressive episodes in the elderly.

This research introduces additional information to facilitate an understanding of many of the factors contributing to the complexity of depression among the elderly in long-term care facilities (Cohen et al., 2003; Soon & Levine, 2002). It was also designed to provide a viable etiological (Seligman, 1975, 1979, 1998) model for understanding a significant aspect of the causative factors leading to depressive symptoms and disorders. The significance of the negative, causative and exacerbating influence of depression on the social circumstances and medical conditions of the elderly is very well documented

(Lelito, Palumbo, & Hanley, 2001; Oslin et al., 2002), with depression frequently increasing levels of disability and mortality (Bruce, 2001; Shultz, Martire, Beach, & Scheier, 2000).These findings may provide opportunities for social change by suggesting remediating factors and interventions to assist in treatment and in providing a higher quality of life for elderly individuals, both in the community and in long-term care facilities.

Chapter Summary

Depression is a serious mental illness affecting a significant proportion of elderly individuals both in the community at large (Gallo & Rabins, 1999; Lelito et al., 2000; Reynolds et al., 2002) and in long-term care facilities (Brown, Lapane, & Luisi, 2002; Cohen et al., 2003; Soon & Levine, 2002; Teresi, et al., 2001). The tremendous impact of depression upon individuals and society is almost immeasurable in terms of its direct effects on an individual's quality of life (Schultz et al., 2000), as well as its negative impact upon coexisting medical conditions. Fortunately, research has begun to recognize the impact of depression as well as some aspects of its underlying etiology, along with the need for more effective treatments.

In recognition of the need for additional research into depression, and more specifically geriatric depression, this study has identified how the concept of learned helplessness has been applied in two previous research studies (Barder et al. 1994; Fishman, 1984) and how it seems to be an appropriate basis for understanding the etiology of the development of depression in long-term care environments such as

assisted-living and skilled nursing levels of nursing care. Also, this study involved consideration of the specific factors of learned helplessness and instrumental helplessness as measured by the Multiscore Depression Inventory (Berndt et al., 1980) and perceived control as measured by the Cognitive Distortion Scale (Briere, 2000) and their specific relationship to geriatric depression as measured by the Geriatric Depression Scale (Yesavage et al., 1983).

In the following chapter of this study, I elaborate on these same factors and explore in more detail this specific research study and why it is important. I look in more detail at what the research literature is describing in terms of the prevalence of depression among the elderly, its multifaceted impact upon quality of life, and some of the specific interventions that have been developed to help remediate the effects of depression, such as pharmacologic and cognitive behavioral treatments, and I review the research model for this study.

Chapter 2: Literature Review

Introduction

Contemporary research studies have continuously identified the high prevalence and serious negative consequences of depression for individuals, families, and society as a whole (Dantz et al., 2003; Gaynes et al., 2002), and more specifically for the elderly (Dunlop et al., 2003; Hope, 2003; Lai, 2000; Unutzer, Patrick, Marmon, Simon, & Katon, 2002). Researchers are beginning to identify the etiology of depression (Alexopoulas, 2005; Howland & Thase, 2002; Orengo, Fullerton, & Tan, 2004) with more effective treatment approaches, including use of biological (Comer, 2001; Howland, & Thase, 2002; Moffaert & Dierick, 1999), psychodynamic (Comer, 2001), and cognitive behavioral models (Hensley et al., 2004; Kelly, 2002; Tang, 2002). Use of the learned helplessness model (Rabbitt et al., 2004; Seligman, 1967, 1975, 1979, 2002; Twenge, Zhang, & Im, 2004) was the focus of this research study.

Modern researchers have also begun to understand the concepts of learned helplessness and depression as they apply to the elderly (Flannery, 2002, Hyer et al., 2004), and more particularly to those elderly living in long-term care facilities (Lasser et al., 1998). Despite this, there appears to be an extremely limited amount of research relating learned helplessness to the elderly using contemporary assessment tools now available.

The research of Fishman (1984) and Barder et al. (1994), among others, is reviewed in Chapter 2. Fishman found that an individual's perceived control had some

correlation with depression in long-term care facilities. Barder et al. also found institutional environmental factors to be important in the development of depression in acute and rehabilitative settings.

This review of the literature addresses the use of the Geriatric Depression Scale (Cannon, Thaler & Roos, 2002; Cheng & Chan, 2004; Papadopoulos et al., 2005) for the elderly. This review identifies why it has become such an important clinical and research tool for use with this specific population and suggests use of the Folstien Mini Mental State Examination (Burke, Nichener, Roccaforte, & Wengel, 1992; Katz & Parmalee, 1996; Snowdon & Lane, 1999) to increase the validity of the Geriatric Depression scale.

In the literature review, I consider the relationships among learned helplessness, an individual's perceived control over important aspects of his or her life, and clinical depression. This research study compared individuals in assisted-living facilities with the skilled nursing level of care in long-term care facilities, and the literature review addresses the contextual elements of the incidence and development of depression within long-term care facilities.

I begin the literature review by providing a general understanding of the incidence of depression and how it affects society in multifaceted ways. Research that more specifically demonstrates how the presence of clinical depression impacts the elderly is explored. Next, an understanding of the etiology and treatment of depression is presented, including the biological, psychodynamic, cognitive behavioral, and more specifically learned helplessness models for the development of depression. Questions of

how learned helplessness may be a component of the depression of residents in long-term care facilities will be addressed. Specific clinical assessment tools reviewed include the Geriatric Depression Scale (Yesavage et al., 1983), the Cognitive Distortion Scale (Briere, 2000), the Multiscore Depression Inventory (Berndt et al., 1980), and the Folstien Mini Mental State Examination (Folstien et al., 1975).

Several methods and resources were employed in the search for appropriate literature. The overall strategy began with searches in electronic databases for the terms *learned helplessness*, *depression*, *perceived control*, *locus of control*, *helplessness*, *senior*, and *elderly*. The searches were focused on seminal works in book form as well as periodical journal articles with a focus on foundational resources as well as some of the more recent research studies. These were followed by searches for keywords associated with the assessment tools such as the Geriatric Depression Scale, Folstien Mini Mental State Examination, Multiscore Depression Inventory, and Cognitive Distortion Scale when it became apparent that these might be helpful in the research. Furthermore, close examination of the references contained in more recent work led to a wealth of other useful and important sources frequently cited in current peer-reviewed publications. Dozens of additional works were then screened for studies and models that supported and addressed the model of learned helplessness as an etiologic factor for the development of depression in long-term care facilities.

This review, however, is not intended to be an extensive examination of the history and development of depression in its multifaceted forms among the elderly.

Rather, this review represents a search for an improved understanding of the etiology of depression and how depression may be effectively treated using contemporary assessment tools specific to the geriatric population in long-term care facilities.

Depression

It has been reported that major depressive disorder may have lifetime prevalence rates in the United States as high as 20-25 % for women and 9-12 % for men (Antonuccio et al., 1995; Comer, 2001). At any one time, it has been estimated that about 6% of women and 3% of men (Antonuccio et al., 1995; Comer, 2001) may have sufficient symptoms to warrant the diagnosis of major depressive disorder. These prevalence rates and gender differences seem to remain relatively constant across the adult lifespan.

In addition to indicating the high prevalence of depression, studies have found that depression has serious negative consequences (Dantz et al., 2003; Gaynes et al., 2002) for individuals, families, and society. Besides the serious effect on individual quality of life, depression increases economic and social difficulties within families as well as being an economic societal burden (Dantz et al., 2003; Gaynes et al., 2002). Some researchers (Hardy et al., 2003) have found depression to be the strongest predictor of absence from work, even when being compared to other symptoms of distress such as anxiety and lack of job satisfaction. Other researchers have actually analyzed cost calculations associated with clinical depression. Their analysis concluded that the annual workplace costs associated with depression totaled approximately $33 billion in 1990 (Greenberg et al., 1997). Although estimates may vary, research continues to indicate that

clinical depression frequently impairs individual functioning, resulting in significantly increased absenteeism and loss of productivity (Hardy et al., 2003).

Dantz and colleagues (2003) noted that the association between physical illness and depression is also well recognized. In summarizing the results of a large cohort study of patients who visited primary care physicians complaining of various physical symptoms, major depression was observed in 11% of the individuals and dysthymia in an additional 12% (Dantz et al., 2003). Estimates from the Dantz et al. study indicated that approximately 15% of adult medical inpatients and 4.8%-8.6% of primary care outpatients would meet the *DSM-IV* diagnosis for a major depressive disorder (Dantz et al, 2003). This means that approximately one out of every seven patients to visit a family physician's office may have some form of depression. Dantz et al. (2003) found that the majority of patients who were seeking help from a family physician were being affected by depression in four different ways, and they concluded that patients with chronic illness had twice the risk of depression when compared to those who were not chronically ill. Dantz et al. also found that somatic complaints accompanying depression may actually be the reason why many individuals seek medical care. Many physical conditions were being exacerbated by the coexistence of a depressive disorder, and depression was associated with a decline in compliance with medical treatment recommendations, consequently contributing to new and uncontrolled medical illness (Dantz et al., 2003).

In studying the bidirectional relationship of the comorbid effects of depression on medical illnesses as well as the effect of medical illnesses on depression, Gaynes et al.

(2002) found that in addition to exacerbating the effects of medical illness, comorbid depression might actually be an independent source of suffering and disability. Research on data from the Epidemiological Follow-Up Study of the first National Health and Nutrition Examination Survey (Gaynes et al., 2002) examined the manner in which depression and comorbid medical conditions interact to affect health-related quality of life. In the study of 9,898 participants, the researchers found that the effects of depression were comparable with those of arthritis, diabetes and hypertension. Depression and chronic illness interacted to amplify the effects of medical illness (Gaynes et al., 2003).

A review of the literature reveals a large number of research studies implicating the significant effect of depression upon individuals with medical illness as well as the general population. A survey of the research has also found depression to have a significant effect on the health (Bruce, 2001; Shultz et al., 2000) and quality of life (Bruce, 2001; Shultz et al., 2000) of our nation's senior citizens.

Depression in the Elderly

Seligman (1975) pointed out over 20 years ago that depression is akin to the common cold of psychopathology, at once both familiar and mysterious. Others also document depression to be very common among the elderly population (O'Rourke & Hadjistavropoulos, 1997). While there appears to be some divergence of statistics on depression prevalence among the elderly population, most studies have found prevalence rates of between 5% and 15% among seniors in the United States as well as various

countries throughout the world (Dunlop et al., 2003; Hope, 2003; Lai, 2000; Unutzer et al., 2002).

Unutzer and colleagues (2002) concluded that the prevalence of major depressive disorder among healthy, noninstitutionalized older adults in the United States may be only about 1% but also found that as many as 15% of older adults also experienced significant depressive symptoms that seemed to be below the threshold of severity for a DSM-IV diagnosis of major depression. When controlling for ethnicity, some studies have found even higher levels of depression among elderly minorities in the United States (Unutzer et al., 2002).

Dunlop et al. (2003) concluded that elderly Hispanics and African Americans actually have higher rates of depression than their White counterparts, possibly due to greater health burdens and lack of health insurance. In research involving almost 7,700 adults ages 54 to 65 on racial/ethnic differences in rates of depression, it was found that major depression was most prevalent among Hispanics (10.8%), followed by African Americans (9%), and Whites (approximately 8%) of the same age group (Dunlop et al., 2003).

Similar levels of geriatric depression have been found in other countries (Bin et al., 2004; Lia, 2000; Mohd, Mohd & Mustaqim, 2003). Hope (2003) summarized the findings of the National Service Framework for Older People, which was published by the Department of Health in Great Britain, indicating that 10%-15% of community residents over the age of 65 had depression severe enough to warrant clinical

intervention. In referring to the same data, Baldwin (2000) commented that this is probably an underestimate owing to factors of presentation and recognition. The presentation of geriatric depression symptoms unique to different cultures throughout the world makes comparison of prevalence rates relatively difficult.

Despite problems consistently defining the unique presentation of depression among the elderly, similar statistics have been found in various countries throughout the world. In a study (Bin et al., 2004) of obesity and depressive symptoms among the Chinese elderly that included 18,750 men and 37,417 women, prevalence rates of depressive symptoms based upon the Geriatric Depression Scale were found to be 4.9% and 7.9%, respectively. A Malaysian study (Mohd et al., 2003) of the elderly in a rural community setting found the prevalence of depression to be 9% among individuals with chronic illness and 5.6% among those without chronic illness. Meanwhile, depression has proven to be one of the most common emotional disorders among Canadian older adults, affecting almost 10% of the general elderly population of Canada (Lia, 2000).

Researchers have found that the elderly have very high levels of medical and psychiatric comorbidity and have noted a high correlation between the level of acute medical and psychiatric symptomatology. Shinkawa et al. (2002) reported that depressive symptoms were associated with medical conditions and that this was especially true for stroke survivors over age 65. Fischer et al. (2002) concluded that about 20% to 25% of geriatric primary care patients have clinically significant symptoms of depression. The prevalence rate for geriatrics, according to data from the National Service Framework for

Older People in United Kingdom (Cullum, Nandhra, Darley, & Todd, 2003), indicated that the rate of depression among people over the age of 65 on medical inpatient units was around 25%, and also identified that these patients had higher rates of mortality and longer durations of stay in the hospital and were more likely to remain depressed.

Higher levels of comorbid medical symptoms and depression among the elderly also extend into long-term care facilities. The National Institute of Health (1991) reported over a decade ago that approximately 15%-25% of nursing home and extended care clinic residents had symptoms of depression. More recently, Soon and Levine (2002) found the prevalence of major depression among long-term care patients to be between 12% and 25%, with lower levels of minor depression present in an additional 18%-30% of long-term residents. Teresi et al. (2001) estimated a prevalence rate for probable and/or definite major depressive disorder among subjects able to be tested to be 14.4% and for minor depression to be 16.8%, with depressive symptomatology and the category of possible depression achieving 44.2%.

Based upon estimates of recognized depression by nursing home staff, corresponding estimates of resident depression of any form were 19.7% by social workers, 29% by nurses, and 32.1% by nurse aides. Cohen et al. (2003) estimated the prevalence of depression among nursing home residents to range from 6% to 24% for major depression, and 30% to 50% for patients with minor depression. Similarly, Lasser et al. (1998) found that rates of depressive disorders in long-term care facilities range from 20% to 50% and concluded that including institutionalized elderly increases the

incidence of major depression significantly.

The Effects of Depression on the Elderly

In addition to the high level of depression among the elderly, the exacerbating impact of depression in relation to comorbid medical conditions, activities of daily living, and ultimately quality of life can be devastating. According to Watson and Pignone (2003), depression symptoms subside and cognitive functioning and quality of life improve with appropriate psychological or psychopharmacological treatment. In summarizing the results of various studies, Lelito et al. (2001) explained that depression frequently results in serious complications for geriatric medical treatment. Patients may be less compliant with medical treatments resulting in cognitive decline, more frequent hospitalizations and poorer medical outcomes, and individuals with depression may experience increased family stress, sexual dysfunction, social withdrawal, and occupational problems, as well as a higher level of substance abuse (Watson & Pignone, 2003).

Researchers continue to find relationships among depression, physical disability, and specific medical problems to be very complex and interactive (Oslin et al., 2002). Fischer et al. (2002) questioned whether depression leads to increased health care use or whether increased depression is a consequence of medical illness and need for health services. Schultz and colleagues (2000) concluded that while it is a well-known phenomenon that depression may be a consequence of medical illness and disability, a growing amount of literature suggests that depression may result in biological changes

that are linked to mortality and may contribute to cardiovascular disease and mortality. Individuals may experience a combination of factors that include behavior, medical illness, and depressive affect that result in the undermining of biological integrity (Schultz et al., 2000).

Regardless of the direction of causality, the most important factor seems to be that depression coexists with medical disorders in an interactive system (Schultz et al., 2000) involving affect, behavior, and physiology in multiple feedback loops which ultimately result in a comorbid downward spiral with increased disability and death. The physiological systems affected by this reciprocal system of mutual causality may be numerous. Reynolds et al. (2002) concluded that the consequences of depression among the elderly include suicide (especially in White men ages 75 and older), alcohol dependence, cognitive impairment, and an increase in disability associated with medical illness. Additionally, elderly depression results in higher rates of health care utilization and increased rates of mortality following heart attack, stroke and cancer (Reynolds et al., 2002).

Although symptoms of depression among the elderly are highly prevalent, they frequently go undetected, misdiagnosed, and untreated in both the community at large (Gallo & Rabins, 1999; Lelito et al., 2000; Reynolds et al., 2002), as well as in long-term care facilities (Brown et al., 2002; Cohen et al., 2003; Soon & Levine, 2002; Teresi, et al., 2001). Reynolds and colleagues (2002) suggest that clinically significant depression in the elderly may be underdiagnosed in primary care offices, acute medical surgical, and

long-term care facilities. Hope (2003) reports depression in the elderly is underdiagnosed and consequently not adequately treated.

Similar findings of underdiagnosis and lack of appropriate treatment has also been consistently found in nursing homes and other types of long-term care facilities (Brown et al., 2002). Late life depression is obviously an important public health issue and is even more prominent in nursing homes than in the community, and prevalence rates in older people residing in nursing homes are three to five times higher than those of individuals living in the community (Brown et al., 2002). Although the elderly are generally aware of and have access to effective treatment with medications, psychotherapy, and even electroconvulsive therapy, less than one quarter of those diagnosed received effective treatment (Brown et al., 2002).

Teresi et al. (2001) summarized data from several studies and concluded that despite the high prevalence of depressive symptoms among our nation's seniors, evidence continues to support the contention that depression is frequently not recognized in most health care settings, including nursing homes. Teresi et al. reported that only 15% to 27% of newly admitted nursing home residents were recognized as having depression by nursing home staff. Teresi et al. concluded that fewer than 25% of residents were recognized by nursing home physicians as being depressed and subsequently treated. The authors concluded that the primary reason for failure to treat depression in the elderly is a failure to recognize it in the first place. Cohen et al. (2003) report that less than 25% of patients experiencing depression were diagnosed or treated in the nursing home.

While researchers are relatively unified in their recognition of the high prevalence of depression among the elderly as well as the consequent high level of undertreatment and misdiagnosis, there seems to be divergence of opinions of the various reasons for this undertreatment (Hope, 2003). Reasons for undertreatment of depression may be related to how symptoms are manifested among the elderly (Dantz et al., 2003; Gallo & Rabins, 1999; Hope, 2003; Lasser et al., 1998), the psychological and social expectations and stereotypes of physicians (Dantz et al., 2003; Gallo & Rabins, 1999; Lasser et al., 1998 Reynolds et al., 2002), and societal beliefs (Hope, 2003; Lasser, 1998; Lelito et al., 2001). Hope (2003) referred to these diverse opinions, combined with the importance of recognizing the high rate of comorbid medical conditions among the elderly, as complicating the presentation and recognition of elderly depression. Some earlier texts argued that depression in older people presents very different symptom patterns than depression among younger individuals. More recent work has found that the presenting symptoms of clinical depression are fairly similar across the various age groups but that older people seem to have a higher level of preoccupation with somatic complaints and the actual complaints of mental depressive symptoms may be reduced (Reynolds et al., 2002). In other words, they were more likely to experience and report symptoms related to physical distress rather than psychological distress.

Reynolds et al. (2002) suggest that depression in the elderly usually coexists with medical illness and cognitive impairment, which can result in depression being overlooked. This confusion and lack of diagnostic clarity between physical and

psychological concerns may be shared by both the doctor and the patient due to the interactional nature of the comorbidity (Reynolds et al., 2002).

Gallo and Rabins (1999) explained that older patients with depression seem to present with somatic complaints and a medical diagnosis is sought because psychological symptoms are less likely to be reported. Patients are frequently unable or unwilling to distinguish between psychological and medical symptoms, in order to articulate their mental health concerns to their medical doctors. Frequently there are also comorbid psychological issues that further complicate the diagnostic scenario. According to Lasser et al. (1988), the coexistence of multiple psychological symptoms such as anxiety in conjunction with depression, may increase the level of diagnostic confusion by both patients and physicians. Depression in the elderly, when compared to younger patients, can occur in combination with more physical, somatic or anxious features, and less of the subjective sadness (Lasser et al., 1988).

This lack of diagnostic clarity among both patients and their doctors frequently leads to misdiagnoses and inappropriate psychological treatment. Lasser et al. (1998) reported that the anxiety commonly associated with geriatric depression can be treated with anxiolytic medication such as benzodiazepines, rather than antidepressants. The various somatic presentations of depression can be some of the more challenging of situations faced by family members or primary care physicians. The elderly may report a range of somatic symptoms including obscure pain, tinnitus, or gastrointestinal problems, and mood or mental health symptoms may go untreated (Hope, 2003). Moreover, the

focus of both the older patient and their doctor on possible underlying medical concerns can be preoccupying and defer their attention away from concerns for psychological etiology or possible comorbidity. Gallo and Rabins (1999) concluded that the patient may worry that there may be serious illness underlying the symptoms and the physician likewise may also be concerned that there may be hidden disease that may be missed. Specific medical illnesses may cause symptoms that mimic depression, and examples would be pancreatic carcinoma or hypothyroidism (Gallo & Rabins, 1999). Dantz et al. (2003) report a prospective study demonstrating a 67% rate of diagnostic accuracy for depression when patients presented with only depression-related complaints. In depressed patients with comorbid conditions the accuracy drops to 29%.

Researchers (Lasser et al., 1998; Lelito et al., 2001) have found the social beliefs and stereotypes of both the patient and physician to inhibit the appropriate recognition of depression, and this may contribute to the misdiagnosis and undertreatment of our nation's elderly. Lasser et al. (1998) concluded that the clinical mismatch between the high prevalence rate of geriatric depression and undertreatment may frequently be related to patient and physician attitudes toward depression as being relatively "normal" (Lasser, 1998; Lelito, 2001). Other factors associated with undertreatment include response to aging and loss, diagnostically confusing medical illness and the related symptomatology, and possible noncompliance with prescribed treatment. Lelito (2001) referred to some of the larger psychosocial issues obstructing accurate assessment and treatment of geriatric depression, including decreased activity, social isolation and difficulty sleeping. These

symptoms may often be misinterpreted as indicative of normal aging (Lelito, 2001).

In summary, researchers have found the reasons for undertreatment and misdiagnosis among the elderly to be multifaceted in that they are frequently related to the unique characteristics of the symptom manifestations, social characteristics and the expectations and beliefs of physicians, families, individuals, and contemporary societal beliefs.

The Effects of Depression and Disability

Various population-based studies have supported the association between depression and disability among the elderly (Bruce, 2001; Fischer et al., 2002; Lasser et al., 1998; Reynolds et al., 2002). Oslin et al. (2002) referred to several published findings from cross-sectional studies supporting the relationship between depression and physical disability, and found that greater levels of physical disability, as assessed by various measures of instrumental and basic activities of daily living, predicted the presence of symptoms of depression. The elderly who have depressive-spectrum disorders or major depression display more physical and social dysfunction than medically ill individuals without depression, highlighting the functional burden of depression (Lasser et al., 1988). Although the comorbid symptoms of depression and disability are very interactive and sometimes not well defined as to which may be the primary etiology of the two, there is a significant correlation between increasing levels of depression and related disability (Oslin et al., 2002). Patients with major depression have nearly five times greater risk of being disabled then patients who have not been found to

be depressed, and as depression worsens, the physical disability worsens (Oslin et al., 2002). Specific symptoms of anxiety, depressive ideation, psychomotor retardation and weight loss are associated with greater disability in the elderly (Lasser et al., 1988).

While there is a growing body of research indicating similar conclusions, two of the more recent studies demonstrating the disabling effect of depression have considered the effect of depressive symptoms on older adults with arthritis and cardiovascular disease. In a study conducted by Lin et al. (2003), it was found that a reduction in depressive symptoms lowered mean scores for pain intensity and interference with daily activities due to arthritis, and interference with daily activities due to pain. Overall health and quality of life were also enhanced among intervention patients relative to control patients over a period of 12 months (Lin et al., 2003).

According to the results of a 6-year study on depressive symptoms and the risks of coronary heart disease and mortality among elderly Americans (Ariyo, Hann & Tangen, 2002), it was found that depressive symptoms are an independent risk factor for the development of coronary heart disease. While several epidemiological studies have documented the relationship between cardiovascular risk and depression, most of the studies have been conducted with middle-aged individuals. This study demonstrated that depressive symptoms are an independent risk factor for the development of coronary heart disease and mortality among elderly Americans (Ariyo, Hann & Tangen, 2002). These results were consistent with other studies that demonstrated the risk for cardiovascular disease associated with depression, but focused strictly on older

Americans, and provided a large amount of prospective data demonstrating the incremental risks of coronary heart disease associated with increasing levels of depression.

Although the reciprocal, exacerbating effect of depression and functional disability may seem enough to present a significant problem to the elderly and promote the increasing need for research, the full extent of the mutual comorbidity associated with physical disability and depression may be incomplete without also understanding the relevant, significant correlations in mortality associated with depression and disability.

The Effect of Depression and Mortality

Various researchers (Bruce, 2001; Hope, 2003; Laidlaw, 2001; Schultz et al., 2000; Unitzer, 2002) have identified an increased rate of mortality associated with later life depression. Some studies appear contradictory because of failure to control confounding factors such as demographic, medical, and behavioral health risk factors that might be associated with depression and the risk of death (Hope, 2003). Several studies found a statistically significant relationship between increased levels of depression and mortality, after adjustment for comorbidity, functional impairment and cognitive impairment (Bruce, 2001; Unitzer et al., 2002).

Increased rates of mortality associated with depression seem to be related to several factors including higher rates of suicide among the elderly. Hope (2003) has referred to statistics published by the World Health Organization which indicated that for individuals over age of 65, depression related suicides were a significant amount of the

overall total, and that this is true for both males and females. The association between depression and suicide continues to be validated as evidence of the interactional and mutually exacerbating nature of the relationship between depression, medical illness, disability, and mortality (Bruce, 2001; Fischer, et al., 2003; Lasser, et al., 1998; Lin, et al., 2003; Schultz et al., 2000; Unutzer, et al., 2002).

Schultz et al. (2000) have concluded that some of the more robust findings in the research literature related to depression, cardiovascular disease, and the incidence of mortality have suggested that the pathophysiology of heart disease and depression are very closely intertwined. When comparing the depressed with the non-depressed, depressed individuals have been found to have both functional and structural changes in the brain that may result in pathophysiological changes such as reduced heart rate variability or ventricular arrhythmias known to increase risk for cardiovascular disease and mortality (Schultz et al., 2000).

Unitzer et al. (2002) suggested a significant increase in the risk of mortality in the 3% of patients who had the most severe symptoms of depression, and proposed possible connections to serious comorbid medical issues. The researchers reported that the association of depression with comorbid medical issues increases the risk of mortality at a rate similar to the risk of mortality from chronic medical illnesses, such as emphysema and heart disease (Unitzer et al., 2002).

In summary, while research results have not been identical, the conclusion may be drawn that a growing body of research literature continues to identify a higher level of

disability and mortality among individuals with various chronic medical conditions and depression. However, while depression is increasingly becoming identified with various biological and psychological causes, there continues to be significant controversy regarding it's definitive etiology.

Etiology of Depression

While various etiological factors have been identified over the years by health professionals and the general public, researchers continue to find the cause of depression to be multidimensional (Alexopoulas, 2005; Howland & Thase, 2002; Orengo, Fullerton, & Tan, 2004) rather than limited to a single causative factor. Usual explanations include biological causes, as well as psychological and social etiology. However, it is interesting to note that the etiological views of the general public seem to be somewhat different (Lauber, Falcato, Nordt, & Rossler, 2003; Srinivasan, Cohen, & Parikh, 2003) from those of mental health professionals and distinctly different from medical doctors and other medical personnel. Srinivasan et al. (2003) indicate that patient perceptions of depression frequently do not include biomedical explanations, relating causes of depression to thinking patterns, stress, or negative life events. Lauber et al. (2003) similarly concluded that lay attributions are not biologically oriented but more related to psychosocial beliefs. These researchers also stated that this discrepancy between lay and professional views cannot be neglected in the therapeutic relationship, because it implies that there is more support for treatment in the community than in a hospital (Lauber et al., 2003).

These psychosocial causal attributions shared by many in the general public seem

to have little relationship to age, gender, education and other demographic characteristics (Lauber et al., 2003). The elderly also endorse primarily psychosocial causation with a few minor exceptions. The elderly attribute their depression to loss of religious faith, thinking patterns, heredity, and illness (Lauber et al., 2003; Srinivasan et al., 2003). The consequences of failing to understand the discrepancy between the etiological perspectives of the lay public and those of professionals in the medical community may result in noncompliance with biomedical treatment, such as not taking medication as patients see the problem as primarily psychosocial. Current etiology and treatment models are usually either biological or psychological (Comer, 2001). Biological models include the use of psychotropic medications as well as electroconvulsive therapy (ECT). The more popular psychological treatment models used among the general population as well as among the elderly are usually based on psychodynamic, interpersonal, or cognitive-behavioral therapy models (Comer, 2001).

Biological Model for the Etiology and Treatment of Depression

Biological treatment methods to assist in the management of depressive symptoms are becoming increasingly popular. While biological depression treatment methods usually refer to the use of antidepressant medications, many do not realize that biological treatments may also include the use of electroconvulsive therapy in circumstances where medications are ineffective or are determined to be unsafe (Fink, 2004; Rasmussen, 2003). Antidepressant medications have been found to be the biological treatment of choice for the greatest majority of individuals (Fink, 2004;

Rasmussen, 2003).

Two types of drugs were discovered in the 1950s that were found to reduce the symptoms of depression (Comer, 2001). These medications included the monoamine oxidase inhibitors (MAO) and the tricyclic antidepressants. These medications were found to be effective and were used to provide relief from depression for many individuals for several decades, continuing into the 1970s and 1980s. Throughout this period of time biological research into depression focused on the underlying mechanisms of noradrenaline (Comer, 2001; Howland & Thase, 2002; Moffaert & Dierick, 1999) as well as its precursors and metabolites. The early belief (Moffaert & Dierick, 1999) was that the first antidepressants, which were the tricyclic antidepressants and MAOI's, were believed to inhibit the reuptake or degradation of noradrenalin. However, significant side effects (Maxmen & Ward, 2002) were also found to accompany the benefits of these early antidepressants paving the way to the newer antidepressants.

With the introduction of the selective serotonin reuptake inhibitors in the late 1980s and early 1990s, focus shifted to the role of serotonin (Blardi et al., 2005; Howland & Thase, 2002) in depression. The belief was that because the selective serotonin reuptake inhibitors acted by inhibiting the cell reuptake of serotonin, that they had the effect of maintaining a higher level of serotonin in the brain and reducing depressive symptoms. While they seemed to be at least as effective as the tricyclics and MAOI's, they had a significantly improved side effect profile (Maxmen & Ward, 2002) among all age groups, including the elderly (Mottram, 2004; Robertson & Montagnini, 2004).

All antidepressants currently in use are believed to act primarily by increasing the neurotransmitter levels of either norepinephrine, serotonin or both (Moffaert & Dierick, 1999; Shytie et al., 2002). Shytie et al. (2002) explained that over 30 years ago, clinical observations led to the recognition that monoamine elevating medications improved mood in patients with depression. These noted pharmacological actions were the basis for the monoamine hypothesis, which concluded that depression was the result of a functional deficiency of monoaminergic neurotransmission. This hypothesis continues to be widely held and concludes that depression is associated with a relative deficiency of the monoamines Norepinephrine (NE) and Serotonin (5-HT). Hence the evolution of the monoamine hypothesis of depression occurred, concluding that the therapeutic properties of antidepressants are primarily mediated through inhibition of neuronal potassium (K+) channels (Shytie et al., 2002). Subsequently there is interference with the stress-induced activation of tryptophan hydroxylase responsible for excessive elevations of serotonin (Shytie et al., 2002).

However, while there may be a biological basis to depression, most researchers and clinicians also recognize that precipitating events in an individual's life may lead to underlying changes in the biological structure, which may require remediation or psychotherapy (Jacobs, 2004). In addition to the biological theories related to the etiology and treatment of psychological disorders, the psychological theories actually predated psychobiological treatments by several decades and continue to provide effective psychosocial intervention (Abela, Brozina, & Seligman, 2004; Seligman, 1998; Winston,

Been, & Serby, 2005).

Psychological Models of Depression

Psychological treatments have been used for several decades in the treatment of depression and other psychological disorders**.** Lambert (2005) has noted psychotherapy of various orientations and formats has been found to be effective for a variety of patient disorders. The extent and richness of the therapeutic effect has extended over decades of research, thousands of treated individuals, hundreds of settings and a multitude of cultures. Psychotherapy may reduce depressive symptoms, improve interpersonal relationships, restore work performance and improve overall quality of life (Lambert, 2005). Psychological treatments have been found to effectively assist various age groups and diagnostic categories including depression with the elderly (Alexopoulas, 2005; Hyer, et al., 2004; Robertson & Montagnini, 2004).

Psychodynamic Model

The psychological treatments most often used to treat depression include the psychodynamic (Comer, 2001) and cognitive models (Fonagy, Roth, & Higgitt, 2005; Hyer et al., 2004; Johnson, 2005), although research has been extremely limited in confirming the effectiveness of psychodynamic treatment for depression at the present time. There are few controlled studies of psychodynamic therapy for depression, and long-term psychoanalytic treatment is not common (Fonagy, Roth, & Higgitt, 2005; Hensley et al, 2004) at the present time. Cognitive and other types of interpersonal psychotherapy are currently the most common forms of therapy (Hensley et al., 2004).

Moderate but unsustainable improvement was identified in a study utilizing the psychodynamic method referred to as supportive-expressive psychotherapy (Tang et al., 2002). On the other hand, the preponderance of empirical evidence (Johnson, 2005; Hensley et al., 2004; Laidlaw, 2001; Seligman, 2002, 1998, 1975, 1967) of the effectiveness of cognitive behavioral treatment for depression is overwhelming. Additionally, research (Alexopoulas, 2005; Hyer et al, 2004; Robertson & Motagnini, 2004) continues to be compelling in identifying CBT as the treatment of choice for use in the psychotherapy of older adults.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) has been identified for some time as the psychological treatment of choice (Hensley et al., 2004; Kelly, 2002; Tang et al., 2002) for various age groups including the elderly (Alexopoulas, 2005; Doubleday, King & Papageorgiou, 2002; Hyer et al. 2004). In addition to the benefits of cognitive behavioral therapy, CBT does not apparently have the negative side effects associated with either antidepressant medications (Leason, 2004; Mottram, 2004) or electroconvulsive therapy (Fink, 2004; Rasmussen, 2003). Hyer and colleagues (2004) have concluded that CBT has been a primary form of the psychotherapy for many years, specifically when treating depression and anxiety in the elderly. In summary, CBT has been found to be a highly researched form of therapy for the treatment of depression among the elderly. The level of effectiveness and empirical basis has been well established, although the actual mechanism of change is still somewhat controversial.

Cognitive behavioral therapy began its evolution in 1967 (Beck, 1979), when Aaron Beck M. D. published his first book entitled *Depression.* His therapeutic model continued to evolve and presented a broad extension of his basic ideas to the treatment of various psychological conditions such as anxiety, depression, work with couples (Beck, 1988) and even with individuals with substance abuse (Beck, 1993). Beck (1979) clarified his theoretical rationale in relation to the individual's affect and behavior, which are largely determined by their perspectives or by the way they saw their world. An individual's cognitions are described as the verbal or pictorial events in the individual stream of consciousness, and cognitions are based on attitudes or assumptions (schemas), usually developed from a person's previous experiences (Beck, 1979).

Beck's cognitive theory (1979) indicates that an individual's experience leads to specific ways of thinking, which then facilitate the development of attitudes or assumptions that he referred to as schemas. These attitudes, beliefs, and schemas then form a paradigm from which individuals view and respond to the world (Beck, 1979, 1988, 1993; Hyer et al. 2004). According to the cognitive behavioral model (Beck, 1979, Glasman, Finlay & Brock, 2004; Seligman, 1967, 1979, 2002) a negative view develops, which in turn forms an individual's perspective of themselves and their circumstances resulting in specific feelings and moods such as depression. Early on it was still not clear how this negative attributional style transformed into the experience of depression (Glasman, Finlay & Brock, 2004).

Learned Helplessness Model of Depression

When Martin Seligman began graduate study in 1964 he quickly became aware that in spite of providing reinforcing rewards, some research rats quickly learned to "give up" if they perceived that their efforts were futile in achieving their intentions and they would in effect "learn helplessness" (Seligman, 1967, 1975, 1978, 1979, 2002). His theory of learned helplessness became a paradigm for understanding how a negative attributional style can be transmitted into an affective response that resulted in depressogenic moods and behaviors. This theory began an evolution in cognitive behavioral theory which recognized the connection between the negative attributional style, and perceived control defined by whether an individual felt that their personal efforts made a difference (Rabbitt et al., 2004; Twenge, et al., 2004). This combination of perceived control and learned helplessness has been useful in understanding depression among individuals of various ages, including elderly living in the community (Flannery, 2002; Hyer et al., 2004; Seligman, 1998, 2002), and in long-term care facilities (Campbell, 2003; Fishman, 1984).

Learned Helplessness in Long Term Care Facilities

From these earlier 1980s findings and previous research conducted in long-term care facilities, learned helplessness was determined to be a valid conceptual model to consider the depressogenic factors associated with depressed elderly in institutional environments (Fishman, 1984). Fishman (1984) reviewed his findings and concluded that the depression seen in many elderly institutionalized seemed to be a form of learned

helplessness which appeared to arise from their experience of having little or no control over what happens to them or their environment. In residential care facilities (RCF), almost total care is provided to the elderly, and decisions and choices related to most activities of daily living were removed from the residents, including scheduling (Fishman, 1984). Fishman (1984) associated this loss of active decision making with clinical depression of the residents. Fishman (1984) concluded that mental health and subsequent depression is related to level of care, control, choice and to the level of responsibility given to residents in long term care facilities. This research supported the contention that there is a positive correlation between various levels of care in residential care facilities and relative levels of depression (Fishman, 1984). Fishman's research is the most similar in scope to my research which followed upon Fishman's basic three hypotheses.

The first hypothesis according to Fishman's (1984) research was that if the learned helplessness model of depression were to sufficiently explain depression among the aged, you would expect depression scores to be much higher among residents of facilities which offer little choice or control over one's routine and activities of daily living such as residential care facilities as opposed to apartment care facilities (ACF), which offer significant choices related to an individual's activities of daily living.

The second hypothesis was that individuals in facilities that allow little choice would experience a significantly higher level of depression than individuals who are allowed more options within their living environment (Fishman 1984). He concluded that

the higher depression scores were related to the importance placed upon the decision-making process, in conjunction with the perception of limited choice (Fishman, 1984).

In the final of his three hypotheses, Fishman (1984) considered whether an individual's perception of choice and control could be measured independent of the degree of importance to be identified as the main causal factor related to depression. He concluded that if that were the case then a perception of low choice and low control would be significantly related to high depression scores, and a perception of high choice and control would be significantly related to low depression scores (Fishman 1984).

Fishman's (1984) first hypothesis, which was derived from the original learned helplessness model of depression, was confirmed through utilization of analysis of covariance on the data. Residents of the more restrictive (RCF residents) environment were indeed significantly more depressed than residents of the less restrictive (ACF residents) residential facility (Fishman, 1984). Fishman concluded that "since a wide range of BDI scores was found in both groups resulting in considerable overlap of scores, it was found that type of facility was not sufficient to predict BDI scores" (Fishman, 1984, p.24).

Fishman's (1984) second hypothesis predicted that the degree of importance in having a perception of choice and control would be an important factor in explaining the depression scores in his research. He stated that it would be expected that residents experiencing a perception of a low level of choice and low control in conjunction with a high degree of importance in having such choice and control would have a significantly

higher level of depression, and this hypothesis was rejected (Fishman, 1984).

The final hypothesis predicted that the perception of choice and control alone would be significantly related to depression scores, and this hypothesis was not rejected (Fishman, 1984). Perception of low choice and control alone was positively related to depression scores, and perception of high choice and control alone was negatively related to depression (Fishman, 2004). Furthermore, these findings were consistent with previous research results indicated that perceived control and lack of control are associated with elevated depression scores (Abramowitz, 1969; Calhoun, Cheney, & Dawes, 1974; Hirito, 1974). Although the first two hypotheses were not confirmed in Fishman's (1984) research, the third hypothesis found a correlation between choice and control and depression in these facilities. Based upon this correlation, the original learned helplessness model (Seligman, 1975) does appear to be a very useful model to predict, and might be useful in the understanding of depression in the aged in long term care facilities.

In summary, Fishman's (1984) research considered the correlation between an individual's perception of locus of control and depression by surveying residents in residential facilities at two different levels of restrictiveness, defined by level of personal decision-making and the related perceptions of control over the individual's circumstances. Fishman's (1984) concept of perceptions of locus of control seemed very similar to the study of perceptions of control in institutional health care environments studied by Barder et al. (1994). Perceptions of choice and control rather than objective

measures of restrictiveness are more strongly related to depression (Fishman, 1984). Fishman's research (1984) identified a positive correlation between perceived locus of control and depression at two different levels of restriction indigenous to two different levels of residential care facilities for elderly residents. Fishman utilized the Beck Depression Inventory to measure depression and The Policy and Program Information Form (POLIF) of the Multiphasic Environmental Assessment Procedure (MEAP)-Modified (Moos & Lemke, 1979) to measure perception of control. Fishman (1984) recommended further research to determine how and why an individual's perspective of importance is related to their perceptions of control as well as how these perspectives and perceptions may be more adequately measured.

Since the time of Fishman's (1984) research, additional tools have been developed to specifically survey depression among the elderly, including the Geriatric Depression Scale (Yesavage et al., 1983). Additionally, attention is now given to the importance of identifying subjects' cognitive ability through the utilization of the Folstien Mini Mental Status Exam (Folstien, et al., 1975). The concept of perceived control can now be studied utilizing the Helplessness subscale of the Cognitive Distortions Scale (Briere, 2000), and learned helplessness can now be studied specifically utilizing the instrumental helplessness and learned helplessness subscales of the Multiscore Depression Inventory (Berndt et al., 1980).

Measures of Depression and Learned Helplessness

Using the Geriatric Depression Scale for the Elderly

The Geriatric Depression Scale (Cannon, et al., 2002; Cheng & Chan, 2004; Papadopoulas, et al., 2005) has now become a fixture in the assessment of depression among the geriatric population. Chang and Chan (2004) concluded that the Geriatric Depression Scale (GDS) is the most widely used self-report instrument for assessing depression among the elderly and for use in diagnostic screening in both clinical and community settings. The GDS was developed in response to the recognition that other depression screens such as the Beck Depression Inventory may not be ideal for use among the elderly population (Chang & Chan, 2004). Cannon et al. (2002) reviewed the appropriate use of the Geriatric Depression Scale for the elderly and commented on its test-retest reliability. Their review considered intervals of administration that varied from a few days up to one year. Yesavage et al. (1983) reported a correlation of 0.85 between GDS test administrations performed one week apart by 20 participants. Parmalee, Lawton, and Katz (1989) also reported a correlation of 0.85 on test/retest administrations conducted one month after the original administration. Snowden and Lane (1999) compared two administrations of the GDS by a nurse and clinical psychologist to nursing home residents a few days apart, and found a significant correlation (0.88) for a sample of 50.

The Geriatric Depression Scale has been found to more effectively assess depression among the elderly than any other instrument in current use. Parmalee et al.

(1989) did not include cognitively impaired individuals, which was an issue that was also not addressed by Fishman's (1984) research.

Using the Folstien Mini Mental Status Examination in Assessing Depression

Depression is most effectively assessed using the Geriatric Depression Scale (GDS) when also considering the effect of cognitive impairment on the validity of test scores (Burke, Nichener, Roccaforte, & Wengel, 1992; Katz & Parmalee, 1996; Snowdon & Lane, 1999). Both the specificity and sensitivity of the GDS have been found to be affected below a certain cutoff score when using the Mini Mental State Exam (Folstien, et al., 1975). Katz and Parmalee (1996) concluded that the GDS still appeared to remain valid and reliable even for patients with mild to moderate cognitive impairment. Snowdon and Donnelly (1986) agreed that the GDS is useful for depression screening even in demented subjects who can understand questions and give answers. Mild to moderate dementia or cognitive impairment did not appear to necessitate exclusion from research, while serious cognitive impairment obviously did (Snowdon & Donnelly, 1986). Cannon et al. (2002) summarized the effect on the sensitivity and specificity of GDS scores along a continuum of cognitive impairment utilizing the Mini Mental State Exam (MMSE). Cannon referred to the work of Burke et al. (1992) who used a cut off of less than 24 on the Mini Mental State Exam (MMSE) to be classified as cognitively impaired. Keonig et al. (1988) used a cut off of < 16 on the MMSE. Anecdotally, Keonig (1989) reported that administration of the GDS to patients with scores below 16 to be very unreliable and inconsistent. Snowden and Lane (1999), found the sensitivity and

specificity of the GDS drops with MMSE scores below 14. McGivney, Mulvill and Taylor (1994) also found that with similar MMSE scores the GDS sensitivity to be 27% and specificity to be 69%.

In summary McGivney et al. (1994) found the sensitivity and specificity of the Geriatric Depression Scale to be affected significantly by scores on the Mini Mental State Exam, and the results for all participants in their study (*n* = 66) were sensitivity scores of 63% and specificity of 83%. When only those with Mini Mental State Exam scores of above 15 were included (the best cutoff score) 44 participants were selected with sensitivity and specificity scores of 84% and 91%, respectively. Scores below 14 as mentioned above were reported as 27% and 69% respectively. Their conclusion was that a two-step procedure of first selecting those with MMSE scores > or = 15 and then giving the GDS significantly increases the utility of the GDS for detecting depression (McGivney, 1996).

Perceived Control: Cognitive Distortion Helplessness Subscale

Briere (2000) identified the concept of not being able to control important aspects of life, and lack of perceived control as significant measurements of learned helplessness correlated with instrumental helplessness as measured by Multiscore Depression Inventory. Correlation of perceived control to depression as measured by the Geriatric Depression Scale, provides another specific measurement of the components of learned helplessness that underlie the overall perception of learned helplessness (Briere, 2000). This perceived control variable was assessed through the helplessness subscale of the

Cognitive Distortion Scales (Briere, 2000).

When CDS scale scores were compared to several other similar scales. A high level of construct validity and a moderate level of correlation was reported when assessed for convergent validity (Briere, 2000), and when assessed by correlational scores on tests designed to measure similar traits, such as the Beck Depression Inventory (Beck, et al, 1961) and the Multiscore Depression Inventory (Berndt, et al., 1980). Use of the CDS in previous research in an institutional setting was also part of the rationale for inclusion of the CDS in the current research study.

Learned Helplessness and Instrumental Subscales of the Multiscore Depression Inventory

The Multiscore Depression Inventory (Berndt, et al., 1980) is a self-report depression inventory based on Martin Seligman's (Seligman, 1975, 1998) original theory of learned helplessness. The MDI is based upon the selection of 10 symptoms representative of depression developed into subscales which include the learned helplessness and instrumental helplessness subscales utilized in this research study. While Berndt et al. (1980) stated that both learned helplessness and instrumental helplessness subscales both address the question of "What is the use in trying?" (Berndt, 1981), they also came to the conclusion that the scales were significantly different as the learned helplessness subscale was believed to be a trait measure and the instrumental helplessness subscale a measure of an individual's temporary state.

Berndt et al. (1980) reported the test-retest reliability scores for learned

helplessness to be 0.68 and an alpha of 0.71, and instrumental helplessness subscale were 0.38 and an alpha of 0.87. Convergent and discriminant validity for the subscales were highly significant ($p < 0.001$) (Berndt et al, 1980).

Summary of Literature Review and the Present Study

Chapter 2 provided a literature review of depression among the elderly as well as its effects and possible etiology. The biological model for the etiology and treatment of depression as well as the psychological theories of the psychodynamic model, cognitive behavioral model and learned helplessness model were discussed. The Geriatric Depression Scale (Yesavage et al., 1983), the Folstien Mini Mental State Examination (Folstien et al., 1975), and its utility in assessing depression using the GDS (Yesavage et al., 1983) were discussed. These instruments will be described in the following chapter along with more extensive information related to the Cognitive Distortion Scale and Multiscore Depression Inventory.

The following chapter will present the current research study that proposes to measure a correlation between geriatric depression of individuals in two different levels of nursing home care and perceived locus of control, and is built on previous research utilizing the Beck Depression Inventory (Fishman, 1984; Beck et al., 1961). The current research study is also based on Barter et al. (1994), who researched a correlation between levels of depression and perceptions of control among elderly people in acute care versus long-term care facilities.

Subsequent to the research of Fishman (1984), several instruments have been

developed and utilized to enhance the accuracy of assessment among the geriatric population including the Geriatric Depression Scale (Yesavage et al., 1983), and the Mini Mental State Examination (Folstien et al., 1975). The Geriatric Depression Scale (Yesavage et al., 1983) has been found to be much more specific and reliable for use among the elderly population than previous measures such as the Beck Depression Inventory (Beck et al., 1961). The Mini Mental State Examination (Folstien et al., 1975) is also an important aspect of depression measurement in that it helps to screen for more appropriate groups for administering test procedures within the elderly population. Also, subsequent to Fishman's (1984) research, subscales from the Cognitive Distortion Scale (Briere, 2000) and Multiscore Depression Inventory (Berndt, et al., 1980) have evolved into useful tools for assessing perceived control, learned helplessness and instrumental helplessness in the geriatric population.

Similar to Fishman's (1984) research, the present study will seek to establish a correlation between depression and learned helplessness in reference to daily decision making and activities of daily living of individuals in the context of long-term care. This model is consistent with Seligman's (1967, 1975, 1998, 2002) learned helplessness theory, which states that individuals become depressed when unable to make their own decisions in the face of perceived aversive circumstances. The theoretical foundation of this research is that specific factors impact perceived control, learned helplessness, and level of depression in the elderly. These factors include level of care, restrictiveness, and perceptions of the elderly in the context of the long-term residential care environment.

Chapter 3: Research Method

Introduction

The research design of this study included within and between group comparisons of residents in skilled nursing care facilities and assisted-living facilities, exploring the relationship between learned helplessness and depression. Differences were most likely related to higher levels of learned helplessness (Seligman, 1967; 1979; 2002) in the more highly structured environment as a consequence of reduced perceived control over one's life.

In this study, I considered the following research questions and hypotheses:

Research Questions

This researcher sought to answer the following research questions in the present study:

Research Question 1

Do individuals in skilled nursing care facilities and assisted living facilities have different levels of depression?

Null Hypothesis 1.

There are no significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 1.

There are significant differences in depression, as measured by the Geriatric

Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 2

Are individuals in skilled nursing facilities more likely to experience learned helplessness than individuals in assisted-living facilities?

Null Hypothesis 2.

There are no significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 2.

There are significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 3

Are individuals in skilled nursing facilities more likely to experience instrumental helplessness than individuals in assisted-living facilities?

Null Hypothesis 3.

There are no significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 3.

There are significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 4

Are individuals in skilled nursing facilities more likely to experience differences in perceived control when compared to individuals in assisted-living facilities?

Null Hypothesis 4.

There are no significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 4.

There are significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Question 5

Is there a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care?

Null Hypothesis 5.

There is no significant relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 5.

There is a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Question 6

Is there a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care?

Null Hypothesis 6.

There is no significant relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 6.

There is a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents,

regardless of level of care.

Research Question 7

Is there a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care?

Null Hypothesis 7.

There is no significant relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 7.

There is a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

The study was conducted using the Geriatric Depression Scale (Yesavage et al., 1983), which is a 30-item depression measurement scale commonly used to assess depression among the elderly. Folstien's Mini Mental State Examination (Folstien et al., 1975) was used to prescreen for minimum cognitive functioning to ensure the validity of responses to study questions. The Helplessness subscale of the Cognitive Distortion Scales measured perceived control (Briere, 2000), and the Learned Helplessness and Instrumental Helplessness subscales of the Multi-score Depression Inventory (Berndt et al., 1980) were used to measure learned helplessness. In this chapter, I discuss the

methodological aspects of this quasi-experimental research study, including the research design, participants, test administrator, measures, procedures, data collection, data analysis and limitations.

Research Design

A quantitative cross-sectional research design was employed for this study, which incorporated a convenience sample that included 42 participants from assisted-living facilities and 63 participants from skilled nursing facilities located throughout the St. Louis, Missouri metropolitan area. The purpose of the present study was to compare levels of learned helplessness, perceived control and depression among individuals aged 65 and over from two different levels of long-term care, skilled nursing care and assisted-living facilities.

The research design of this study included both within-and between-group comparisons. Bivariate correlations were conducted using the Pearson product- moment correlation (*r*) to determine whether there was any relationship between the independent variables of learned helplessness, instrumental helplessness and perceived control and the dependent variable of depression among individuals living in the assisted-living level of care as well as among individuals living in the skilled nursing level of care. The relationship between learned helplessness and depression was measured using the learned helplessness and instrumental helplessness subscales of the Multiscore Depression Inventory. Previous research by Barder et al. (1994) found that these two subscales alone predicted 47.1% of the variability in depression measured by the GDS in their

comparison between acute care and long-term care facilities. The assessment of the variable of perceived control in this study was included to provide more specific and corroborational data through the use of the Helplessness subscale of the Cognitive Distortion Scale. It was believed that reduced perception of control might be an important aspect of learned helplessness and might be measured separately given the existence of the CDS scales and their prior use with the elderly in an institutional environment. The CDS scale scores were found to have a high level of construct validity and a moderate level of correlation with convergent validity when assessed by correlational scores on tests designed to measure similar traits, such as the Beck Depression Inventory and the Multiscore Depression Inventory (Briere, 2000). Each of these scales was correlated with related measurements of depression from the Geriatric Depression Scale for an overall within-group measurement of the relationship between learned helplessness and depression, as well as perceived control and depression (Briere, 2000).

The one way Analysis of Variance (ANOVA) was used to determine whether there were between group mean differences in mean levels of depression as measured by the Geriatric Depression Scale (Yesavage et al., 1983), and mean differences in levels of learned helplessness and instrumental helplessness, assessed with the Multiscore Depression Inventory (Berndt et al., 1980). In addition, mean differences in levels of perceived control when comparing individuals residing in assisted living with those living at the skilled nursing care were assessed using the Cognitive Distortion Scale (Briere, 2000).

As mentioned previously, participants included individuals in long-term care facilities who were either at the assisted-living level or residents of skilled nursing care facilities. Initially, both groups were given the Folstien Mini Mental State Examination to ensure they had the cognitive ability to understand and provide valid responses to the measurement instruments prior to the actual testing. McGivney (1994) found that the sensitivity and specificity scores on the Geriatric Depression Scale were significantly affected by scores on the Mini Mental State Examination. Overall results revealed that all participants in McGivney's study (n = 66) had sensitivity scores of 63% and specificity scores of 83%. However, when utilizing the Mini Mental State Examination and including scores greater than 15 (the best cutoff score), sensitivity and specificity scores of 84% and 91%, respectively, were reported for the 44 participants above that cutoff point.

The current study also utilized a cutoff score of greater than 15 on the Folstien Mini Mental State Examination (MMSE). The remaining participants (with MMSE scores over 15) were then administered the Geriatric Depression Scale (Yesavage et al., 1983), the Cognitive Distortion Scale (Helplessness subscale) (Briere, 2000), and the learned helplessness and instrumental helplessness subscales of the Multi-Score Depression Inventory (Berndt et al., 1980).

Setting

The study included 42 participants from assisted-living facilities, and 63 participants from skilled nursing facilities from the St. Louis, Missouri metropolitan area

(Appendix A, B, C, D; Walden University IRB). The level and nature of caregiving is much more structured in skilled facilities to ensure that residents' activities of daily living are adequately provided for (Missouri Code of State Regulations, 2004).

There are distinct differences between skilled nursing and assisted living facilities in the state of Missouri (Missouri Code of State Regulations, 2004) in that skilled facilities significantly limit individual decisions related to such things as choice of rooms, eating schedules, privacy, social and other activities. Most individuals are limited in their capacity and options to come and go at will and frequently state that they feel captivated in their environment.

Assisted living facilities on the other hand allow many choices. Residents frequently choose their rooms upon entrance to the facility. They may choose whether they would like to eat at the facility or make a meal or snack in their room. Many still drive and can leave whenever they choose. Residents of assisted- living may basically choose their lifestyle while still receiving medication and other services of their choosing.

Participants

Study participants were limited to those who have been in their respective facilities for more than 7 weeks but less than 6 months, which has been identified in previous research to be the critical period for the development of learned helplessness and depression among the elderly in long-term care settings (Barder et al., 1994). The participants for this study included 104 individuals 65 years and older (as late life depression is defined by the American Psychiatric Association's (2000) *Diagnostic and*

Statistical Manual (*DSM-IV*) with as equal a number of male and female participants as possible while using of stratified convenience sampling (Humboldt State University, 2007). One individual 64 years old was accidentally allowed to participate and included in the statistical totals. The lead researcher did not realize the inclusion until the study and statistical analysis was complete, so it was allowed to remain.

The settings for the 42 participants from assisted-living facilities included five different facilities from the St. Louis, Missouri metropolitan area. Similarly, the settings for the 63 participants from skilled nursing facilities included eight facilities geographically dispersed from throughout the St. Louis, Missouri metropolitan area.

Convenience sampling was used by nursing home staff, to easily identify individuals who have resided in the facility for the critical period of seven weeks and six months (Barder et al., 1994), who are believed to have the cognitive ability to understand the informed consent agreement, the measurement instructions and questions, and have agreed to participate in the research. Lists were created of individuals who met the criteria from the overall facility populations and were forwarded to researchers who followed up on an individual or small group basis to answer questions and initiate the process. The final research groups included 42 individuals from a combined five different assisted-living facilities, and a total of 63 individuals currently living in a combined eight skilled nursing care facilities. Previous research (Barder et al., 1994) found that the critical period for the development of learned helplessness and depression is between 7 weeks and 6 months for elderly individuals in long-term care facilities.

The criterion that was used to determine whether participants were residing in an assisted-living facility or skilled nursing care facility level was their current residential status in these related facilities, which was determined by relatively objective criteria in the state of Missouri utilizing the Initial Assessment-Social and Medical: Missouri Department of Health and Senior Services Division of Senior Services and Regulation (Missouri Code of State Regulations, 2004). This assessment, which determines an individual's ability or inability to function in the least restrictive environment possible, was completed prior to admission into these facilities. The specific areas considered include mobility, dietary, restorative services, monitoring, medication, behavioral, treatments, personal care and rehabilitative services. For admission into a skilled nursing care facility, an individual must have a score of 21 or over on the assessment which is provided by the social worker or admissions personnel. A score below 21 on the initial assessment determines admission to a lesser level of care, which may include the assisted living level of care.

Participants from both settings were ambulatory, able to attend to their own personal needs, and were physically and mentally able to function in their respective residences without major assistance with their activities of daily living (ADLs) (Missouri Code of State Regulations, 2004). All participants had the ability to read and had the cognition to comprehend test instructions and questions.

Participants were prescreened by researchers for cognitive capacity utilizing the Folstien Mini Mental State Examination (Folstien et al., 1975), and had to receive a score

of 16 or over to participate in this study. Koenig et al. (1988) reported that in providing the administration of the Geriatric Depression Scale (Yesavage et al., 1983) to patients with scores below 16, they found the responses to be frequently contradictory. Similarly, McGivney (1994) also concluded that a two-step procedure of first selecting individuals with MMSE scores > or = 15 and then proceeding to give them the GDS increased its utility in detecting depression in nursing home residents and significantly improved the diagnostic process. They found their best cutoff score to be above 15, at which sensitivity and specificity scores were 84% and 91% respectively.

Test Administrator

The researcher is a licensed psychologist with specialized experience in geriatric psychology. He completed a three-year residency for licensure in adult and geriatric psychology prior to his licensing in 1996 (when licensing was still available in Missouri at the Masters level) at a geriatric hospital in the Department of Psychiatry. He spent five years as program manager of the Geriatric Psychiatry Partial Hospital Program and Intensive Outpatient Program, as well as another two years as the Director of the Department of Psychiatry before starting a full-time private practice in geriatric psychology in the year 2000. He has completed the required coursework in the Health Psychology Specialization of the Professional Psychology Program at Walden University. This study is the basis of his dissertation. For further information regarding the primary researcher see the curriculum vitae in the Appendix.

Measures

Mini Mental State Examination. The Folstien Mini Mental State Examination (Folstien et al., 1975) is an individually administered screening examination that is intended to aid in assessing individual cognitive abilities and mental status. The user's guide states that it can be used to detect cognitive impairments, to estimate the severity of cognitive impairment at a given point in time, and to follow the course of cognitive changes in the patient over time, as well as to document responses to treatment.

A comprehensive review of studies of the Mini Mental State Examination (MMSE) has found test-retest reliabilities ranging from .80 to .95. The sensitivity score, or the percentage of participants who have clinically diagnosed medical problems who receive a positive test result (score of 23 or more on the MMSE), has been identified to be at least 87% based upon a 1992 review of literature published in the *Journal of the American Geriatrics Society*. The validity in terms of positive predictive values, or the percentage of those with positive test results who are then found to have a clinically diagnosed cognitive impairment, were found to be at least 79%. The complement of sensitivity is a false negative rate, which would be 13% at most.

The exam consists of a series of questions and tasks grouped into 11 categories for which a total of 30 points may be given if all items are answered correctly. A cut off score of 23 or more is the most widely accepted cutoff score; scores below that point are indicative of a possible cognitive impairment and a need for further evaluation: normal = 27-30, mild cognitive impairment = 21-26, moderate cognitive impairment = 11-20, and

severe cognitive impairment = 0-10. The assessment encompasses 11 categories including orientation to time, orientation to place, registration, attention, calculation, recall, naming, repetition, comprehension, reading, writing, and drawing.

The Folstien Mini Mental State Examination has been in existence for over 25 years and has become a very widely used screening exam for determining if there is a reason to believe an individual has a cognitive impairment. As noted earlier, the Folstien Mini Mental State Examination has been found to be especially helpful in determining the validity of responses to the Geriatric Depression Scale among the elderly. Researchers have concluded that the best cut off score to be 16 and above (Koenig, 1989; McGivney, 1994), and identified sensitivity and specificity scores of 84% and 91%, respectively, with this cutoff (McGivney, 1994).

Geriatric Depression Scale. Over a decade of research has yielded strong support for the use of the Geriatric Depression Scale (Yesavage et al., 1983) with a variety of client populations including inpatient, outpatient and among residents in nursing homes (Abraham, et al., 1994). The Geriatric Depression Scale (GDS) is a self-administered depression scale that comes in two forms; the GDS-15, which is a 15-item scale, and a shorter version of the GDS-30, which is the original 30-item scale utilized in most of the research among the geriatric population (Abraham et al., 1994; Koenig, 1989; McGivney, 1994).

Given that the GDS-30 has been utilized in most of the prior research with the geriatric population, this version was used for the current research. It is a brief

questionnaire in which participants are asked to respond to 30 questions by answering yes or no in reference to how they felt on the day of the administration. Scores of 0-9 are considered normal, 10-19 indicate mild depression, and 20-30 indicate severe depression. The GDS may be used with various groups of elderly (Kurlowicz, 2002), including the healthy, medically ill, and mild to moderately cognitively impaired older adults. The GDS was found (Kurlowicz, 2002) to have a 92% level of sensitivity and 89% specificity level when evaluated against diagnostic criteria. Weatherall (2000) concluded that the use of the Geriatric Depression Scale has become a well-established way of screening for depression in elderly medical inpatients. Using a cutoff of 11 or greater to identify a subject as depressed, in combination with clinical assessment and psychiatric diagnosis of depression, the sensitivity was 90%, specificity was 80%, and positive predictive values were between 20% and 70% with negative predictive values between 70% and 90%.

The Geriatric Depression Scale (Yesavage et al., 1983) is a 30 item self-report instrument that measures depressive symptoms without focusing on physical symptoms and complaints. This may be especially important in settings such as nursing homes, where there is a very high level of comorbidity and disability, and where somatic symptoms occur in combination with depressive symptoms tending to produce inflated levels of depression (Jongelenis et al., 2005). The 30 item version of the Geriatric Depression Scale has been proven to be valid in various settings worldwide including nursing homes (Jongelenis et al., 2005).

The high level of validity and reliability of the GDS is supported in both clinical

practice and research (Kurlowicz, 2002). Kiernan et al. (1986) has found the GDS to be a very useful screening tool in clinical settings to facilitate assessment of depression in older adults, specifically when baseline measurements are compared to subsequent scores. (Kiernan, et al., 1986) compared the use of the Geriatric Depression Scale with the Beck Depression Inventory among nursing home residents, and found that after re-administering the test six months later, the Geriatric Depression Scale had longer-term stability in the measurement of depression among the elderly in a nursing home setting. Numerous studies have shown that the GDS has high internal consistency (alpha coefficient > 0.80). Test-retest reliability of the GDS has also been shown to be high (0.85 at 1 week, 0.86 at 1 hour, and 0.98 at 10 to 12 days; McDowell & Newell, 1996).

Multiscore Depression Inventory—learned helplessness and instrumental helplessness subscales. The Multiscore Depression Inventory (MDI) (Berndt, Petzel, & Berndt, 1980) is a self-report depression inventory originally designed for use with normal populations. The MDI was developed based upon the selection of 10 symptoms considered adequately representative of depression including, sad mood, low self-esteem, fatigue, guilt, cognitive difficulty, pessimism, introversion, irritability, and two kinds of helplessness: learned and instrumental (Berndt, Petzel & Berndt, 1980), which became the basis for the subscales utilized in this research study.

The learned helplessness subscale is based upon Martin Seligman's original learned helplessness theory and measures helplessness over time and situations, including components of anhedonia and lack of motivation (Berndt et al., 1980). Berndt and

colleagues (1980) went on to differentiate the learned helplessness subscale from the instrumental helplessness subscale by noting that the instrumental helplessness subscale was quite different conceptually, in that it is more responsive to interpersonal reinforcement contingencies. A high score on Instrumental Helplessness scale measures a person who is dependent, perhaps manipulative, and demanding. The learned helplessness and instrumental helplessness Subscales both address the question of "What is the use in trying?" (Berndt, 1981).

A later investigation by Berndt (1981) demonstrated the validity of the full-scale MDI, and validity of the subscales of the Multiscore Depression Inventory, with concurrent validity producing significant correlations between all the subscales of the MDI and their respective criteria indices. All results are based on $n = 89$, with significance of nine of the ten subscales at $p < .001$ (Berndt, 1981). While the correlation between instrumental helplessness and its criteria was $r = .49$ (Lauber et al., 2003), the correlation between learned helplessness and an experimental scale, $r = .30$, ($p < .01$) was the lowest (Berndt, 1981).

Berndt et al. (1980) reported test-retest reliability scores for learned helplessness and instrumental helplessness subscales as 0.68 and 0.38 respectively, an alpha of 0.71 for learned helplessness, and 0.87 for instrumental helplessness. Convergent and discriminant validity for the subscales were highly significant ($p < 0.001$). However, the learned helplessness subscale is believed to be a trait measure and the instrumental helplessness subscale a measure of an individual's temporary state (Berndt et al., 1980).

Barder et al. (1980) believed that the results of their study demonstrated elderly people in long-term care settings are more vulnerable to learned helplessness and depression than elderly in acute or rehabilitative settings. They also stated that the critical period for the development of depression is between 7 weeks and 6 months. They concluded that 47.1% of the variability in geriatric depression scores in their study was explained by the level of learned helplessness and instrumental helplessness. The internal consistency (alpha) was 0.71 for learned helplessness and 0.87 for instrumental helplessness.

Cognitive Distortion Scale (CDS). The Cognitive Distortion Scale (Briere, 2000) is a 40-item test that requires approximately 10 to 15 minutes to complete. Each item represents a dysfunctional thought or feeling. Results are scored to produce five non-redundant scales with each containing eight items. Subscales include self-criticism, self-blame, helplessness, hopelessness and preoccupation with danger. The development of the CDS was based on existing literature regarding cognitive distortions and basic cognitive behavioral theory (Briere, 2000).

Standardization of the CDS was based on two samples, a stratified, random sample of 541 participants and an additional 70 participants selected from a pool of university students. Individual participants ranged in age from 18-91 with a mean age of 47. Although the samples were largely Caucasian, analysis indicated little variance in relation to ethnicity. In addition, males and females were represented relatively evenly.

Internal consistency estimates for the five scales ranged from .89 to .97, and Briere (2000) concluded that an exploratory factor analysis revealed a four-factor

solution with items from the hopelessness and helplessness scales forming a single factor. He also concluded that inter-correlations between scales ranged from .68 to .92 and indicated a very high degree of relatedness among the subscales.

Construct validity was examined by comparing performance on the CDS scales with performance on other instruments that measured four variables known to correlate with cognitive symptoms (Briere, 2000). These variables were defined as suicidality, victimization, post-traumatic stress, and depression. The validity of the construct "depression" was examined by correlating the CDS scale performance with the Traumatic Symptom Inventory (TSI) depression scale (Briere, 1995), Multiscore Depression Inventory (MDI) sad mood scale (Berndt, 1986), and Personality Assessment Inventory (PAI) depression scale (Morey, 1991). There were generally strong correlations between the CDS scales and these three scales. In addition, CDS scales were correlated, as predicted, with the Beck Hopelessness Scale (Beck & Steer, 1988), the Multiscore Depression Inventory cognitive scales (Berndt, 1986), and the Traumatic Stress Institute Belief Scales.

Procedure

Staff members from each facility were informed that information was being gathered in order to learn more about aged persons' perspectives and experiences living in a long-term care facility and were asked to screen prospective volunteers and request their participation in a research study. Screened participants were sometimes asked to meet in a group at a specific time if they were interested in participating. At the time of

the group meeting participants were addressed by the lead researcher to provide an overview of the assessment process and provide consent information, as well as any documentation required to meet HIPAA confidentiality and privacy requirements (Appendix A, B, C, D; Walden University IRB). More often however, researchers would meet with them individually after referral from social services or the administrator.

Either in group setting or as individuals, participants were given the study materials, including the Folstien Mini Mental State Examination (Folstien, et al., 1975), the Geriatric Depression Scale (Yesavage et al., 1983), the perceived control subscale (helplessness subscale) of the Cognitive Distortion Scales (Briere, 2000), and the learned helplessness and instrumental helplessness subscales of the Multi-Score Depression Inventory (Berndt, 1986). These instruments were completed with the assistance of the lead researcher and research assistants as necessary. Standardized testing procedures were used in the administration of the instruments as described in the manuals. Most individuals preferred to complete the instruments alone while the researchers were present.

Statistical Power and Sample Size

In order to determine the optimum sample size, several a priori power analyses were conducted (one for each proposed analysis) to determine the number of participants required for the present study. The analyses were conducted with the G*Power 3.0.5 software. The first a priori power analysis was conducted to determine the number of participants required to detect a medium effect size (r = .30) with power = .80 for a two-

tailed bivariate Pearson correlation at alpha= .05. The power analysis suggested that 84 individuals will be needed to achieve a power of .80.

The next a priori power analysis was conducted to determine the number of participants required to detect a medium effect size (f = .25) with power = .80 for a one-way ANOVA (2 groups) tested at alpha = .05. This analysis indicated that 128 individuals would be required to achieve power of .80. Finally, an a-priori power analysis was conducted to determine the number of participants required to detect a medium effect size (f^2 = .15) for a multiple regression (2 predictors) tested at alpha = .05. The analysis indicated that 68 individuals would be required. Based on these analyses 128 participants would be needed to achieve a power = .80 for all of the analyses. However, when actually carrying out the research, a total of only 105 individuals were able to participate. A posteriori power analysis was conducted to determine whether the 105 individuals was enough to achieve the minimum required power of 0.80. The posteriori power analysis considered a medium effect size (f = .25) for a one-way ANOVA (2 groups) tested at alpha = .05, and the actual sample size of 105. The resulting power was 0.71 which was less than the minimum required of 0.8. This will be considered as a limitation of the study.

The current study evaluated the hypothesis that there is a higher mean level of depression as measured by the Geriatric Depression Scale (Yesavage et al., 1983) among individuals in skilled nursing care facilities than among individuals in assisted-living facilities. This hypothesized difference is likely due to a higher mean level of learned

helplessness as measured by the learned helplessness and instrumental helplessness subscales of the Multiscore Depression Inventory (Berndt, et al., 1980) than in the less structured environment, as a consequence of a reduced perceived control over one's environment as measured by the helplessness subscale of the Cognitive Distortion Scales (Briere, 2000).

Data Collection

Once new data and any necessary archival data were matched for the study, all identifying information was removed. Participant confidentiality (Appendix A) was strictly maintained. No harm appeared to occur as a result of participation in this study, and there was minimal disruption of daily routines as expected. Participants were provided with information regarding the purpose of the study and informed consent (Appendix B) was obtained prior to administration of the instruments. All records will be maintained by the researcher for a minimum of 5 years in a locked file. An electronic copy of scores without identifying information will also be maintained for the same period of time.

Data Analyses

The one way Analysis of Variance (ANOVA) was used as a between groups measure of mean differences between individuals living at the two different levels of nursing care utilizing the Geriatric Depression Scale (Yesavage et al., 1983) to measure the dependent variable of depression. This data was then utilized in providing for the analysis of the research questions and hypothesis that follow:

Research Question 1

Do individuals in skilled nursing care facilities and assisted living facilities have different levels of depression?

Null Hypothesis 1.

There are no significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 1.

There are significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

A one way Analysis of Variance (ANOVA) was used in research hypothesis 1 to determine whether there were any mean differences on the measure of depression between participants from these two different levels of care. Mean scores for the Geriatric Depression Scale (Yesavage et al., 1983) were calculated for individuals living at the assisted-living facilities and those individuals living in the skilled nursing care facilities. A comparison of these means was made to determine whether there were statistically significant higher levels of depression among individuals residing at the skilled nursing care facility compared to the less restrictive assisted-living facility. Although the original projected amount of participants was 128, only 105 actually consented to participate in the research study. However, because of the non-directional nature of the researcher's

hypothesis, the power was determined to be adequate based upon the sample sizes of 42 participants in the assisted living facilities and 63 in the skilled nursing facilities.

Research Question 2

Are individuals in skilled nursing facilities more likely to experience learned helplessness than individuals in assisted-living facilities?

Null Hypothesis 2.

There are no significant differences in learned helpless as measured by the learned helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 2.

There are significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

In research hypothesis 2, within-group comparisons were made by utilizing the Pearson product-moment correlation coefficient (*r*) establishing the relationship between the measure of learned helplessness (Berndt, et al., 1980) and depression. This measurement of learned helplessness consisted of the learned helplessness subscale of the Multi-score Depression Inventory (Berndt, et al., 1980). These measurements were then correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Total

scores for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities were correlated for the variables of interest. These data have been used to demonstrate whether there is a relationship between learned helplessness and depression in these two different levels of long term care facilities.

Research Question 3

Are individuals in skilled nursing facilities more likely to experience instrumental helplessness than individuals in assisted-living facilities?

Null Hypothesis 3.

There are no significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 3.

There are significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

In research hypothesis 3, within-group comparisons were also made by utilizing the Pearson product-moment correlation coefficient (r) establishing the relationship between measures of instrumental helplessness and depression. The independent variable of instrumental helplessness was measured utilizing the instrumental helplessness

subscale of the Multi-score Depression Inventory (Berndt, et al., 1980). These scales were then correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Scores were then totaled for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities and were correlated for the variables of interest. These data have been used to demonstrate whether there is a relationship between instrumental helplessness and depression at these two different levels of long term care facilities.

Research Question 4

Are individuals in skilled nursing facilities more likely to experience differences in perceived control when compared to individuals in assisted-living facilities?

Null Hypothesis 4.

There are no significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 4.

There are significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

Within-group comparisons were made for research hypothesis 4, by utilizing the Pearson product-moment correlation coefficient (*r*) establishing the relationship between measures of perceived control over one's life and depression. Measurements of perceived

control over one's life was measured by the helplessness subscale of the Cognitive Distortion Scale (Briere, 2000). This scale was correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Total scores for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities were correlated for each dependent and independent variable of interest. This data has been used to demonstrate whether there is a relationship between helplessness and depression in these two different levels of long term care facilities.

Research Question 5

Is there a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care.

Null Hypothesis 5.

There is no significant relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory, and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 5.

There is a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory, and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

In research hypothesis 5, within-group comparisons were made by utilizing the Pearson product-moment correlation coefficient (*r*) establishing the relationship between the measure of learned helplessness (Berndt, et al., 1980) and depression. This measurement of learned helplessness consisted of the learned helplessness subscale of the Multiscore Depression Inventory (Berndt, et al., 1980). These measurements were then correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Total scores for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities were correlated for the variables of interest. These data have been used to demonstrate whether there is a relationship between learned helplessness and depression in these two different levels of long term care facilities.

Research Question 6

Is there a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care?

Null Hypothesis 6.

There is no significant relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 6.

There is a relationship between learned helplessness as measured by the

instrumental helplessness subscale of the Multiscore Depression Inventory, and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

In research hypothesis 6, within-group comparisons were also made by utilizing the Pearson product-moment correlation coefficient (*r*) establishing the relationship between measures of instrumental helplessness and depression. The independent variable of instrumental helplessness was measured utilizing the instrumental helplessness subscale of the Multi-score Depression Inventory (Berndt, et al., 1980). These scales were then correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Scores were then totaled for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities and were correlated for the variables of interest. These data have been used to demonstrate whether there is a relationship between instrumental helplessness and depression at these two different levels of long term care facilities.

Research Question 7

Is there a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents regardless of level of care?

Null Hypothesis 7.

There is no significant relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the

Geriatric Depression Scale in nursing home residents regardless of level of care,

Research Hypothesis 7.

There is a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric Depression Scale in nursing home residents regardless of level of care.

Within-group comparisons were made for research hypothesis 7 by utilizing the Pearson product-moment correlation coefficient (*r*) establishing the relationship between measures of perceived control over one's life and depression. Measurements of perceived control over one's life is measured by the helplessness subscale of the Cognitive Distortion Scale (Briere, 2000). This scale was correlated with the Geriatric Depression Scale scores (Yesavage et al., 1983). Total scores for all participants from both the assisted-living facilities as well as from the skilled nursing care facilities were correlated for each dependent and independent variable of interest. This data has been used to demonstrate whether there is a relationship between helplessness and depression in these two different levels of long term care facilities.

Chapter Summary

This study of learned helplessness, comparing the less structured assisted-living level of care with the more highly structured skilled nursing level of care, was conducted using the Geriatric Depression Scale (Yesavage et al., 1983), Folstien's Mini Mental State Examination (Folstien et al., 1975), the helplessness subscale of the Cognitive Distortion Scales (Briere, 2000), and the learned helplessness and instrumental

helplessness subscales of the Multi-score Depression Inventory (Berndt, et al., 1980).

This study was conducted for participants 65 and over who have been in their respective facilities for more than 7 weeks, but less than 6 months. Cognitive abilities were assessed utilizing the Folstien's Mini Mental State Examination (Folstien et al., 1975) to more adequately ensure more valid and appropriate responses to the measurement instruments.

The following chapter will look in detail at the results of the research. Along with an integrated summary of the literature, Chapter 4 will provide an overview of the research study, a summary of the research hypothesis, and the related analysis. It will also include statistical analysis and some of the specific research data to aid in the analysis.

Chapter 4: Results

Introduction

The objective of this quantitative research study was to investigate the relationship between depression and learned helplessness and to compare the levels of depression and learned helplessness in two distinctly different levels of long-term care facilities. This study compared individuals residing in the less structured assisted-living level of care with those living in the more highly structured skilled nursing care level. Statistical analyses of survey results were completed on a total of 105 participants, which included 104 residents 65 years old and older and one resident who was 64 years old at the time of research, who had been in their respective facilities for more than 7 weeks but less than 6 months. Surveys administered assessed the variables of depression, learned helplessness, instrumental helplessness, and perceived control. Seven research hypotheses were formulated to guide the analysis.

Research Hypothesis 1

There are significant differences in depression, as measured by the Geriatric Depression Scale, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 2

There are significant differences in learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 3

There are significant differences in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 4

There are significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in skilled nursing care facilities with individuals in assisted-living facilities.

Research Hypothesis 5

There is a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 6

There is a relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression as measured by the Geriatric Depression Scale in nursing home residents, regardless of level of care.

Research Hypothesis 7

There is a relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the Geriatric

Depression Scale in nursing home residents, regardless of level of care.

This data analysis chapter begins with frequency tables for the whole sample and descriptive statistics of the study variables mentioned. Following that, results of the statistical analyses of variance (ANOVA) and Pearson's correlation test were conducted to test the hypotheses.

Demographic Information of Respondents

The 105 sample participants consisted of 63 elderly residents of skilled nursing facilities and 42 elderly residents from assisted-living facilities. Among the 63 elderly residents from skilled nursing facilities, there were more women (66.7%) than men (33.33%): 42 and 21 participants, respectively. Among the 63 elderly residents from skilled nursing facilities, the age range spanned from 64 to 99 years, with a mean age of 81.02 years and standard deviation of 7.66. Assessment began on January 11, 2008, and was completed on March 26, 2009, for residents of skilled nursing facilities, and began on February 5, 2008, and was completed on March 8, 2012, in the assisted-living facilities.

Among the 42 elderly residents from assisted-living facilities, there were more women (85.7%) than men (14.3%): 36 and six participants, respectively. The age range of the 42 elderly residents who were assessed in the assisted-living facilities was 65 to 94 years, with a mean age of 81.17 years and standard deviation of 7.96, which was almost equal to the average age of the 63 elderly residents assessed in the skilled nursing facilities. Specific demographic information is presented in Table 1.

Table 1

Frequency Distribution of Demographic Information of Sample Respondents in Skilled Nursing Care Facilities (N = 63) and in Assisted-Living Facilities (N =42)

Skilled nursing facilities	*f*	%	Assisted living facilities	*f*	%
Gender					
Female	42	66.7	Female	36	85.7
Male	21	33.3	Male	6	14.3
Total	63	100	Total	42	100
Nursing care facilities					
(1)	8	12.7	(8)	3	7.1
(2)	11	17.5	(9)	12	27.6
(3)	9	14.3	(10	5	11.9
(4)	7	11.1	(11)	9	21.4
(5)	12	19	(12)	13	31
(6)	12	19			
(7)	4	6.4			
Total	63	100	Total	42	100
Age					
N	63		*N*	42	
Minimum	64		Minimum	65	
Maximum	99		Maximum	94	
Mean	81.02		Mean	81.17	
Std. Deviation	7.66		Std. Deviation	7.96	

Descriptive Statistics of Study Variables

The descriptive statistics of the study variables are presented in Table 2. These include the variables of depression, learned helplessness, instrumental helplessness and perceived control. Depression scores were obtained through the Geriatric Depression Scale (GSD); learned helplessness was assessed through the use of the learned helplessness and instrumental helplessness subscales of the Multiscore Depression Inventory (MDI); and perceived control scores were obtained using the helplessness subscale of the Cognitive Distortion Scale (CDS). The descriptive statistics included the statistics of mean and standard deviation.

Results from Table 2 indicate that the mean depression of the total sample regardless of the type of long-term care facility was 9.31, with standard deviation of 6.65. Rounding up the mean value would categorize it in the mild depression range value of 10-19. However, the standard deviation value showed that the depression scores among participants varied either in the low or mild depression level. Thus, the elderly residents had either low, or at the most, mild feelings of depression. Among elderly residents of assisted-living facilities, mean depression of the total sample was 7.67, with standard deviation of 6.65, while the mean depression of the total sample of elderly residents in skilled nursing facilities was 10.41, with standard deviation of 6.77

The mean scores for learned helplessness and instrumental helpless were investigated to determine the patients' feeling of helplessness. Elderly residents in skilled nursing facilities had a mean learned helplessness score of 3.49, with standard deviation

of 3.14; the mean instrumental helplessness score was 3.59, with a standard deviation of 2.73. Elderly residents in assisted-living facilities had a mean learned helplessness score of 2.50, with standard deviation of 2.51; the mean instrumental helplessness score was 2.17, with a standard deviation of 1.52.

Lastly, the mean scores for perception of control were obtained. Elderly residents in skilled nursing facilities had mean scores for perceived control of 19.78 with a standard deviation of 8.44. Elderly residents in assisted-living facilities had mean scores for perceived control of 16.71 with a standard deviation of 8.06.

Table 2

Descriptive Statistics of Study Variables

Type of long-term care facility		Depression	Learned helplessness	Instrumental helplessness	Perceived control
Skilled nursing facilities	Mean	10.41	3.49	3.59	19.78
	N	63	63	63	63
	Std. deviation	6.77	3.14	2.73	8.44
	Minimum	0	0	0	8
	Maximum	24	11	11	40
Assisted-living facilities	Mean	7.67	2.50	2.17	16.71
	N	42	42	41	42
	Std. deviation	6.18	2.51	1.52	8.06
	Minimum	0	0	1	8
	Maximum	28	10	6	36
Total	Mean	9.31	3.10	3.03	18.55
	N	105	105	104	105
	Std. deviation	6.65	2.93	2.42	8.39
	Minimum	0	0	0	8
	Maximum	28	11	11	40

Univariate Normality Testing and Test of Other Required Assumptions

There were no missing data on the study variables of depression, learned helplessness, instrumental helplessness and perceived control among the 105 respondents. Prior to conducting the statistical analysis of ANOVA and Pearson's correlation test to address the seven research hypotheses, preliminary screening of the data was conducted to ensure the integrity of the findings from the analysis. This is important in order to assure that the results of each statistic are acceptable and reasonable since it does not violate the required assumptions of both the ANOVA and Pearson's correlation test. The ANOVA and Pearson's correlation test are both considered as parametric tests that require univariate normality in the data set.

Table 3

Results of Univariate Normality Testing of Study Variables

	Skewness		Kurtosis	
	Statistic	Std. error	Statistic	Std. error
Depression	0.48	0.24	-0.61	0.47
Learned helplessness	1.06	0.24	0.29	0.47
Instrumental helplessness	1.14	0.24	0.54	0.47
Perception of control	0.54	0.24	-0.50	0.47

Normality of data should be followed prior to the actual use of the statistical tools. Normality testing was conducted by investigating the skewness and kurtosis of the data of each study variable, and Table 3 summarizes the results. To determine whether the data follows normal distribution, skewness statistics greater than three indicate non-normality while a kurtosis statistic above three would also indicate non-normality (Kline, 2005). Looking at Table 3, the skewness statistic values of the four study variables

enumerated ranged between 0.48 and 1.14 while the kurtosis values ranged between -0.61 and 0.54. The skewness and kurtosis statistics of all study variables fell within the criteria enumerated by Kline (2005) indicating that all the data were normally distributed.

For the ANOVA test, homoscedasticity of variances is also a required assumption. Table 4 summarizes the results of the Test of Homogeneity of Variances. The probability value of significance (sig.) of the test should be greater than the level of significance value of 0.05 to ensure that the data satisfied the assumption of homogeneity of variance. The test was conducted for each data set of the dependent variables of depression, learned helplessness, instrumental helplessness and perceived control in the ANOVA. The resulting statistics in Table 4 showed that test statistics of depression (Levene Statistic (1, 103) = 2.39; p = 0.13), learned helplessness (Levene Statistic (1, 103) = 3.00; p = 0.09), instrumental helplessness (Levene Statistic (1, 102) = 3.53; p = 0.07), and perceived control (Levene Statistic (1, 102) = 0.17; p = 0.68) were greater than 0.05.

Table 4

Results of Test of Homogeneity of Variances

	Levene statistic	*df*1	*df*2	Sig.
Depression	2.39	1	103	0.13
Learned helplessness	3.00	1	103	0.09
Instrumental helplessness	3.53	1	102	0.07
Perceived control	0.17	1	103	0.68

This suggested that the variances were equal or homogenous across each of the dependent variables. The required assumption of homogeneity of variances was not

violated. Other than the assumption of normal distribution, the sample data should also not violate the other required assumptions of the ANOVA and Pearson's correlation statistical tests. For the ANOVA test, the independent variable should consists of two or more categorical independent groups, while both the variables involved in the Pearson's correlation statistical test should be continuous variables either measured as interval or ratios. Both of these assumptions were satisfied. In the ANOVA test, the independent variable of type of long-term care facility was a categorical variable consisting of two independent groups of residents from skilled nursing care facilities and residents from assisted-living facilities while the dependent variables of depression, instrumental helplessness, learned helplessness, and perceived control were all continuous variables measured using interval levels. The variable requirements for the Pearson's correlation statistical tests were also satisfied since all the four study variables were continuous variables. The value of a continuous variable is not limited to a certain range, but continuous within a certain interval. Also, both tests require that no outlier should exist in the data. This was not violated since the possible values of each study variable were within the range of possible scores (minimum and maximum) as can be seen in scatter plots of outliers in Figures 1 through 4. Scatter plots in Figures1 to 4 showed that there were not outliers in the data for depression, instrumental helplessness, learned helplessness, and perceived control since the dispersion of the data in the plots were not too wide. Conducting both the ANOVA and Pearson's correlation test were acceptable since the variables did not violate any of the required assumptions.

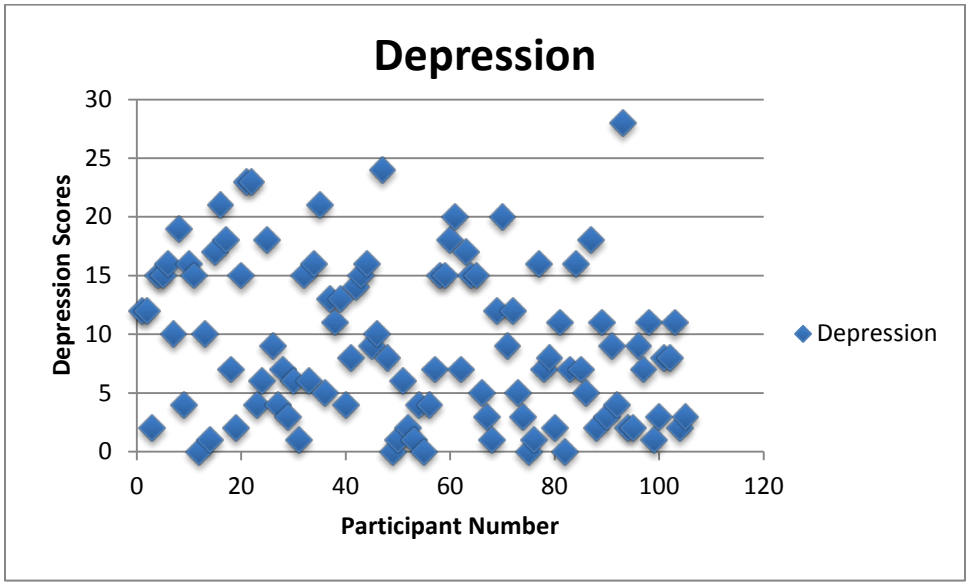

Figure 1. Scatter plot of data set for depression.

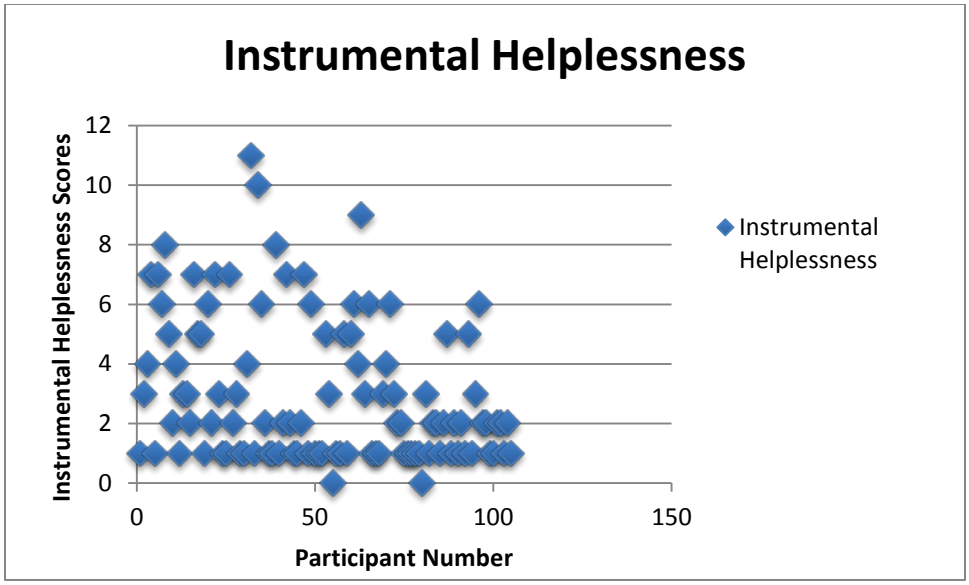

Figure 2. Scatter plot of data set for instrumental helplessness.

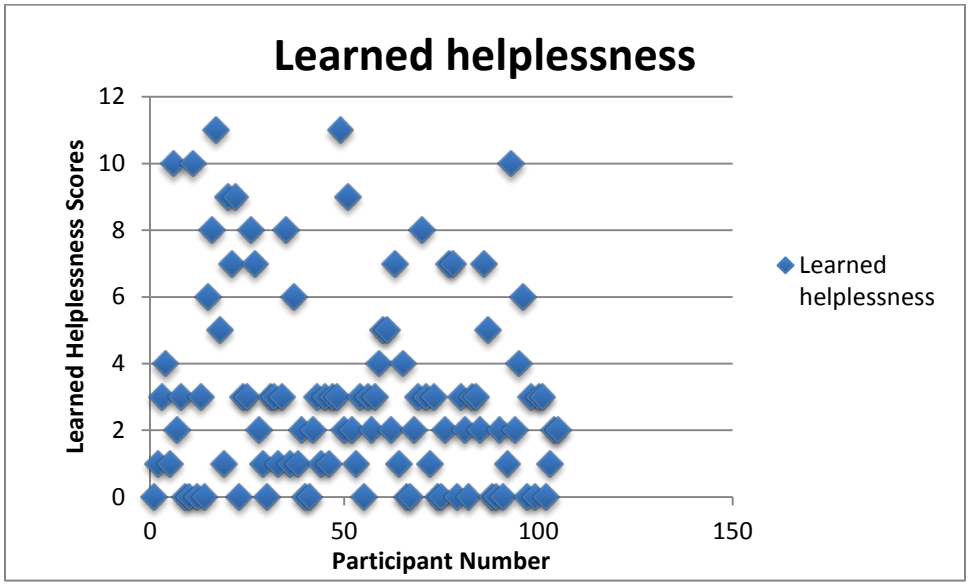

Figure 3. Scatter plot of data set for learned helplessness.

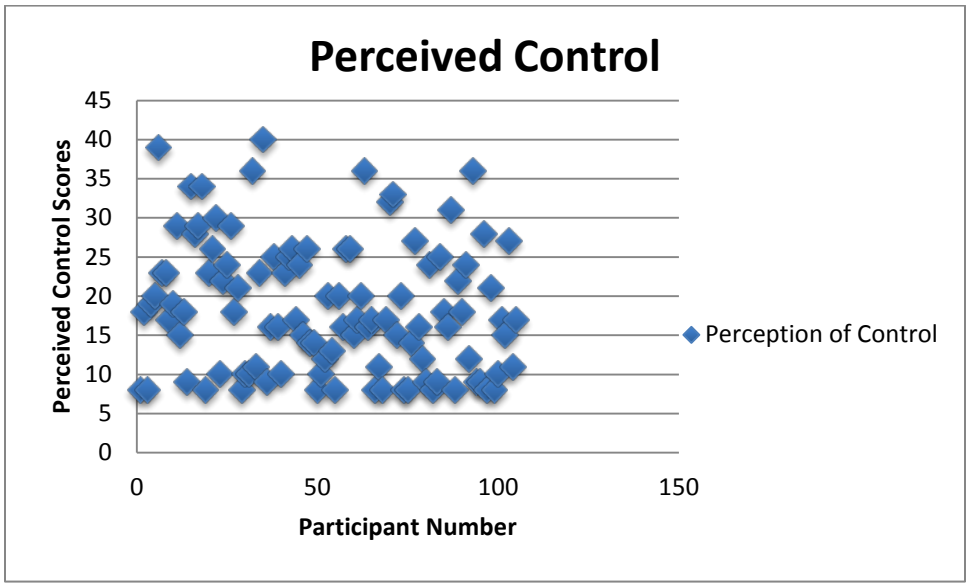

Figure 4. Scatter plot of data set for perception of control.

Analysis and Results

Research Hypotheses 1, 2, 3, and 4

For Research Hypotheses 1, 2, 3, and 4, a mean difference test involving ANOVA was conducted to determine whether there is a higher average level of depression, learned helplessness, instrumental helplessness, and perceived control among individuals in skilled nursing care facilities than among individuals in assisted-living facilities. A level of significance of 0.05 was used in the statistical analysis. A significant difference existed once the probability value of significance (sig.) is less than or equal to the level of significance value of 0.05.

The results of the ANOVA mean test of differences of the depression, learned helplessness, instrumental helplessness and perceived control of the elderly participants between the different types of long-term care facilities of skilled nursing care facilities and assisted-living facilities are summarized in Table 5. The ANOVA revealed that a significant mean difference existed in the depression (F (1, 103) = 4.45; p = 0.04) between the residents in the skilled nursing care facilities and assisted-living facilities. There was a statistically significant difference in the depression levels between the two categorical groups because the probability value of significance (sig.) was less than the level of significance value of 0.05. In terms of mean difference, the mean depression score of the residents in the skilled nursing care facilities (M = 10.41) was higher than the mean depression score of the residents in the assisted-living facilities (M = 7.67). Higher scores indicate higher degree of depression. Thus, the ANOVA results were able to

support research hypothesis one in that there was a higher average level of depression among individuals in skilled nursing care facilities compared to individuals in assisted-living facilities.

Table 5

ANOVA Results of Mean Difference of Depression, Learned Helplessness, Instrumental Helplessness, and Perceived Control by Type of Long-Term Care Facility

Variable		Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Depression	Between Groups	190.03	1	190.03	4.45	0.04	0.04
	Within Groups	4402.60	103	42.74			
	Total	4592.63	104				
Learned helplessness	Between Groups	24.80	1	24.8	2.93	0.09	0.03
	Within Groups	870.25	103	8.45			
	Total	895.05	104				
Instrumental helplessness	Between Groups	49.84	1	49.84	29.16	0.00	0.08
	Within Groups	555.08	102	5.44			
	Total	604.91	103				
Perceived Control	Between Groups	236.50	1	236.5	3.44	0.07	0.03
	Within Groups	7081.46	103	68.75			
	Total	7317.96	104				

There was also a significant mean difference in the instrumental helplessness (F (1, 102) = 29.16; $p < 0.001$) scores between the residents in the skilled nursing care facilities and assisted-living facilities. The elderly residents assessed in the skilled nursing care facilities (M = 3.59) have higher instrumental helplessness than those elderly participants in the assisted-living facilities (M = 2.17). Higher scores would

indicate that the resident's feeling of helplessness was higher. Thus, the ANOVA results were able to support research hypothesis three that there is a significant difference in learned helplessness, as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

Lastly, the mean difference in the learned helplessness *(F* (1, 103) = 2.93; p = 0.09) and perceived control (*F* (1, 103) = 3.44; *p* = 0.07) scores between the residents in the skilled nursing care facilities and in the assisted-living facilities were not statistically and significantly different according to the ANOVA results. This was because the probability value of significance (sig.) was greater than the level of significance value of 0.05. Thus, the results did not prove any support for research hypotheses two and four. The results showed that there are no significant differences in learned helpless as measured by the learned helplessness subscale of the Multiscore Depression Inventory, when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities and there are no significant differences in perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), when comparing individuals in the skilled nursing care facilities with individuals in assisted-living facilities.

The effect sizes of the independent variable in changing the dependent variables were also investigated using the partial Eta squared values. According to Cohen (1988), effect size as measured using partial eta squared can be categorized as small (0.01 and

below), medium (0.06 and below), and large (0.138 and below). The effect size of the type of long-term facility to the dependent variable of depression ($\eta^2 = 0.04$) was a medium effect size, while the effect size of the type of long-term facility to the dependent variable of instrumental helplessness ($\eta_p^2 = 0.08$) was a large effect size. This indicated that 4% and 8% of total variance in the dependent variables of depression and instrumental helplessness, respectively, could be accounted for by the independent variable of type of long-term facility.

Research Hypothesis 5

For Research hypothesis five, a Pearson's correlation test was conducted to determine whether there was a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care. A significant relationship existed once the probability value of significance (sig.) is less than or equal to the level of significance value of 0.05. The Pearson's correlation test also investigated the degree of the correlation (positive or negative) and the strength of the correlation.

The results of the Pearson's correlation test are presented in Table 6. The Pearson correlation test is a two-tailed test. The test results showed a significant positive correlation between depression and learned helplessness (r (103) = 0.49, $p < 0.001$) and a significant positive correlation between learned helplessness and instrumental helplessness (r 102) = 0.44, $p < 0.001$). The strengths of correlation or the effect size, which were based on the r-coefficient of determination, were all moderate since the

values were between the moderate strength range of 0.3 and 0.5. The significant positive correlation suggested that the learned helplessness of a resident increased as the resident's depression level increased while the learned helplessness of a resident increased as the resident's instrumental helplessness increased. This meant that decreased sense of control over one's environment did contribute toward the development of depression among the elderly. The results of the correlation test supported hypothesis five that there is a relationship between learned helplessness as measured by the learned helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care.

Table 6

Pearson's Correlation Test Results of Relationship Between Depression and the Variables of Learned Helplessness and Instrumental Helplessness

		Depression	Learned helplessness
Learned helplessness	Pearson Correlation	0.49	
	Sig. (2-tailed)	0.001	
	N	105	
Instrumental helplessness	Pearson Correlation		0.44
	Sig. (2-tailed)		0.001
	N		104

Research Hypothesis 6

For Research hypothesis six, a Pearson's correlation test was conducted to determine whether there was any relationship between learned helplessness as measured by the instrumental helplessness subscale of the Multiscore Depression Inventory and depression in nursing home residents. The results of the Pearson's correlation test were

presented in Table 7. The test results showed a significant positive correlation between depression and instrumental helplessness ($r = 0.51$, $p < 0.001$). The strength of correlation or the effect size, based on the r-coefficient of determination, was strong since the value was greater than 0.5. The significant positive correlation suggested that the instrumental helplessness of a patient increased as patient's depression level increased. This meant that related feelings of instrumental helplessness indigenous to more highly structured environments did contribute toward the development of depression among the elderly. The results of the correlation test supported *H*6 that there is a relationship between instrumental helplessness as measured by the Multiscore Depression Inventory and depression in nursing home residents, regardless of level of care.

Table 7

Pearson's Correlation Test Results of Relationship Between the Variables of Learned Helplessness, Instrumental Helplessness, and Depression

		Depression	Learned Helplessness
Learned helplessness	Pearson Correlation	0.49	
	Sig. (2-tailed)	0.001	
	N	105	
Instrumental Helplessness	Pearson Correlation	0.51	0.44
	Sig. (2-tailed)	0.001	0.001
	N	104	104

Research Hypothesis 7

For Research hypothesis seven, a Pearson correlation test was conducted to determine whether there was any relationship between perceived control as measured by the Cognitive Distortion Scale (helplessness subscale) and depression as measured by the

Geriatric Depression Scale in nursing home residents regardless of level of care. The results of the Pearson's correlation test were presented in Table 8. The test results showed that a significant positive correlation between perceived control and depression ($r = 0.73$, $p < 0.001$) exists. The strength of correlation or the effect size, based on the r-coefficient of determination, was strong between the two variables since the value was greater than 0.5. The significant positive correlation suggested that depression of a resident increased as the resident's perceived control score increased. The results of the correlation test supported research hypothesis seven that there is a relationship between an individual's reduced perceived control over one's life as measured by the helplessness subscale of the Cognitive Distortion Scale and depression in nursing home residents regardless of level of care.

Table 8

Pearson's Correlation Test Results of Relationship Between Depression and Perceived Control

		Perceived Control
Depression	Pearson Correlation	0.7
	Sig. (2-tailed)	0.00
	N	105

Difference Between Two Correlation Coefficients

A test of significant difference between two correlation coefficients using the Fisher r-to-z transformation is conducted to determine the possible between-group differences in the correlations between depression with the variables of learned helplessness, instrumental helplessness and perceived control in the two independent

groups of elderly residents from assisted-living facilities and elderly residents from skilled nursing facilities. A value of z was calculated to assess the significance of the difference between the two correlation coefficients found in the two independent samples. The results were summarized in Table 9.

Table 9

Result of Significance of the Difference Between Two Correlation Coefficients

Variable	Test	Statistics	Skilled Nursing Care Facilities	Assisted-Living Facilities
Perception of Control	Correlation results by Group	Pearson Correlation	0.67	0.80
		Sig.	0.00	0.00
		N	63	42
	Significance of the Difference Between Two Correlation Coefficients	*z* = -.140		
		Sig. = 0.16		
Instrumental Helplessness	Correlation results by Group	Pearson Correlation	0.45	0.62
		Sig. (2-tailed)	0.00	0.00
		N	63	41
	Significance of the Difference Between Two Correlation Coefficients	z = -1.17		
		Sig. = 0.24		
Learned helplessness	Correlation results by Group	Pearson Correlation	0.42	0.57
		Sig. (2-tailed)	0.00	0.00
		N	63	42
	Significance of the Difference Between Two Correlation Coefficients	z = -.097		
		Sig. = 0.33		

The results showed that the correlations of depression with the variables of learned helplessness, instrumental helplessness and perceived control were significant in each of the independent groups. However, the test of significance of difference between two correlation coefficients showed that the correlations between the two groups in depression and perception of control (z = -1.40, p = 0.16); between depression and instrumental helplessness (z = -1.17, p = 0.24); and between depression and learned helplessness (z = -0.97, p = 0.33) were not significantly different because the p-values were all greater than the level of significance of 0.05.

Summary

This chapter showed the results of the analysis to determine the relationship between depression and learned helplessness and also compare the depression and learned helplessness in two distinctly different levels of long-term care facilities. The results for the ANOVA for research hypothesis one showed that there was a higher average level of depression among individuals in skilled nursing care facilities compared to individuals in assisted-living facilities. The results for the ANOVA for research hypothesis three showed that elderly residents assessed in the skilled nursing care facilities have higher instrumental helplessness than those elderly participants in the assisted-living facilities. The results for the correlation test for research hypothesis five showed that there was a positive relationship between Learned Helplessness and depression in nursing home residents, regardless of level of care. The results for the correlation test for research hypothesis six showed that there was a positive relationship

between instrumental helplessness and depression in nursing home residents, regardless of level of care. Finally, the results for the correlation test for research hypothesis seven showed that there was a positive relationship between an individual's perceived control over one's life and depression in nursing home residents, regardless of level of care.

The next chapter will discuss the interpretations of the findings and the implications of the results based from the literature. Then, the recommendations for further research will be discussed to end the study.

Chapter 5: Summary, Conclusions and Recommendations

Overview of the Study

Previous research has identified the concept of learned helplessness as very useful in understanding components of depression in all age groups, including the elderly. Learned helplessness theory provides a model for understanding how an individual's perspective may become pessimistic, resulting in a sense of "giving up" and ultimately becoming depressed. Based on the literature, research has identified a higher level of depression in those in long-term care nursing facilities than in the general elderly population. In addition, some of the previous research has indicated that learned helplessness may have some correlation with depression in restrictive long-term care environments. There has been a lack of research conclusively demonstrating the learned helplessness-depression relationship while controlling for factors known to impact learned helplessness and depression, including individual cognitive ability and duration of stay in long-term nursing care. Last, few existing studies have used measures of depression developed specifically for the elderly. The Geriatric Depression Scale (Yesavage et al., 1983) and the Folstien Mini Mental State Examination (Folstien et al., 1975) were used to improve the validity of research findings compared to previous studies. The current study included 42 participants from assisted-living facilities and 63 participants from skilled nursing facilities in the St. Louis, Missouri metropolitan area.

Many well-meaning authors of articles related to the elderly have insinuated that the elderly have been unable to participate in psychotherapy or could not benefit from

pharmacological interventions to the same degree as younger individuals. Fortunately, contemporary research continues to refute those earlier stated limitations on effectively treating elderly individuals in the community and in long-term care facilities. However, the amount of information available to individuals, families, and treatment professionals to clarify what may precipitate depressive episodes as well as on effective depression treatment is still very limited. The remainder of this chapter provides the interpretation of the current research findings, indications for social change, recommendations for action and for future research, my reflections on the research, and a conclusion of the study.

Summary of Results

Research Hypothesis 1

The results of the ANOVA mean test of differences in depression of the elderly participants between the different types of long-term care facilities (skilled nursing care facilities vs. assisted-living facilities) showed that there was a significant mean difference in depression between the residents in the skilled nursing care facilities and residents in assisted-living facilities. The mean depression score of the residents in the skilled nursing care facilities was higher than the mean depression score of the residents in the assisted-living facilities.

Research Hypothesis 2

The ANOVA results revealed that there was no significant mean difference in the learned helplessness scores between the residents in the skilled nursing care facilities and residents in assisted-living facilities.

Research Hypothesis 3

The ANOVA results revealed that there was a significant mean difference in instrumental helplessness between the residents in the skilled nursing care facilities and residents in assisted-living facilities. The elderly patients assessed in the skilled nursing care facilities had higher instrumental helplessness than those elderly participants in the assisted-living facilities.

Research Hypothesis 4

The ANOVA results revealed that there was no significant mean difference in the perceived control scores between the residents in the skilled nursing care facilities and residents in assisted-living facilities.

Research Hypothesis 5

The results of the Pearson's correlation test showed that there is a significant positive correlation between depression and learned helplessness and a significant positive correlation between learned helplessness and instrumental helplessness. The strength of correlations or the effect size was all moderate.

Research Hypothesis 6

The results of the Pearson's correlation test showed that there is a significant positive correlation between depression and instrumental helplessness. The strength of correlation or the effect size was strong.

Research Hypothesis 7

The results of the Pearson's correlation test showed that a significant positive correlation exists between perceived control and depression. The strength of correlation was strong.

Interpretation of the Findings

There has been a lack of research to demonstrate conclusively that learned helplessness has a correlation with depression in restrictive long-term care environments while controlling separate factors known to impact learned helplessness and depression, including a patient's cognitive ability and duration of stay in the facility. In addition, few existing studies have used measures of depression developed specifically for the elderly. In this cross-sectional quantitative study, I investigated the relationship between depression and learned helplessness by comparing residents over age 65 residing in less restrictive assisted living facilities with residents from more restrictive skilled care facilities. This hypothesized difference in depression scores between assisted-living and skilled nursing facilities is due to a perception of greater learned helplessness in the more highly structured environment as a consequence of perceived reduced personal decision making and decreased sense of control over one's life.

The results of the analysis indicate that the mean depression score of the residents in the skilled nursing care facilities was higher than the mean depression score of the residents in the assisted-living facilities. This was supported by previous studies. It has been noted that there is a very high level of depression among the elderly in long-term

care facilities, with some researchers (Cohen, Hyland, & Kimhy, 2003; Soon & Levine, 2002) finding rates of 6% and 24% for major depression, and between 12% and 50% for lesser levels of depressive symptoms. Barder et al. (1994) provided a succinct summary of learned helplessness theory, suggesting that the state of helplessness occurs when individuals experience uncontrollable life events and believe that they can do nothing to prevent the outcome of these events from occurring. They may then develop unrealistic expectations that the outcomes of future events will also be beyond their control. Barder and colleagues (1994) explained that when individuals are convinced that their response will make no difference and will not impact the outcome, they may become apathetic and experience decreased incentive to initiate action, potentially developing a feeling of wanting to give up.

In the literature, Fishman (1984) reported a correlation between perceptions of control and depression when comparing two different levels of residential care without the use of some of the more contemporary assessment tools. Fishman (1984) found that loss of choice, control, independence, and autonomy appeared to be very important to the development of depression in elderly persons living in long-term care facilities. Barder et al. (1994) identified a relationship between learned helplessness and depression when comparing individuals living in acute care and long-term care facilities, suggesting a higher average level of depression among individuals in skilled nursing care facilities than among individuals in assisted-living facilities. This study supported the claim of Fishman (1984) that perceived loss of control over an individual's environment will

affect the development of depression. In the current study, when I compared elderly residents from assisted-living facilities with those from skilled nursing facilities, there were no between-group differences in the correlation of depression with learned helplessness, instrumental helplessness or perception of control.

Similar to Fishman (1984) and Barder et al. (1994), it can be observed from the results of this study that the less control an elderly person has on his or her environment, the higher their depression will be. This study was able to determine a negative correlation between perceived control, as measured by the Cognitive Distortion Scale (helplessness subscale), and depression, as measured by the Geriatric Depression Scale. This is also reflected in the higher mean depression scores between patients living in skilled nursing care facilities and patients living in assisted care facilities as noted in Research Hypothesis 1. It is known that skilled nursing care facilities are more highly structured than assisted care facilities, thus elders living in skilled nursing care facilities have less freedom to make choices relative to their life. This means that there is a decreased sense of control over one's environment and the related feelings of learned helplessness indigenous to the elderly in a skilled nursing care facility is likely due to the more highly structured environment.

Consistent with the research of Berndt et al. (1980), the difference in depression levels between individuals from the two different types of facilities was believed to be due to a perceived higher level of learned helplessness in the more highly structured skilled nursing care facilities relative to the assisted living facilities. These results are also

consistent with the initial findings by Berndt et al. (1980) that the learned helplessness and instrumental helplessness scales were significantly different in that the learned helplessness subscale was believed to be a trait measure and the instrumental helplessness subscale appeared to be a measure of an individual's temporary state. The apparent trait measurement of the learned helplessness subscale did not reflect a difference in scores between the two different types of facilities; however, the instrumental helplessness scores were higher, which assesses the individual's temporary sense of helplessness. Briere (2002) explained that the consequence of this phenomenon can result in an elderly individual experiencing perceived reduced personal decision-making or perception of decreased control over life circumstances. These findings would be consistent with the research of both Fishman (1980) and Barder et al. (1994) that the structure of the facilities resulting in the change in an individual's state rather than any inherent trait would have a higher correlation with measures of depression as measured by the Geriatric Depression Scale (Yesavage et al., 1983).

The ANOVA mean differences in depression and instrumental helplessness scores indicate the individual's temporary responses to environmental changes as one source of difficulty for long-term care residents. The current research also supports research (Barder et al., 1994; Fishman, 1980) in the overall correlation of depression with measurements of learned helplessness, instrumental helplessness and perception of control over environmental issues. These findings were indicated in the positive correlations and seem to corroborate with Seligman's (1967, 1975, 1998, 2002) learned

helplessness theory, which states that individuals become depressed when unable to make their own decisions in the face of perceived aversive circumstances.

Inconsistencies were not noted between this study and previous research (Barder et al., 1994; Fishman, 1980) as the measurements of learned helplessness, instrumental helplessness (Berndt et al., 1980) and perceived control (Briere, 2000) correlated significantly with the measurement of depression (Yesavage et al., 1983). Additionally, the state dimension measured by the instrumental helplessness scales (Berndt et al.,1980) found a significant mean difference between the two types of facilities as well as a significant mean difference in terms of depression between skilled nursing and assisted living facilities.

Implications for Social Change

It has been quite perplexing and extremely frustrating over the years to hear individuals, family members and even treatment professionals state that an elderly individual should be depressed because they are old, or that they should be depressed because they are living in a nursing home. However, for elders who are living in highly structured environments, such as in skilled nursing care facilities, the development of depression has been found to be much higher compared to less-structured facilities and community environments. This is apparently due at least in part to the perceived loss of control over one's environment that an elderly individual is more likely to experience in skilled nursing care facilities when compared to assisted living facilities. This phenomenon might result in more clinical depression in elderly individuals as a result of

the higher level of control of their behavior and circumstances, which commonly occurs in a skilled nursing care facility.

This study contributed to an understanding of depression among the elderly in long term care facilities by providing additional information of some of the many factors contributing to the complexity of the development of depression among the elderly in long-term care facilities. This study also contributed to a viable etiological model for understanding a significant aspect of the causative factors leading toward depressive symptoms and disorders, and more specifically within the long term care environment. Moreover, these findings present opportunities for social change through development of remediating factors and possible interventions to prevent or minimize clinical depression. Prevention and treatment of depressive symptoms will result in an improved quality of life for elderly individuals both in the community, as well as living in long-term care facilities. Identifying state learned helplessness and depression in long-term, restrictive care facilities can promote positive social change through increased awareness, intervention and treatment to improve individual quality of life and maximize internalization of perceived control of the decision making process for elders.

Recommendation for Action

This study has provided the opportunity to study depression among the elderly living in long term care facilities. The relationship between learned helplessness and depression among patients in long-term care facilities implies that the more helpless a person feels, or the more they perceive a loss of control over their environment, the

higher their level of depression will be. It is more prevalent in more highly structured care facilities due to their relatively strict adherence to schedules, and rules and regulations set by the management and governmental regulators. Unfortunately, this rigid structure seems to induce negative emotional consequences for the elderly residents.

In essence, the loss of freedom to make choices leads to depression. Thus, in order to alleviate the loss of control over their environment and reduce depression, residents in long-term care facilities should be given more opportunities for choice in meals, activities, furnishings, opportunities to perform activities of daily living such as doing their own laundry if they so choose, and a variety of other experiences that are unscheduled and less mandatory for the entire group. A study by Lin et al. (2003) found that a reduction in depressive symptoms occurred when there was lowered interference with daily activities of elderly patients diagnosed with arthritis. Also, overall health and quality of life were also enhanced among intervention patients relative to control patients over a period of 12 months (Lin et al., 2003).

Recommendations for Future Research

The limitations of this research involve several factors. Due to the number of study participants involved (n = 105), full representation of individuals from various socioeconomic and ethnic groups is limited. There was one participant that was 64 years old which was below the 65 years and older inclusion criteria of the study. However, this did not have a significant effect to the study since there was only 1 out of the 105 participants that violated the inclusion criteria. The data of this participant was

accidentally allowed to participate and included in the statistical totals. As a recommendation for future research, the researcher should not allow the participation of samples that are not included in the sample criteria. Future research will hopefully be specific to the geriatric population, as well increasing availability of research tools applicable to the elderly who may have different levels of cognitive impairment and deficit awareness.

The Multiscore Depression Inventory is used to measure learned helplessness and instrumental helplessness, however, future research might explore validity of this instrument as only a weak correlation between learned helplessness and an experimental scale when testing the concurrent validity of the subscales of the Multiscore Depression Inventory was found (Berdt, 1981). Future research might explore development and use of a more valid measure for helplessness and instrumental helplessness (Berdt, 1981).

Future research may attempt to control for confounding variables, including comorbid medical, psychological and cognitive concerns. Control for some level of variability associated with the unique characteristics of specific facilities and institutional environments within the same categories of facility type may be possible for future researchers, and this may require some additional level of standardization of the testing environment. Future studies might use a larger sample size and incorporate a wide spectrum of minority candidates to make this study more generalizability to the general population of the elderly.

Finally, future research may include post hoc analyses to evaluate possible between

group differences between learned helplessness and perceived loss of control when comparing an individual's level of care in long-term care facilities. These relationships may be established through use of correlational and multivariate research approaches.

Reflection of the Researcher

This research offers a new or additional understanding on the structural impact of long-term care facilities on the well-being of its residents. Long-term care facilities are designed to provide medical and mental health assistance to their residents. However, this study revealed that long-term care facilities can also possibly induce or exacerbate negative consequences in their residents in the form of depression. This perception of induced or increased learned helplessness of residents seems to lead to higher levels of depression. This has been demonstrated in this research study where it has been found that depression and learned helplessness is more prevalent in skilled nursing care facilities compared to assisted living facilities. This induced phenomenon seems to be due to the relatively highly structured environment in skilled nursing care facilities that limits the patient's choice and sense of freedom. The knowledge provided by the findings of this study could aid in improving the structural design of long-term facilities to reduce depression and promote a better sense of health and well-being and higher quality of life for their residents.

Conclusion of the Study

This study evaluated the level of depression among individuals living in skilled nursing care facilities relative to individuals in assisted-living facilities. A quantitative

research design was used for this study. The results revealed that residents living in skilled nursing care facilities have higher levels of depression than individuals living in assisted living care facilities and that one of the most significant causative factors seems to be the development or exacerbation of feelings of learned helplessness or perception of loss of control over one's environment subsequent to their becoming a resident. The study results also revealed that elderly patients assessed in the skilled nursing care facilities have higher instrumental helplessness than those elderly participants in the assisted-living facilities. Correlation analysis revealed that there is a positive relationship between learned helplessness and depression, and a positive relationship between instrumental helplessness and depression. The positive relationship between an individual's perceived control over one's life and depression in nursing home residents, regardless of level of care, will be useful for individuals, families, caregivers, and nursing home administrators as new approaches to care are developed.

The perceived loss in freedom to choose many of the factors incidental to their life circumstances seems to have a direct correlation to depression. This phenomenon is more prevalent in highly structured care facilities, such as skilled nursing care facilities, due to the strict adherence to schedules, rules, regulations and expectations. Based on the findings of this study, social implications were discussed along with implications for current practice. Future research studies were suggested and the reflections of the researcher provided.

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Appendix A: Research Facility Confidentiality Agreement

CONFIDENTIALITY AGREEMENT

Name of Signer:

During the course of my activity in collecting data for this research: "Learned Helplessness and Depression in Long Term Care", I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature: **Date:**

Appendix B: Feelings of Control Research Study Consent Form

CONSENT FORM

You are invited to take part in a research study of feelings of control or what we call learned helplessness and depression. You were chosen for the study because you said that you would like to participate and have the memory skills that would help you to complete the research. Please read this form and ask any questions you have before agreeing to be part of the study.

This study is being conducted by a researcher named Paul Susic M.A. Licensed Psychologist, who is a doctoral student at Walden University. Additional research assistants include Amy Marty Ph.D, Vincent Stock M.A. Licensed Psychologist and Paul Lohkamp MSW LCSW.

Background Information:
The purpose of this study is to help to understand if feelings of control over one's life contribute to the development of depression in long term care facilities.

Procedures:
If you agree to be in this study, you will be asked to:

- Complete this Consent Form and The Folstien Mini Mental State Examination
- On a separate date you may then be asked to complete the Learned Helplessness subscale of the Cognitive Distortion Scales, the Learned Helplessness and Instrumental Helplessness subscales of the Multiscore Depression Inventory and the Geriatric Depression Scale to complete the research study.

Voluntary Nature of the Study:
Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one at this long term care facility will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. If you feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal.

Risks and Benefits of Being in the Study:

The overall risks of participating in this research study are minimal but could include inadvertent disclosure of private research data.

Compensation:

There will be no compensation given as a result of participation in this research.

Confidentiality:
Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reports of the study.

Contacts and Questions:
The researcher's name is Paul Susic. The researcher's faculty advisor is Dr. Jay Greiner. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone at (xxx) xxx-xxxx or email at xxx@xxx.com or the advisor at xxx@waldenu.edu If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-xxx-xxx-xxxx, extension xxxx.

The researcher will give you a copy of this form to keep.

Statement of Consent:

☐ I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.

Printed Name of Participant _____

Participant's Written or Electronic* Signature _____

Researcher's Written or Electronic* Signature _____

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix C: Agreement Letter XXX Home

July 29, 2007

XXX XXXX– Administrator
Address
St. Louis, MO 63111

Re: Proposed Research Study

Ms. XXXX,

I hope all is well and once again I have appreciated the desire for your facility to participate in my proposed study on Feelings of Control and Depression in skilled nursing and assisted living facilities. My dissertation committee believes my research to be very important and probably worthy of publishing in scientific journals in my field upon completion, and your facility and several others will play an important role in helping to bring this research to pass.

The next step is that I need to get signed agreements from the facilities who have stated that they will participate (however, you are never under any obligation), which I will present to the Institutional Review Board of Walden University (where I am attaining my doctorate) for review and approval of considerations relative to ethics, privacy, documentation etc.

I would like to have final approval through the Institutional Review Board of Walden University within approximately a month, after which I will then contact the facilities to begin research.

Once again, I have a great deal of appreciation that you have agreed to participate in this research and would like to reiterate that it will take absolutely minimal employee time and cause very little disruption in resident schedules.

If you would simply return the Preliminary Agreement to Provide Opportunity for Research in the stamped, self-addressed envelope as soon as possible, we can continue moving forward expeditiously in this process. Also, if you would like to have a short paragraph describing your facility for www.SeniorCareServices.org published on the website (and also a link to your website) please include it on the attached form or e-mail it to seniorcarepsych@yahoo.com and it will be posted to the website immediately.

Sincerely,

Paul Susic M.A. Licensed Psychologist
Ph.D. Candidate

Appendix D: Letter of Cooperation XXXXX

XXX XXXX
Address
St. Louis, MO 63146

April 25, 2011

Dear Paul Susic,

Based on my review of your research proposal, I give permission for you to conduct the study entitled Learned Helplessness and Depression Among Patients in Long-Term Care Facilities at XXXXX. As part of this study, I authorize you to provide research materials to individuals interested in participation, assist these individuals in such research, and collect the needed data to complete the research study. Individuals' participation will be voluntary and at their own discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,
Administrator
Facility
Address
St. Louis, MO 63146
Telephone Number

Curriculum Vitae

Paul L. Susic M.A.

Licensed Psychologist
Ph.D. Candidate

EDUCATION:

DOCTOR OF PHILOSOPHY IN Professional Psychology; Health Psychology Specialization, Doctoral Candidate, Walden University, Minneapolis, MN
MASTER OF ARTS in Professional Psychology, September, 1992
Lindenwood College, St. Charles, MO
BACHELOR OF SCIENCE in Business Administration, August, 1985
University of Missouri-St. Louis, MO
ASSOCIATE OF ARTS in Business Administration, May, 1983
St. Louis Community College, St. Louis, MO

LICENSURE:
LICENSED PSYCHOLOGIST
State of Missouri, License #10802

EMPLOYMENT:

PRESIDENT/CEO
CLINICAL DIRECTOR, **Geriatric Psychologist,**
January 2000-Present
Susic Psychological Consulting P.C., Senior Care Psychological Consulting ., St. Charles, MO
Full operational and clinical responsibility for geropsychology assessment and counseling services. Duties involve program development and implementation, including legal, budgetary, fiscal, personnel, regulatory, marketing and public relations. Provides clinical office-based outpatient geropsychology services in St. Charles, MO and to various long-term care facilities in the St. Louis metropolitan area.

PRIVATE PRACTICE
June 1996-Present
Senior Care Psychological Consulting, St. Charles, MO
Provide assessment, psychological testing, individual and family psychotherapy to adult and geriatric patients in outpatient office setting as well as long-term care facilities.

DIRECTOR-DEPARTMENT OF PSYCHIATRY
June 1998-January 2000

Compton Heights Hospital (formerly Incarnate Word Hospital), St. Louis, MO
Full managerial responsibility for geropsychiatric inpatient unit, partial hospital program, outpatient counseling and psychiatric assessment services. Duties included complete budgetary, fiscal, personnel, program development, regulatory and accreditation concerns, patient treatment planning, physician liaison and relations, marketing and public relations responsibilities.

PROGRAM MANAGER- PARTIAL HOSPITAL and OUTPATIENT COUNSELING SERVICES
January 1995-June 1998
Compton Heights Hospital (formerly Incarnate Word Hospital), St. Louis, MO
Created, developed and marketed partial hospital and outpatient counseling services for the hospital. Had full managerial responsibility including budgetary, fiscal, personnel, program development, regulatory and accreditation, physician liaison and relations, marketing and public relations.

PSYCHOLOGICAL RESIDENT and PSYCHIATRIC ASSESSMENT CLINICIAN
November, 1992- January, 1995
Incarnate Word Hospital, St. Louis, MO
Provided inpatient, geriatric psychological services, including assessment and group, family and individual counseling. Also, developed a community outreach psychiatric assessment program in conjunction with staff psychiatrists to provide psychiatric services in long term care facilities. Included Residency for Psychologist Licensure for the State of Missouri.

FAMILY AND INDIVIDUAL THERAPIST
June 1992-2001
Family Resource Center, St. Louis, MO
Provide family and individual therapy to children and adolescents who are at risk or are victims of abuse/neglect.

CHIEF DEPUTY RECORDER OF DEEDS
1986-1991
St. Charles County Government, St. Charles, MO
Full managerial responsibility for 15 full and part-time deputies and clerks. Represented the Recorder in county governmental meetings and at political affairs. Also, budgetary and fiscal responsibilities of office operations and financial reporting to county government.

STAFF AUDITOR AND ACCOUNTANT
1985-1986
Baird, Kurtz and Dobson, Certified Public Accountants, St. Louis, MO

ADDITIONAL TRAINING:

-Currently in the process of completion of doctorate (Ph.D.) in Health Psychology at Walden University, Minneapolis, MN
-Classes in Marriage and Family Therapy (Ph.D. Program), St. Louis University 1996-1997
-Nationally Certified Hypnotherapist : Mottin and Johnson Institute of Hypnosis, St. Louis, MO
-Registered Hypnotist: Atwood Institute of Research, Phoenix, AZ

PROFESSIONAL ASSOCIATIONS:
American Psychological Association
St. Louis Psychological Association
Psychologists in Long Term Care

APPOINTMENTS:
Past- Board of Directors : St. Elizabeth's Adult Day Care Centers