CAREGIVER SELF-EFFICACY, SELF-CARE, MANAGEMENT OF EMOTIONS, THE AMOUNT OF AND SATISFACTION WITH HELP FROM OTHERS, AND THE USE OF COMMUNITY RESOURCES: AN ANALYSIS OF THE POWERFUL TOOLS FOR CAREGIVERS PROGRAM

by

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DEDICATION

I dedicate this research project to my wife, Maureen and our little one who will join us later this year. Furthermore, I also dedicate this research project to the memory of my father Mark, my brother Aaron, and my uncle Dave, who left us this past year. Finally, I dedicate this study to those striving to improve individuals' lives through the promotion of psychology. Thank you.

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Abstract

In recent decades a literature has accumulated demonstrating caregivers experience higher rates of mental and physical health problems compared to non-caregivers (Baumgarten, Battista, Infante-Rivard, Hanley, Becker, & Gauthier, 1992; Shaw et al., 1997). Vitalinao, Zhang, and Scanlan (2003) found these health problems may be, in part, attributed to high stress levels, as their 23-study meta-analysis found caregivers had 23% higher stress hormone levels and 15% lower antibody response levels than non-caregivers.

A number of psychoeducational interventions have been developed (e.g., Powerful Tools for Caregivers), to provide caregivers with a range of skills for better managing stress; however, few interventions have research supporting their effectiveness. Therefore, the current study sought to help fill the literature gap by, examining the effectiveness of the Powerful Tools for Caregivers (PTC) program. The purpose of the study was to: (a) examine the effect of the PTC intervention, on caregiver self-efficacy, self-care, emotional management, amount of and satisfaction with help from others, and use of community resources scores measured via pre-post score changes with the instrument developed and validated to assess the PTC program; (b) assess if caregivers' responses to the intervention (pre-post PTC program outcome scores) differ by age, gender, or education; and (c) examine if care receivers' memory loss, medical condition, or living situation are associated with significant differences in caregivers' pre-post PTC program outcome scores following the intervention.

Results demonstrated caregivers' self-efficacy, self-care, emotion, help, and resource scores significantly improved following the PTC intervention compared to pre-class levels. Results also demonstrated, in a large majority of cases, caregivers not only improved their outcome scores, but also did so in a uniform fashion, regardless of their age, gender, or education level and irrespective of their care receivers’ memory loss, medical condition, or living situation. Based on these results, the PTC training appears to be an effective treatment for caregivers regardless of their age, gender, or education and in spite of their care receivers’ memory loss, medical condition, or living situation. These results are significant because this is the first systematic PTC outcome study assessing these caregiver and care receiver characteristics.

CHAPTER ONE

Introduction

Statement of the Problem

The United States has become a nation of caregivers. The most recent estimates available from 2009 suggest that there are approximately 48.9 million unpaid caregivers in the U.S (National Alliance for Caregiving, 2009). This equates to nearly one in five Americans providing voluntary caregiving services for another adult during a 12-month period, from November 2008-2009. An additional 3.9 million unpaid individuals provided services to children with disabilities as well as 12.9 million caregivers who cared for an adult and child simultaneously (National Alliance for Caregiving, 2009). Furthermore, during the same period 36.5 million, or 31.2% of, American households reported that at least one person served as an unpaid caregiver (National Alliance of Caregiving, 2009).

While the number of Americans providing care services is substantial, this number is relatively small compared to the predicted need for future caregivers. A substantial increase in demand for caregivers will be fueled primarily by the growth in America’s aging population, as 76 million “Baby Boomers” (Boomers), individuals born between 1946 and 1964, reach 65 years of age. The U.S. Census Bureau (2010) projected that the number of individuals 65 and older will double from the current census for this age strata to more than 88.5 million by the year 2050. Beginning in 2011 and continuing for 40 years, Boomers turning 65 years old, will increase the census of older individuals each and every year. Furthermore, the census of those 85 and older, those who need the most intensive care services due to age-related illness and disability, is predicted to triple in size from 5.8 million to 19 million by 2050 (U.S. Census Bureau, 2010).

These estimates suggest that the future demands for unpaid caregivers may need to double or triple to maintain the current system of healthcare.

Current research efforts in this field have been directed toward accurately estimating the number of caregivers in America, as well as examining the potential negative mental and physical health effects of caregiving. Allied health professionals, such as those from rehabilitation psychology, have speculated that protracted and demanding caregiving situations may produce higher stress levels among caregivers making them more susceptible to disabling mental and physical health problems. A substantial literature has confirmed caregivers do experience higher rates of clinical depression as well as depressive symptomology compared to non-caregiving controls (Baumgarten et al., 1992; Cohen, Luchins, Eisdorfer, & Paveza, 1990; Schubert et al., 2008; Schulz & Williamson, 1991; Zanetti, Frisoni, Bianchetti, Tamanza, Cigoli, & Trabucchi, 1998).

While some scholars have focused on mental health, others have elucidated the potential negative physical health consequences of caregiving. Research has revealed that compared to non-caregivers, caregivers experience an increased susceptibility to serious illness (Shaw et al., 1997), prolonged periods of high blood pressure consistent in magnitude with “acute psychological stress” (King, Oka, & Young, 1994, p. 244), elevated immunological dysfunction (Kiecolt-Glaser et al., 1987), substantially slower wound healing time (Kiecolt-Glaser, Marucha, Malarkey, Mercado, & Glaser, 1995), and increased rates of alcohol and other drug abuse (Chronister & Chan, 2006). Finally, in a study that compared the mortality rates of caregivers and non-caregivers, Schulz and Beach (1999), reported caregivers who experienced physical or emotional “strain” in conjunction with their duties had higher mortality rates. Such studies have been critical for more clearly establishing the health consequences of caregiving stress upon caregivers.

Other research has investigated caregivers' physiological reactions and stress responses. Vitaliano et al. (2003) 23-study meta-analysis compared physiological differences between caregivers and non-caregivers and reported caregivers had a 23% higher level of stress hormones and a 15% lower level of antibody responses (Vitaliano et al., 2003). This study demonstrated that, compared to non-caregiving controls, caregivers experienced changes in stress regulation likely due to the cumulative effects of increased stress, which is associated with lower immune system response. These studies solidify our understanding of the potential deleterious health consequences such as immunological dysfunction, substantially slower wound healing time, and greater susceptibility to serious illness. Such research helps support the assertion that caregivers experience stress in a manner, which can increase their risk for developing serious mental and/or physical illness related to their caregiving duties. A review of the caregiving literature demonstrates that, compared to the general population, caregivers experience a variety of negative health consequences related to caregiving stress ranging from increased serious illness susceptibility to higher rates of mortality.

Caregiving Stress

Research conducted throughout the previous two decades has demonstrated that acting as a caregiver generates higher stress levels irrespective of a care receiver's disability, medical condition, or type of illness. For example, compared to the general population, caregivers experience elevated stress levels when caring for individuals with: Alzheimer's disease (Schulz & Williamson, 1991); cancer (Gaugler et al., 2005; Kim & Schultz, 2008); mental illness (Moller, Gudde, Folden, & Linaker, 2009); heart disease (Whittingham, 2009); stroke (Grant, Weaver, Elliott, Bartolucci, & Giger, 2004); multiple sclerosis (Khan, Pallant, & Brand, 2007); arthritis (Riemsma et al., 1999); mental retardation and developmental delay (Caldwell, 2008); and traumatic brain and head injury (Chronister & Chan, 2006; Blake, 2008).

While numerous studies have demonstrated that providing care for individuals is stressful; some conditions may be more stressful for caregivers. For example, providing care for someone with memory loss such as Alzheimer's disease is, more stressful, than caring for an individual with a physical impairment (Schulz & Martire, 2004). Similarly, research has compared care for physically impaired older adults and those with dementia. Those caring for an individual with dementia note they provided more assistance and reported that their care provision as more stressful since they relinquished their vacations and hobbies more frequently, had decreased time for other family members, and reported more work related-difficulties (Schulz & Martire, 2004).

Psychoeducational Interventions

Research related to the negative mental and physical health effects of caregiving stress have prompted the creation of psychoeducational caregiver interventions throughout the United States. Such interventions have been designed to help caregivers learn skills to better cope with, reduce, or eliminate the unhealthy effects of caregiving related stress. While many psychoeducational stress management programs for caregivers exist, few have scientific research supporting their efficacy. The limited numbers of such publications have elevated the importance of conducting scientific inquiry related to determining the effectiveness of psychoeducational caregiver interventions.

The Savvy Caregiver and the Powerful Tools for Caregivers programs may be among the most thoroughly developed, widely utilized, and researched within the U.S. The Savvy

Caregiver Program was developed at the University of Minnesota in 2002 and focuses on providing caregivers with information about dementia as well as the requisite skills, self-confidence, and self-valuing to reduce stress and become more confident in their duties. Findings from multiple studies support the efficacy of this program (see: Hepburn, Lewis, Sherman, & Tornatore, 2003; Hepburn, Lewis, Tornatore, Sherman, & Bremer, 2007; Scharf, Bell, & Smith, 2006; Smith & Bell, 2005; Tompkins & Bell, 2009). While the Savvy Caregiver Program has demonstrated efficacy, it is intended only for caregivers of individuals with memory problems, such as Alzheimer's disease. While caring for an individual with a dementia is considered to be particularly stress provoking, research also demonstrates that many caregivers, regardless of care receiver illness, experience elevated stress levels and make them more susceptible to the negative physical and mental health effects of stress.

Like the Savvy Caregiver program, the PTC intervention is a highly developed, widely utilized, nationally recognized program with evidence supporting its efficacy. According to Kuhn, Fulton, and Edelman (2003), PTC is one of the better known, used, and researched psychoeducational group interventions designed for empowering caregivers to better care for themselves and enhance their self-efficacy regarding their caregiving role. According to the PTC Co-Executive Director Leslie Congleton, more than 70,000 caregivers have participated in the program; furthermore, it is actively being taught in 31 states, and it has over 1,500 class leaders throughout the United States (L. Congleton, personal communication, January 3, 2011). The advantage of the PTC program over similar programs is its effectiveness in helping caregivers irrespective of the type of medical condition or illness experienced by the care receiver. Therefore, any caregiver could attend and expect to gain valuable skills, knowledge, and insights into how to better care for themselves.

Powerful Tools for Caregivers Description

PTC is taught as a scripted intervention for small caregiver groups once a week for 2½ hours per session over a 6-week period. Class pedagogy as well as topical content has been carefully considered and thoughtfully developed. Each class provides caregivers with: a highly relevant-structured format; opportunities for free-form sharing and brainstorming about personal situations, frustrations, and concerns; frequent breaks and refreshments; in-class relaxation tools; and facilitators who demonstrate a personal interest. Each week provides unique content as well as skill building activities. Caregivers are strongly encouraged to attend all six classes. Class topics for the six weeks are as follows: the importance of self-care; identifying and reducing personal stress; communicating feelings, needs, and concerns; communicating in challenging situations; learning from our emotions; and mastering caregiving decisions. A brief description of the course curriculum as described by Boise, Congleton, and Shannon (2005), is available for review in Table 1.1.

Table 1.1.

Powerful Tools for Caregivers Weekly Curriculum

Class #1: Taking care of you

Challenges of caregiving and the importance of caregiver self-care are emphasized. Caregivers begin to make an individualized action plan for self-care every week.

Class #2: Identifying and reducing personal stress

Steps for effective stress management are presented. Tools to reduce stress are discussed, including simple relaxation activities.

Class #3: Communicating feelings, needs, and concerns

Participants learn how to communicate their feelings, needs, and concerns more effectively by using ‘‘I’’ messages. Through dramatizations, caregivers experience the impact of ‘‘you’’ messages. Progressive muscle relaxation is practiced.

Class #4: Communicating in challenging situations

Participants practice two communication tools—assertiveness and Aikido—which are helpful in difficult situations. Caregivers further learn how to set limits and another form of progressive muscle relaxation is practiced.

Class #5: Learning from our emotions

Focus is on identifying constructive ways for dealing with difficult feelings—especially anger.

Class #6: Mastering caregiving decisions

Tools for dealing with internal emotional changes and for making tough decisions are discussed including a decision-making model, a family meeting, and ‘‘tools of optimism.’’ Caregivers acknowledge their accomplishments and develop a long-term action plan.

(Boise et al., 2005, p. 575)

Chronic Disease Self-Management Program

According to Boise et al. (2005), the curriculum, teaching methods, and dissemination of the PTC program are based on the Chronic Disease Self-Management Program (CDSMP). This was because the CDSMP is, quite possibly, one of the most thoroughly studied patient education programs in the country with years of research supporting its efficacy. For example, one study found that individuals who completed the program experienced weekly exercise, cognitive symptom management, and self-reported health improvements (Lorig et al., 1999). The same study also reported reductions in participant health distress, fatigue, disability, and social role/activity limitations (Lorig et al., 1999). PTC program developers likely realized that they could save years of research and development time by using the CDSMP as a model for the PTC program.

Alfred Bandura's (1977) social learning theory and his concept of self-efficacy were used as the theoretical framework for the CDSMP. This was because Lorig and colleagues discovered self-efficacy was largely responsible for health improvements demonstrated among CDSMP participants. Kuhn, Hollinger-Smith, Presser, Civian, and Batsch (2008) state, it has been demonstrated that "a high degree of self-efficacy will increase the frequency of certain behaviors, particularly personal health promoting behaviors" (p. 54). Furthermore, self-efficacy is related to an individual's belief that, "new attitudes and behaviors can be achieved" and such "expectations and beliefs affect one's personal choices that may be modified by skills training", trainings like the CDSMP (Kuhn et al., 2008, p. 54). While the CDSMP took a substantial amount of effort and time to develop the actions fostering self-efficacy are quite simple. Participants attend small, highly interactive groups once a week for 2½ hours for six-weeks and practice what they learn from the scripted intervention. It is also important to note that the program was developed so that at least one of the leaders facilitating the program experiences or has experienced a chronic disease himself or herself.

Similar to the CDSMP, the PTC program also underwent extensive research and development where portions of the curriculum, teaching methods, and materials were completely changed or created specifically to suit caregivers. Ultimately PTC program developers succeeded in their effort to develop a completely new program to meet the needs of caregivers.

Developing PTC Program Curriculum

PTC program developers created a curriculum which provides skills and experiences which promote caregiver: (a) self-efficacy; (b) self-care; (c) emotions; and (d) utilization of community resources. The utilization of community resources was split into two outcomes in the current study for analysis purposes, and is referred to as: (1) the amount of and satisfaction with help from others, and (2) the utilization of community resources.

Powerful Tools for Caregivers Research

The PTC assessment instrument was developed and validated specifically for the program and is designed to capture changes in caregivers’ self-efficacy, self-care, emotional improvements, and resource utilization. These constructs are believed to help caregivers manage stress and improve mental and physical health. The assessment developers, which were some of the same PTC program developers, likely based the PTC assessment instrument on the material taught during class (curriculum), the caregiver health literature, and assessments created for the CDSMP.

Five scientific studies assessed and found support for the efficacy of the PTC program. The study conducted by Boise et al. (2005) validated the scales developed to assess self-efficacy, self-care, emotional management, and use of resources scales used to measure caregiver progress, compared to pre-class levels, following the intervention. In addition to validating outcome scales, Boise and colleagues also found significant positive self-efficacy, self-care, emotional management, and resource utilization improvements maintained 6-months after program completion. While this study was important as it validated the outcome scales and also established the PTC as an effective psychoeducational caregiver intervention, it contained sample limitations. For example, 102 of the 359 original study participants, or 28%, dropped out during the initial phase of the project. Additionally, 71 of the 257 participants who completed the program, an additional 28%, did not complete the 6-month follow-up class assessment used to generate the study's results; therefore, 173 individuals, or 48%, out of 359 was lost to attrition and did not complete the study.

While the study published by Kuhn and colleagues' (2008) did not assess each of the PTC program constructs, it is worth mentioning because of its innovation. The PTC treatment was adapted into an on-line program targeting hard to reach caregivers, especially those working full- or part-time while raising children. The on-line version was developed as a refresher or booster for caregivers who previously completed PTC. The results of the study were promising, and demonstrated caregivers experienced self-efficacy and self-care improvements. For example, caregivers completing the refresher module demonstrated greater involvement in exercise and relaxation activities with results sustained 6-months following the training. These results are important, because this study holds promise that the PTC program could be adapted into an on-line version for working, hard to reach, or isolated caregivers. While this study was valuable in demonstrating effectiveness for working caregivers, it too had sample-related limitations. While the study had a large initial sample of 176 individuals, only 49 completed the immediate post-course survey and the 6-month follow-up course survey, thereby making it difficult to draw conclusions about long-term program benefits.

The three remaining studies assessed two of the PTC program outcomes and also found improvements among caregivers completing the program. For example, Kuhn et al. (2003) as well as Savundranayagam and Brintnall-Peterson (2010), both found self-efficacy and self-care improvements among caregivers completing the PTC compared to pre-class levels. Finally, Won, Fitts, Favaro, Olsen, and Phelan (2008), found self-care and emotional improvements among individuals completing the program.

Research Questions

In spite of being one of the most researched psychoeducational caregiver interventions, only a single study assessed each of the central PTC program constructs. As a result, the current study sought to contribute to the literature by conducting research assessing each of the central PTC program constructs with an appropriately sized sample. Furthermore, little or nothing is known about the potential effects of caregiver and care receiver characteristics and their impact on program outcomes. Therefore, the current study sought to assess caregivers' age, gender, and education as well as care receivers' memory, medical condition, and living situation and possible interactions with program constructs. The purpose of the present study is to address the following research questions:

1. What is the effect of the PTC intervention on caregiver self-efficacy, self-care, management of emotions, amount of and satisfaction with help from others, and use of community resources?

2. Do caregiver characteristics including age, gender, and educational attainment interact with the PTC outcomes (i.e., self-efficacy, self-care, management of emotions, amount of and satisfaction with help from others, and use of community resources), and if so, how?
3. Do care recipient characteristics including memory loss, medical condition/illness type, and living situation interact with the caregiver's outcomes (i.e., self-efficacy, self-care management of emotions, amount of and help from others, and use of community resources), and if so, how?

The present study will address many of the prior deficiencies in this body of research, in part, with an analysis that includes all program outcomes with a large and diverse sample. It is anticipated that an analysis of the five PTC program outcome variables will lead to useful, and meaningful insights which will clarify who benefits from the program, and inform what program changes may be necessary. This study's sample will represent a broad and diverse population. Pre-post PTC questionnaires used to complete the study analysis were gathered from groups across an entire state, which represent diverse social and demographic variables during an extended duration. Secondarily, the present study will examine the effectiveness of the instrument that is being used to collect information from the PTC participants.

CHAPTER TWO

History, Development, and Theory of the CDSMP

The curriculum, pedagogy, and dissemination of the PTC intervention are modeled after the CDSMP (Boise et al., 2005). Therefore, a review of the history, impetus for, development, and theoretical basis of the CDSMP is essential to understanding the genesis of the PTC program.

Health Care Intervention History Prior to Mid-1970s

According to Lorig, Stewart, Ritter, and González (1996) most health care interventions created prior to the mid-1970s were evaluated on the basis of their effects on physiologic outcomes. Health care interventions developed during this period provided information and training activities with the goal of improving, for example, physiologic outcomes, such as blood glucose monitoring and insulin administration among patients with diabetes. Not surprisingly, assessment instruments were designed to detect and measure physiologic changes and the success of these types of health care interventions was narrowly based on such improvements.

Following the mid-1970s, "health services, behavioral medicine, and health education interventions…added [assessment] outcomes based on patients' perspectives of their day-to-day functioning and well-being" (Lorig et al., 1996, p. ix). Day-to-day functioning and well-being concepts will be referred to as quality-of-life for the remainder of the study. Quality-of-life outcomes fall into three categories: physical disability (e.g., limitations in activities of daily living or role limitations), mental distress (e.g., depression or anxiety), distressful symptoms (e.g., pain or shortness of breath) (Lorig et al., 1996). While health care interventions assessing patients' perspectives of their quality-of-life were novel in the 1970s, not only have they become common place today, they have also become the new assessment standard among health care interventions (Lorig et al., 1996). Familiar with these advancements, Lorig and colleagues utilized quality of life indicators to create a more efficacious, applicable, and successful intervention for individuals with chronic diseases.

Impetus for the CDSMP

Four primary factors, according to Lorig et al. (1996), acted as the impetus to develop the CDSMP: (a) a large number of aging Americans; (b) an increase in chronicity and comorbidity of disease especially among aging individuals; (c) a societal paradigm shift regarding views of the aging process; and (d) a lack of health education programs appropriate for individuals with multiple chronic conditions.

The large number of aging American's is perhaps one of the most concerning demographic features of the next four decades, as the number of individuals 65 and older is predicted to double by 2050. As this cohort ages they will become increasingly susceptible to acquiring illnesses, disabilities, and multiple chronic conditions which will invariably increase the demand for caregiver services. For example, according to Anderson and Horvath (2004), 62% of individuals 65 and older reported two or more chronic medical conditions, and furthermore, chronic conditions among this group are projected to rise for the next 30 years. Awareness of the burgeoning growth and subsequent inter-relationship of increasing disease chronicity and comorbidity among older individuals, CDSMP developers were confident the effort required to develop a new program would be worth the investment of time and resources.

Changing views about the aging process also served as an impetus to create the CDSMP. According to Lorig et al. (1996), societies' views regarding aging have shifted during the past 25-years, as growing older is no longer thought of as the end of the productive period of life or a time of inevitable physical and mental decline. This has been reflected by the changes in terminology used to describe aging as many negative terms have been replaced by favorable terms such as *successful aging, productive aging, and robust aging* in the scholarly literature (Gleason & Butler, 1985; Fries, 1980; Katz et al., 1983). These changes, in part, may be related to a belief that health education interventions can be or have been developed which can prevent or delay the manifestation of chronic conditions (Lorig et al., 1996).

Limited assistance offered by health education programs to individuals experiencing multiple chronic conditions have also served as an impetus to develop the CDSMP. Before the creation of self-management interventions, health education programs fell into three categories: (a) prevention; (b) wellness; or (c) disease-specific programs, each with limitations (Lorig et al., 1996). For example, prevention programs were limited as they narrowly focused on removing root causes of disease through broad based approaches such as immunizations, personal behavior modification, or reducing environmental causes of disease, while wellness programs attempted to maintain or improve physical or psychological functioning among healthy individuals and generally assumed the absence of chronic conditions among participants (Lorig et al., 1996). Disease-specific programs, according to Lorig et al. (1996), were limited because they focused exclusively on particular diseases, with little or no consideration of the interaction among chronic conditions or how program recommendations may be impossible to follow due of existing comorbidities. These realities also helped convince researchers that developing a self-management program for individuals with multiple chronic diseases would be worth their efforts.

Developing the CDSMP

To develop a program capable of improving both physiologic and quality of life outcomes, as well as reducing participant healthcare costs, Lorig and colleagues (1996): (a) reviewed impressions from prior experiences; (b) completed a literature review; (c) conducted a series of focus groups with older individuals experiencing various chronic conditions; and (d) reviewed relevant social psychological theory (Lorig et al., 1996).

Lorig and colleagues used knowledge gained from 12-years of community-based health care intervention experience (i.e., arthritis self-management program) to aid in the creation of the CDSMP (Lorig & Gonzalez, 1992; Lorig & Holman, 1993). Pain reductions reported among arthritis self-management program participants without any change in their disability was the most significant finding. This finding was so surprising that it prompted a separate investigation to discover possible mechanisms by which the intervention altered pain without any change in disability. The qualitative study ultimately identified that increased feelings of *personal control* were a key factor in changing health status among arthritis self-management program participants (Lorig et al., 1996). In this study, personal control was operationalized as perceived self-efficacy to the management of arthritis symptoms and sequelae.

To confirm the relationship among self-efficacy promotion and pain reduction, researchers modified the arthritis self-management intervention to include additional efficacy-enhancing strategies to see if self-efficacy was partially responsible for positive changes in pain. The modified arthritis program, when compared to the original program, demonstrated increased effectiveness in lowering pain and disability, further substantiating this hypothesis (Lorig et al., 1996). Self-efficacy was adopted as the central theoretical construct for the CDSMP because of its favorable impact on health behavior and health status among arthritis self-management participants

The next phase in development of the CDSMP included a literature review, a series of focus groups, and a review of the relevant social psychological theory. The literature review was conducted to identify common problems faced by patients with chronic diseases as well as the beneficial health behaviors and the type of health status outcomes participants could expect from the new program. The literature review identified 12 self-management tasks, described by Clark, Becker, Janz, and Lorig (1991), applicable to individuals experiencing chronic health conditions: (a). recognizing and responding to symptoms (i.e., monitoring and controlling triggers); (b) using medications; (c) managing acute episodes/emergencies; (d) maintaining good nutrition/diet; (e) maintaining adequate exercise/physical activity; (f) not smoking; (g) using relaxation and stress-reducing techniques; (h) interacting appropriately with health care providers; (i) seeking information and using community resources; (j) adapting work and other role functions; (k) communicating with significant others; and (l) managing the negative emotions and psychological responses to illness.

Researchers also conducted a series of focus groups to gather information from individuals experiencing various chronic diseases to be used in the development of the CDSMP. Eleven groups consisting of 8-12 participants convened to discuss semi-structured interview questions facilitated by a moderator. Participants were asked to discuss: (a) their diseases and what they thought caused them; (b) explain their feelings and beliefs about getting older; (c) describe the physical, social, and emotional impacts of chronic disease on their lives and the lives of their families (d) tell how they coped with the problems caused by their disease; and (e) elaborate on their fears, hopes, and wishes for the future (Lorig et al., 1996). Each group was recorded, transcribed, coded, and re-coded several times by theme using Ethnographic software. The focus group statements revealed problems, often not considered when designing patient education interventions (i.e., coping with anger and other difficult emotions). Activities and exercises addressing these concerns were developed into the CDSMP curriculum.

Lorig and colleagues (1996) had reviewed the social psychological theory and selected self-efficacy theory, as described by Bandura (1977), as the conceptual and theoretical basis for the CDSMP program. Self-efficacy was selected because during research and development of the arthritis self-management program it was found to be responsible for health-status and quality-of-life improvements among participants.

CDSMP Program Description

Program developers combined information gained from the needs assessment, prior experience, literature review, and theoretical understanding of self-efficacy theory. The program was developed to span 7 weeks (2.5 hours per week), is taught by trained leaders in community settings, with 10-15 participants (significant others are welcome). Content of the classes include: developing an exercise program, cognitive symptom management, breathing exercises, problem solving, communication skills, use of medication, and dealing with the emotions of chronic illness. Classes are highly interactive, with an emphasis on efficacy-enhancing strategies such as skills mastery (accomplished through incremental goal setting and contracting strategies), modeling (accomplished by leaders and frequent group problem-solving) (Lorig et al., 1996). It is through these activities, exercises, and discussions with others that individuals with chronic conditions improve their self-efficacy, ultimately improving physiologic, quality-of-life outcomes and reduce health care costs.

Powerful Tools for Caregivers History

During the 1990s the PTC program began taking shape when a number of individuals began discussing intervention options for caregivers. At the time there were no empirically validated psychoeducational interventions available for caregivers, as a result, the group applied for grants to help fund the creation of a health intervention for caregivers. After receiving a grant, the group recruited gerontologists, educators, researchers, and program development staff to review psychoeducational interventions created to serve individuals in non-caregiver fields in preparation for developing a new program.

Following an extensive review of health education programs across many disciplines, the team selected the CDSMP as a model for their new caregiver program. According to L. Congleton (personal communication February 13, 2012) the CDSMP was selected as a model because of its years of planning and thoughtful development, many scholarly publications supporting it as an efficacious health education intervention, self-care improvements among participants, and its hands-on behavioral approach.

Other reasons may have included similarities among individuals with chronic disease and caregivers. For example, role functioning changes affect both those with chronic disease as well as caregivers. Individuals with multiple chronic diseases frequently experience role changes at home or work as a result of their conditions (i.e., those with arthritis may no longer be able to complete activities of daily living due to pain associated with lifting or carrying heavy objects). Just as individuals with multiple chronic diseases have difficulty adapting to role changes so do caregivers who must assume new duties, tasks, or responsibilities sometimes with very short notice often leaving little time for preparation. For example, many caregivers quickly take on new roles such as helping with ADLs, arranging care for their loved one while they are working, assuming new responsibilities such as, maintenance or housekeeping responsibilities, managing finances, as well as significant relationship changes with their care receivers.

Perhaps another reason the CDSMP was selected as a model for the PTC program was that individuals with chronic diseases, as well as caregivers, are often of advanced age. While not exclusively developed for older individuals, the CDSMP developed many of the activities and terminology with older adults in mind. PTC program developers were likely aware that a large portion of their class participants would be older individuals and also offered activities, exercises and a curriculum with this age group in mind.

Adapting Self-Efficacy for PTC

The PTC program, like the CDSMP, also developed a self-efficacy enhancing curriculum as a primary method for fostering healthy caregiver change. Self-efficacy theory is often conceptualized, according to Lorig et al. (1996), as the strength of belief in one's capacity to successfully complete a specific task or achieve a certain result and enhanced self-efficacy leads to improved behavior, motivation, thinking patterns, and emotional stability. Previous research has demonstrated self-efficacy could be enhanced through: (a) performance mastery; (b) modeling; (c) reinterpretation of symptoms; and (d) social persuasion (Gonzalez, Goeppinger, & Lorig, 1990).

According to Boise et al. (2005), the PTC curriculum has adopted these empirically verified strategies for enhancing self-efficacy. Learning, practicing, and experiencing success in health related behaviors are central to gaining self-efficacy, and an effective way to foster mastery is to have individuals set goals for themselves (Boise et al., 2005). As a result, PTC participants are encouraged to develop weekly action plans. These action plans, similar to incremental goal setting strategies used in the CDSMP, are written plans created by participants during each class and identify something personally important they would like to accomplish during an upcoming week. Participants are asked to write down specific goals, that is, what they will do, when they will do it, how often and how much, and state their confidence level in completing their action plan prior to the following class. Individuals who experience difficulties creating or accomplishing their action plans are supported by other participants and instructors who assist them to become more confident in their ability to identify meaningful and achievable goals. A supportive and caring atmosphere helps ensure that class participants gain confidence in developing and attaining meaningful goals. Typically, by the end of the six weeks, participants are achieving goals which often seemed out of reach during the early part of the training, that is, they have begun to develop confidence in their caregiving knowledge, skills and abilities, as they have begun to exercise self-efficacy.

Modeling also marks a powerful self-efficacy enhancing tool and is modeled and demonstrated weekly by class facilitators. Leaders describe effective caregiving practices, model effective tools used from their own experiences as caregivers, and also provide opportunities for class members to help other participants discover solutions to caregiving challenges (Boise et al., 2005).

The reinterpretation of feelings and attitudes about caregiving also marks an empirically-verified strategy for enhancing self-efficacy used in the PTC program. For example, the fundamental nature of some illnesses, disabilities, or chronic diseases can not be changed; however, caregivers can learn to shift their focus or attention from uncontrollable negative aspects of a disease, and with the help of the tools, leaders, and fellow participants, redirect themselves to accept the realities of their situation and re-direct their attention to what they can control. Through reinterpreting their feelings and attitudes about the nature of illness and disease caregivers, can gain an enhanced appreciation of the importance and significance that their caregiving has, not only for the individual receiving care, but also for themselves. This, in part, is accomplished through the positive support from other PTC co-participants, class leaders, and the tools they learn and practice during class each week. Through sharing feelings and experiences with others, PTC program participants carry these reinterpreted feelings and attitudes into their caregiving role (Boise et al., 2005).

Persuasion is a standard approach in health education interventions, and also has an important place in the self-efficacy model (Boise et al., 2005). While persuasion is not the primary method for changing behavior in the PTC program, it does act as an important supplement to the skills mastery, modeling, reinterpretation of feelings and attitudes about caregiving. For example, class facilitators may urge caregivers to set slightly more ambitious goals than they might otherwise, thereby persuading them to strive to achieve more. When participants select and achieve more challenging action plan goals, it fosters increased self-efficacy.

Self-Efficacy and Social Learning Theory

Like the CDSMP, the PTC program is also based on Bandura's (1977) concept of self-efficacy, which is rooted in social learning theory. The following section will briefly review the historical context, meaning, and significance of Bandura's (1977) social learning theory and define the self-efficacy construct.

According to Ormrod (1995) Bandura's social learning theory was an expansion of earlier behaviorist research carried out by Neal Miller and John Dollard and their publication entitled *Social Learning and Imitation* (1941). According to Hill (1990) Miller and Dollard became interested in learning through observation and imitation and successfully demonstrated that children could learn through observation and imitation to make (or not make) the same response of another individual when provided with cues as to which response would be reinforced or rewarded. Miller and Dollard were the first to study the concept of learning through observation and imitation but approached their studies from a behaviorist framework through a classical and operant conditioning lens (Hill, 1990).

In their book *Social Learning and Personality Development* (1963), Albert Bandura and Richard Walters argued that traditional learning theory was incomplete. This was because, in their view, traditional learning theory neglected the role of observational learning and imitation, because humans observe the behavior and consequences of others, and later may imitate their behavior (Mazur, 1998). As the title of their book implies, Bandura and Walters were interested in how people develop their personalities, and while they did not deny that heredity plays a factor, they believed that most of personality development is related to learning experiences (Mazur, 1998). Bandura and Walters rejected the strict Freudian or psychodynamic approach to personality development, which emphasized the interaction of unconscious psychic forces as the only determinants of adult personality (Mazur, 1998). Like Freud, Bandura and Walters believed, early childhood experiences profoundly influenced the formation of personality, but they proposed that these experiences exerted their influence through the principals of social learning theory versus unconscious psychic forces (Mazur, 1998).

By social learning theory, Bandura and Walters were referring to a combination of (a) the traditional principals of classical and operant conditioning, plus (b) the principles of observational learning or imitation (Mazur, 1998). Diagrammatically, Bandura (1977) conceptualized the influence of classical and operant conditioning on personality development as: "$B = f(P,E)$" or "[$B = f(P\text{-}E)$]" where *B* signifies behavior, *P* the person, and *E* the environment (p. 9). Different from these views of learning and personality development, Bandura's (1977) view of social learning was that behavior, other personal factors, and environmental factors all operate as interlocking determinants affecting each other [$B \leftrightarrow P \leftrightarrow E$].

Thus, Bandura and Walters felt that they were not rejecting the principles of traditional learning theory but rather, were adding one more important principle to its conceptualization (Mazur, 1998).

To demonstrate social learning theory, Bandura successfully carried out a series of Bobo doll experiments in 1965 aimed at demonstrating that observational learning or imitation was not a special case of classical or operant conditioning. Bandura created three groups of children who watched a video of an adult hitting a Bobo doll. All three groups of children saw an adult strike the doll, but the first group saw the adult being rewarded afterward (praised with candy or soda), the second group saw the adult being punished, and the third group of children did not see any type of praise or punishment. Immediately following the video the children were escorted into the room with the doll one at a time and told to play with the toys. Not surprisingly, the children who witnessed the adult who was rewarded for striking the doll were more aggressive than the group who witnessed the adult being punished, although they had only witnessed this event.

According to Bandura, two findings support social learning theory and could not be explained by a theory of general imitation supported by classical or operant conditioning. First, the consequences to the model made a difference for the children who saw the model being punished exhibited less imitation than children in the other two groups (Mazur, 1998). According to Bandura, the theory of generalized imitation states that children (or adults) imitate others because imitation has been reinforced in the past, but it says nothing about how reinforcement or punishment of the model should affect the learner. In the final phase of the study the experimenter offered to reward the children if they would imitate the behavior of the model in the film. When provided with an incentive, the children in all three groups produced large and equal amounts of aggression (Mazur, 1998). Bandura concluded that reinforcement is not necessary for the learning of new behaviors through observation, but the expectation of reinforcement is essential for the performance of these new behaviors (Mazur, 1998).

Learning by Observation

As it has evolved since the 1960s, social learning theory as we know it today, relates to the learning which occurs within a social context and encompasses such concepts as observational learning, imitation, and modeling (Ormrod, 1995). Bandura (1977), described four necessary components involved in learning through observation; attention, retention, motor production processes, and incentive and motivational processes. Attention refers to an individual's ability to focus attention on the model, especially to the significant aspects of the modeled behavior. Retention refers to an individual's ability to recall the behavior that has been observed. According to Bandura individuals store both verbal and visual representations of the behaviors they have witnessed (Ormrod, 1995). Motor production processes refers to an individuals ability to replicate the actions and behaviors of the model. Incentive and motivational processes refer to an individuals desire to carry out an action, and only the first three processes are necessary for an individual to acquire the capability to perform a new behavior (Mazur, 1998).

Developing Self-Efficacy

According to Bandura (1977) individuals are more likely to engage in certain behaviors when they believe they are capable of executing those behaviors successfully, that is, when they have high self-efficacy. According to social learning theorists (e.g., Bandura 1977, 1982, 1986), individual's feelings of self-efficacy affect several aspects of their behavior, including their choice of activities, their effort and persistence, and ultimately their learning and achievement (Ormrod, 1995). For example, individuals tend to choose tasks and activities at which they believe they can succeed and, conversely, avoid those with which are unattainable or deem they are likely to fail. Regarding effort and persistence, individuals are more likely to exert effort when attempting to accomplish tasks when they have a high sense of self-efficacy. Research supports this hypothesis, as students with high self-efficacy tend to learn and achieve more than those with low self-efficacy, even when controlled for ability level (Ormrod, 1995).

According to social learning theorists at least three factors affect the development of self-efficacy among individuals: (a) previous success or failure; (b) persuasion; and (c) the success and failures of others (Ormrod, 1995). Individuals feel more confident that they can succeed at a task (they have greater self-efficacy) when they have succeeded at that task or similar ones in the past. Furthermore, individual's feelings of self-efficacy, particularly students according to Ormrod (1995), benefit from assurances that success is possible. Finally, individuals acquire information about their own abilities and determine their own self-efficacy by observing the successes and failure of other individuals, especially those they deem similar to themselves (Schunk, 1983).

Social Learning Theory and PTC

The PTC program uses social learning theory in many respects. Most prominently, the program developers likely anticipated that caregivers completing the program would likely become more confident in their caregiving roles, better care for themselves, be more emotionally stable, ask for help, and seek community resources simply by learning through observation and imitation of group leaders, other participants, and through the program curriculum. Next, the program developers designed the PTC program to align with Banduras (1977) four factors of imitative behavior, which include attentional processes, retentional processes, motor reproductive processes, and incentive and motivational processes. The PTC program promotes these four processes through active discussions, class participation, modeling health behaviors, in-class exercises (e.g., relaxation), practicing communication tools, taking regular class breaks, providing a comfortable setting free of distractions, and providing light food and refreshments. Participants are also provided opportunities to create weekly action plans and share the plan with the group at the end of each session and then the following week they are asked if they completed the action plans.

Five PTC Program Outcomes

The PTC program strives to provide caregivers an opportunity to share personal challenges and accomplishments with the group, feel as if they are understood, belong, and are not alone, as well as to discover and utilize new tools, skills, and resources. Over the course of the program, these experiences culminate to create healthier and more capable caregivers. While not apparent to participants, their improvements often come in the form of improvements in self-efficacy, self-care, their emotional nature, the amount of and satisfaction with help from others, and the use of resources. That is, they feel more confident in their own abilities, take better care of themselves, feel emotionally better, ask for assistance, as well as use resources more readily. These constructs will be reviewed in more detail as well as operationally defined based on a literature review in the forthcoming section.

Self-Efficacy

The improvement of self-efficacy among caregivers is a major goal of PTC program. Self-efficacy relates to an individual’s belief that he or she is capable of successfully executing certain behaviors (Bandura, 1977). While self-efficacy and self-esteem are similar, there is a distinction between the concepts as self-esteem is thought of as an individual’s confidence in a wide variety of activities while self-efficacy is more situation or task specific(Ormrod, 1995).

Similar to Lorig and colleague's conceptualization of Bandura's (1977) self-efficacy theory, the PTC program also viewed self-efficacy as: (a) the strength of belief in one's capability to do a specific task or achieve a certain result is a good predictor of motivation and behavior; (b) an individual's self-efficacy belief can be enhanced through performance mastery, modeling, reinterpretation of challenges, and social persuasion; and (c) enhancing an individuals self-efficacy leads to improved behavior, motivation, thinking patterns, and emotional well-being (Bandura, 1986).

Self-Care

The PTC program developers also sought to foster the improvement of caregiver self-care as a major program goal. The ability to effectively cope with caregiving stress through self-care have emerged among some of the strongest and most consistent predictors of all adjustment outcomes (Fitzell & Pakenham, 2010). Therefore, the ability of caregivers to deal with their own physical and psychological symptoms is important in their overall ability to caregiving effectiveness (Merluzzi, Philip, Vachon, & Heitzmann, 2011), and there is evidence that the improvement of self-care behaviors lead to reductions in caregiver stress (Lu & Wykle, 2007). As a result, PTC developers created stress management techniques and relaxation tools intended for improving caregivers' stress coping abilities.

According to Merluzzi et al. (2011), self-care "practices can include maintaining one's health and well-being, actively seeking support, and maintaining some activity apart from the caregiving situation" (p. 22). Furthermore, according to these authors, it also includes dealing with helplessness and the letting go process by recognizing the limits of personal control (Merluzzi et al., 2011). Merluzzi et al. (2011) reported that their regression analysis clearly identified "self-care as a dominant factor in the association between self-efficacy for caregiving and reduced stress-burden. As a result, interventions that do not acknowledge the role of and promote self-care may be missing a critical variable in ameliorating stress and burden among caregivers.

Management of Emotions

Fostering the emotional management among participants is also a major goal of the PTC program. The caregiving literature is filled with studies related to the potential negative mental and emotional health related to caregiving. The management of emotions relates, not to the absence of difficult emotions like sadness, anger, or frustration, but to an individual's ability to effectively manage both enjoyable and difficult emotions in a way that is simultaneously authentic and healthy. The PTC program promotes a number of strategies aimed at providing caregivers with effective and easy to use skills to balance difficult emotions through, for example, positive self-talk. Positive self-talk is a simple activity, which helps remind caregivers that their caregiving is important, helps them feel good about what they do, and helps them tell themselves that they are doing valuable and meaningful things.

Amount of and Satisfaction with Help from Others and the Use of Community Resources

The amount of and satisfaction with help from others, as well as the utilization of community resources, referred to as knowledge and use of services in Boise et al. (2005), continue to be major program goals. The amount of and satisfaction with help from others refers to the amount and quality of assistance provided from, for example, family, friends, and paid providers. Through a number of activities, the PTC program strives to teach caregivers how to identify their needs and then expose them to communication tools, which include the use of "I" message, assertive communication, Aikido communication style, and family meetings. The knowledge and use of community resources refers to 13 specific resources found in many communities. The services assessed include help with chore services, personal care, senior/social center activities, meals, care facility placement, in-home respite, help with transportation, classes pertinent to the care receivers medical condition, support groups, case management, help with forms, and counseling. Predominantly, participants learn about community resources during scheduled brainstorming sessions and while discussing personal caregiving difficulties from other participants and class leaders.

In a study to assess help-seeking patterns of caregivers Brown and Chen (2008), found that both husband and wife caregivers "underutilize available community resources" (p. 845). These authors found caregivers underutilized resources for a number of reasons including concerns of "indebtedness" to others as well as a strong feeling they could provide better care than anyone else, (Brown & Chen, 2008). Other barriers and difficulties included accessibility difficulties, knowledge availability of services, cost, transportation, scheduling, poor service provider response, and lack of communication by health care providers (Brown & Chen, 2008). These authors also found that the majority of caregiving among families was provided by female members, reinforcing the traditional female caregiver expectation role, as caregivers felt that it was appropriate to ask daughters for help to provide personal care to a parent but not appropriate to ask a son.

Caregiver Characteristics: Age, Gender, and Educational Attainment

Age

According to Pinquart and Sorensen (2007) there have been conflicting findings in the literature related to the health of caregivers based on their age. For example, a study conducted by Navaie-Waliser, Feldman, and Gould (2002) found older caregivers had poorer health, while conversely a study conducted by Harwood, Barker, Ownby, and Duara, (2000) found no significant age differences in caregiver health. As a result, Pinquart and Sorensen (2007) undertook a meta-analysis of 176 caregivng studies to clarify the potential relationships among caregiver age and health. Results demonstrated that older caregivers had worse physical health compared to younger counterparts; however, younger caregivers caring for a spouse reported higher levels of burden and depression (Pinquart & Sorensen, 2007). Higher burden and depression rates among younger caregivers may indicate competing demands between the caregiver role and other social roles, such as work, parenting, and other social roles (Pinquart & Sorensen, 2007, p. 131).

Gender

According to Pinquart and Sorensen (2006), several theories have suggested that caregiver gender differences exist, because “compared to male caregivers, female caregivers face higher levels of caregiving stressors, have fewer social resources, and report lower levels of psychological and physical health” (p. 33). Surprisingly, only a portion of the available studies, such as the one completed by Yee and Schulz (2000), found empirical support for gender differences between men and women. Vitaliano et al. (2003), suggested that the observed gender differences in caregiver health are likely attributable to general well-being rather than caregiving-specific factors. As a result, Pinquart and Sorensen (2006) undertook a meta-analysis of 229 studies looking at gender differences in caregiver psychological and physical health, caregiving stressors, and social resources. Results from this meta-analysis demonstrated that female caregivers reported higher levels of behavior problems, more hours of care provided, higher number of caregiving tasks, more caregiver burden and depression, and lower subjective well-being and physical health (Pinquart & Sorensen, 2006).

While differences were found, it is important to note these authors found most gender differences (e.g., stressors, social resources, and health) were of a very small magnitude. For example, after applying Cohen's (1992) criteria, these researchers found that only gender differences in burden, depression, and the number of caregiving tasks were of practical importance as gender only explained 2.8% of the variance of depression, 2.7% of the variance of burden, and 1% of the variance of the number of caregiving tasks (Pinquart & Sorensen, 2006).

Educational Attainment

Only a single study addressing the potential influence of caregivers' educational attainment and a relationship to poor caregiver health was found during a literature review. The study was conducted in Australia by Butterworth, Pymont, Rodgers, Windsor, and Antsey (2010), and among several study goals, sought to identify mediating factors including caregiver educational attainment, which helped explain poorer mental health among caregivers. These researchers reported that holding other variables constant, being a caregiver, being a woman, and having a lower educational attainment were associated with greater mental health symptoms (Butterworth et al., 2010).

Care Receiver Characteristics: Memory Loss, Medical Condition, and Living Situation

Memory Loss

According to Hooker, Monahan, Shifren, and Hitchinson (1992), the process of providing care to an individual with a dementing illness is regarded as highly stressful. One of the most common and difficult features of dementia is the progression of irreversible memory loss. There are various methods with which to conceptualize memory loss. For example, the Global Deterioration Scale (Reisberg, Ferris, de Leon, & Crook, 1982) is a rating scale developed for medical professionals that specifically defines the degree or severity of memory impairment among individuals with dementia. The assessment instrument created for the PTC program asked caregivers to report their care receivers' memory impairment using a "yes" or "no" format, followed by a severity rating of either "mild, moderate, or severe". A literature review describing care receiver memory loss as mild, moderate, or severe related to caregiver mental or physical health unfortunately yielded no publications results. It appears that these three terms are not used to describe memory loss in the literature and there exists no practical way to convert the terms into a published scale (i.e., mild, moderate, or severe memory loss does not convert to the Global Deterioration Scale).

Medical Condition/Illness Type

Research has demonstrated that providing care, regardless of the care receiver's disability, medical condition, or illness type, produces higher levels of stress among caregivers. However, some studies have demonstrated that caring for individuals with dementia can be more stressful than caring for individuals with other (i.e., physical) impairments (Schulz & Martier, 2004). For example, in a study exploring differences between caregivers of individuals with and without dementia, Ory, Hoffman, Yee, Tennstedt, and Schulz (1999) found caregivers of individuals with dementia were more negatively affected by their caregiving responsibilities related to employment. Furthermore, Ory et al. (1999) reported that caregivers of individuals with dementia also experienced higher levels of strain, more mental and physical problems, less leisure and family time, and increased family conflict. Alzheimer's disease, according to Plassman et al., (2007), is the primary cause of dementia accounting for 70% of all dementia cases.

Living Situation

There have been contradictory research findings, according to Pinquart and Sorensen (2007), regarding the relationship between caregiver health and where a care receiver resides. For example, Brodaty and Hadzi-Pavlovic (1990) reported that caregivers living with their care receiver-parent reported worse physical health than in other caregivers, while conversely, Li, Seltzer, and Greenberg (1999) were unable to replicate such a finding. As a result of conflicting findings, Pinquart and Sorensen (2007) undertook a 176-study meta-analysis exploring caregiver health and the potential impact of living with or apart from a care receiver. The results demonstrated worse physical health among caregivers who lived with their care receiver (co-residence) (Pinquart & Sorensen, 2007). Interestingly, these authors also reported that co-residence had a stronger impact on physical health and a lesser impact on mental health which may indicate that health-related habits, like getting enough sleep as well as engaging in healthy eating patterns, may be impaired when living with a care receiver (Pinquart & Sorensen, 2007).

CHAPTER THREE

Methodology

This chapter provides a description of the research design, sampling plan, sample characteristics, questionnaire psychometric properties, and research procedures, as well as the statistical techniques that were employed to answer research questions.

Research Design

A pre-experimental one-group pre-test and post-test design was used for this study. Research question one was analyzed using a paired sample *t*-test to determine the potential effect of the PTC intervention on caregivers' pre-post test self-efficacy, self-care, management of emotions, the amount of and satisfaction with help from others, and the use of community resources. Research questions two and three were analyzed using a mixed design consisting of a series of univariate ANOVAs to assess for potential interaction effects between demographic variables and the caregiver intervention on psychosocial adjustment outcomes.

Procedure

Prior to initiating the study, the researcher successfully completed the Institutional Review Board (IRB) Human Subjects Protection Training at the University of Wisconsin–Madison. Following IRB approval, the researcher requested and obtained an electronic copy of the PTC database from the University of Wisconsin-Extension Agency. The Extension Agency is part of the University of Wisconsin, which seeks to provide citizens the benefit of statewide access to university resources and research so they can learn, grow, and succeed in all stages of life.

The privacy and confidentiality of study participants was an important consideration and is briefly reviewed. During preliminary discussions with the Extension Agency the researcher was informed that the study database contained no personally identifiable information. This was because, prior to beginning the pre-post questionnaire data collection in 2000, the IRB required the Extension Agency to create a survey method safeguarding the confidentiality of all caregiver respondents. To comply with this requirement, the Extension Agency created substituted participants' names with identification (ID) numbers. This confidentiality protocol enabled PTC program staff and teachers to properly match pre-post surveys while simultaneously creating a database free of personal or other confidential information. Finished pre-post questionnaires were routed to the Madison campus for data entry and physical destruction.

To date, this was the most comprehensive PTC research study ever attempted. The initial sample contained 1007 participants who completed the PTC program as well as pre-post class questionnaires. Furthermore, the Wisconsin PTC survey database represented caregivers from over 160 groups who completed the program between 2000-2009. The geographic distribution of participants was diverse, the cities from which they resided ranged from large metropolitan areas to very small rural townships. Participants were recruited to participate in the PTC program through flyers, brochures, newspapers, friends, doctors, community service providers, as well as other assistance programs. Participants were asked to complete and submit the pre-class survey prior to the start of the first PTC class. Class participants were asked to complete and submit the post-survey evaluation immediately following the final or sixth class or, if this was not possible, return it by mail. Informed consent was provided to participants on the cover page of both the pre-post class questionnaires and read, in part, "your participation in this evaluation is voluntary and confidential". Therefore, no preferential treatment was given and no distinction was made among participants who chose or declined to complete any evaluation. The PTC program has always been and remains available to anyone wishing to participate.

To ensure the sample could most accurately apply to and help answer the study research questions, inclusion criteria were created as follows: caregivers had to (a) be at least 18 years of age; (b) consider himself or herself a caregiver; (c) complete at least four out of six PTC classes; and (d) complete and submit both of their pre-post class surveys. Prior to initiating the analysis, caregivers who did not meet these criteria were excluded from the sample, and specific details of the process are reviewed in the Sample section.

The researcher became a certified PTC instructor during March of 2009 to become more familiar with the program. Following certification in June and July 2009, the researcher co-facilitated and taught a six-week PTC course in Madison, WI sponsored by Group Health Cooperative. During 2009, the researcher also became a member of the Dane County Caregiver Alliance, an organization that meets to discuss concerns, collaborate, and share community resources available for caregivers. During 2009 the researcher was invited and participated as an expert panel member assessing a caregiver assessment and intervention curriculum under development, T-CARE, in Milwaukee, WI sponsored by Rhonda Montgomery, Ph.D., and colleagues. Finally, the researcher was invited, but was unable to participate in the development of the American Psychological Association's (APA) caregiver briefcase, which was being developed to provide information and resources to psychologists assisting caregivers.

Sample

1007 caregivers completed both the pre-post class questionnaires used in the present research study; however, 292 individuals failed to meet the study inclusion criteria and were excluded. A total of 715 caregivers met all of the study criteria and were used for the random sample. The University of Wisconsin-Madison Extension Agency completed data entry and acted as the repository for the questionnaires for classes taught in Wisconsin, but, there were no records pertaining to the number of participants who may have received but declined or failed to submit a survey; therefore, it is not possible to calculate a response rate for this study.

An appropriately powered sample size was calculated with a computer statistical procedure based on the research of Cohen (1992). A population effect size was calculated by averaging effect sizes from three PTC publications (see, Boise et al., 2005; Kuhn et al., 2003; and Kuhn et al., 2008), equaling 0.39, or a small to medium effect size. An *a priori* power analysis using G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007) estimated that to achieve a power level of .80, an alpha level of .05, with 4 groups and 2 measures, the required sample size to detect an effect size of .15 was 368. Following the power analysis, the PTC database was imported into SPSS-20 software and programmed to randomly select 368 subjects from the 715 who met the study criteria. Qualitative pre-post questions were excluded from analysis, as they were not part of the present study.

Sample Demographic Characteristics

Descriptive data for the study sample consisting of 368 caregivers are presented in table 3.1. Participants among this sample ranged in age from 30 to 90 years old (*M*=63.8, *SD*=11.4). Approximately three quarters of the participants were female (77.7%) and a large majority described themselves as white (non-Hispanic) (97%). Caregivers who described themselves as Black/African American, Hispanic, or Native American each comprised 0.5% of the total sample, or two individuals in each group. More than a third had completed high school (39.9%), followed by approximately a quarter having attended some college courses (24.2%), and about another quarter (26.9%), were college graduates or completed some graduate course work.

Caregivers provided demographic data describing care receivers and are presented in Table 3.2. Approximately two thirds, 63%, of care receivers lived with someone else (in a nursing home, adult foster home, assisted living facility, or with someone else) while approximately a quarter, 24.2%, of care receivers lived with their caregivers, and 11.4% of care receivers lived alone. More than half of all care receivers (56%) experienced Alzheimer’s disease and, in some cases, other medical conditions in conjunction with Alzheimer’s disease, while 44% of care receivers experienced a non-Alzheimer’s disease medical condition (e.g., Parkinson’s disease, stroke, diabetes, heart disease, or cancer). More than three quarters of care receivers were reported to experience either mild, moderate, or severe memory loss (83.2%) while a much smaller portion of care receivers, 13.9%, did not experience any type of memory problem.

Table 3.1

Sample Descriptive Statistics for Caregivers

Variable	*n* (%)	*M* (*SD*)
Learned of Program From*		
Brochure	58 (15.8%)	
Newspaper	90 (24.5%)	
Friend/Acquaintance	57 (15.5%)	
Doctor/Health Clinic	14 (3.8%)	
Community Program	85 (23.1%)	
Other	95 (25.8%)	
Age		63.8 (11.4)
18yr.-44yr.	18 (4.9%)	
45yr.-64yr.	173 (47.0%)	
65yr.+	173 (47.0%)	
Not Reported	4 (1.1%)	
Gender		
Female	286 (77.7%)	
Male	79 (21.5%)	
Not Reported	3 (0.8%)	
Race/ethnicity		
White (Non-Hispanic)	357 (97.0%)	
Asian or Pacific Islander	0 (0.0%)	
Native-, Alaskan-American, Aleut	2 (0.5%)	
Black/African-American	2 (0.5%)	

Hispanic, Mexican-, Latin-American	2 (0.5%)
Other	0 (0.0%)
Not reported	5 (1.4%)
Education Level	
Grades 0-11	28 (7.6%)
High School Grad.	147 (39.9%)
Some College	89 (24.2%)
College Grad.+	99 (26.9%)
Not Reported	5 (1.4%)
Number of Individuals Residing in Caregiver Household	
1	11 (3.0%)
2	17 (4.6%)
3	147 (39.9%)
4	89 (24.2%)
5	57 (15.5%)
6	42 (11.4%)
Not Reported	5 (1.4%)
Household Yearly Income	
<$10,000	16 (4.3%)
$10-15,000	41 (11.1%)
$15-20,000	56 (15.2%)
>$20,000	224 (60.9%)
Not Reported	31 (8.4%)

*Total percentages may be greater than 100%

Table 3.2

*Sample Descriptive Statistics for Care Receivers Reported by Caregivers**

Variable	*n* (%)	*M* (*SD*)
Currently Caregiving		
Yes	368 (100.0%)	
No	0 (0.0%)	
Not Reported	0 (0.0%)	
Caregiver Relationship to the care Receiver		
Spouse	166 (45.1 %)	
Parent	139 (37.8%)	
Mother/Father-in-Law	23 (6.3%)	
Other	40 (10.9%)	
Not Reported	0 (0.0%)	
Care Receiver Lives		
With Someone Else	232 (63.0%)	
Nursing Home	11 (3.0%)	
Adult Foster Care	17 (4.6%)	
Assisted Living Fac.	147 (39.9%)	
Someone Else	57 (15.5%)	
With Caregiver-Same Household	89 (24.2%)	
Alone	42 (11.4%)	
Not reported	5 (1.4%)	
Care receiver Type of Medical Condition		
Alzheimer’s Disease+*	206 (56.0%)	

Non-Alzheimer’s Disease Conditions+**	162 (44.0%)
(e.g., Parkinson’s disease, Stroke, Diabetes, Heart Disease, Cancer)	
Care Receiver Memory Loss and Severity	
None	51 (13.9%)
Mild	115 (31.3%)
Moderate	139 (37.8%)
Severe	52 (14.1%)
Not Reported	11 (3.0%)

* Care receivers may experience additional conditions in conjunction with Alzheimer’s disease(+)

** Care receivers may experience multiple medical conditions(+)

Measures

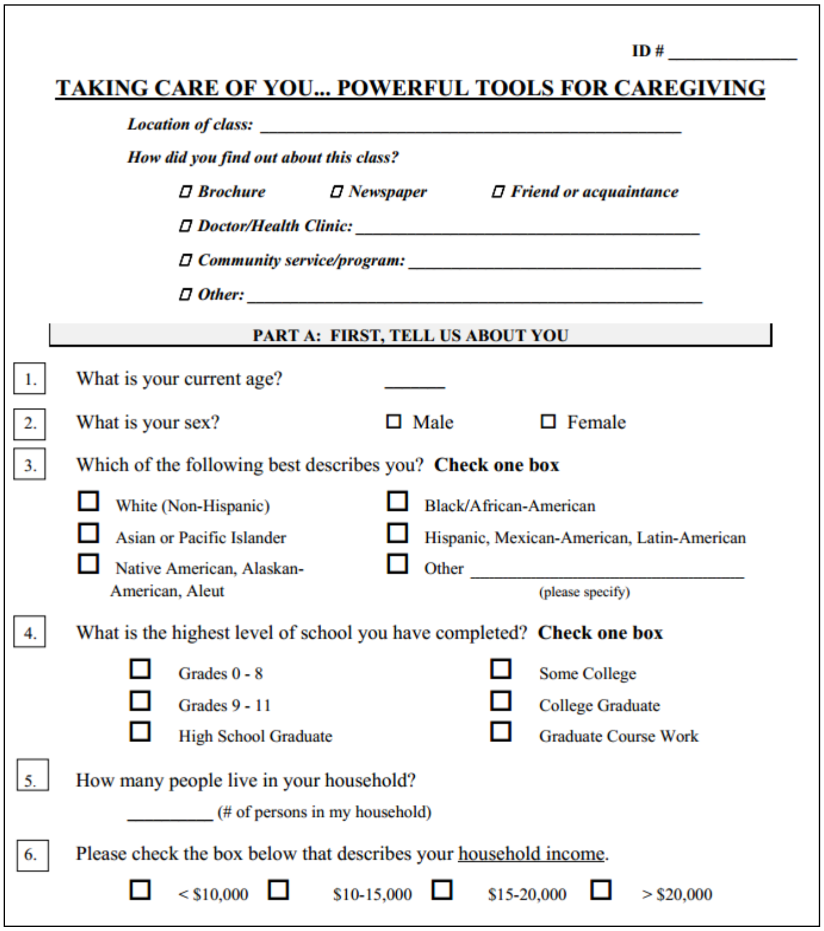
PTC Assessment Questionnaire Development

In the late 1990s a group of original PTC program developers, then part of Legacy Services but now a separate non-profit organization, agreed to examine the psychometric properties of their pre-post assessment instruments. These professionals recognized the importance of collecting valid and reliable information from class participants and invested significant time undertaking the study. The study, spearheaded by Boise et al. (2005), began in 2002 and consisted of 359 caregivers from 33 PTC groups. Of the 359 caregivers initially enrolled in the study, 257 (72%) completed PTC classes. Participants were considered to have "completed" the program if they attended four or more of the six classes. Of the 257 individuals who completed classes, 186 returned both the pre-post class questionnaires, pre-post class survey outcomes were analyzed using paired *t*-tests (Boise et al., 2005). Psychometric properties for each outcome scale reported by Boise and colleagues are reviewed in further detail.

Questionnaire Development and Demographic Information

According to Linda Boise Ph.D., author of the PTC assessment validation study, the demographic section of the PTC questionnaire, pages 1-3, were developed exclusively by their research group for the PTC program (personal communication, February 6, 2012). The researcher requested and obtained original copies of the pre-post surveys from L. Boise for comparison with the Wisconsin surveys which were used in the current study (Personal communication, January 13, 2012). The demographic section of the Wisconsin pre-class survey remained nearly identical to the original questionnaire with two minor alterations. First, one question, "Are you currently working in a paid job? full-time, part-time, not working", was eliminated from the Wisconsin survey for unknown reasons. Second, the Wisconsin questionnaire asked, “what is your current age?”, while the original asked, “what’s your date of birth?”.

Each individual who registered for the PTC program in Wisconsin was asked to complete and submit a confidential questionnaire prior to the first class. The pre-class survey collected caregiver demographic information such as age, gender, race, education, the number of individuals living in their household, and income as shown in Figure 1.



ID # ______________

TAKING CARE OF YOU... POWERFUL TOOLS FOR CAREGIVING

Location of class: ____

How did you find out about this class?

☐ ***Brochure*** ☐ ***Newspaper*** ☐ ***Friend or acquaintance***

☐ ***Doctor/Health Clinic:*** _____________________________________

☐ ***Community service/program:*** ________________________________

☐ ***Other:*** ____

PART A: FIRST, TELL US ABOUT YOU

1. What is your current age? ______

2. What is your sex? ☐ Male ☐ Female

3. Which of the following best describes you? **Check one box**

☐ White (Non-Hispanic)
☐ Asian or Pacific Islander
☐ Native American, Alaskan-American, Aleut
☐ Black/African-American
☐ Hispanic, Mexican-American, Latin-American
☐ Other ______________________________ (please specify)

4. What is the highest level of school you have completed? **Check one box**

☐ Grades 0 - 8
☐ Grades 9 - 11
☐ High School Graduate
☐ Some College
☐ College Graduate
☐ Graduate Course Work

5. How many people live in your household?

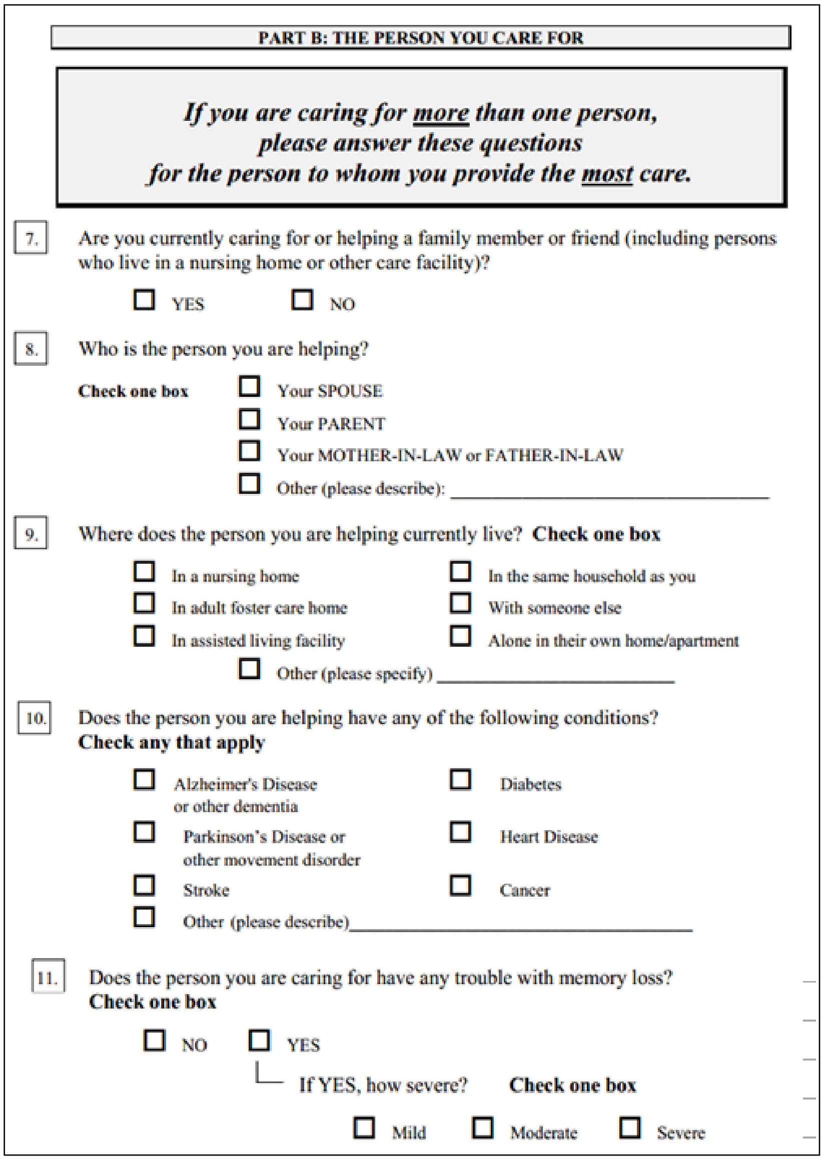
_________ (# of persons in my household)

6. Please check the box below that describes your household income.

☐ < $10,000 ☐ $10-15,000 ☐ $15-20,000 ☐ > $20,000

Figure 1. *Caregiver Demographic Survey Questions*

Caregivers also provided details about their care receiver including their relationship to the care receiver, where the care receiver lived, the care receiver's type of illness or medical condition, if the care receiver experienced memory loss and, if so, its severity as shown in Figure 2. While caregivers completed question 12, which pertained to their care receivers' activities of daily living, these were excluded from analysis as they were not part of the present study.



PART B: THE PERSON YOU CARE FOR

If you are caring for more than one person,
please answer these questions
for the person to whom you provide the most care.

7. Are you currently caring for or helping a family member or friend (including persons who live in a nursing home or other care facility)?

☐ YES ☐ NO

8. Who is the person you are helping?

Check one box
☐ Your SPOUSE
☐ Your PARENT
☐ Your MOTHER-IN-LAW or FATHER-IN-LAW
☐ Other (please describe): ______________________

9. Where does the person you are helping currently live? **Check one box**

☐ In a nursing home
☐ In adult foster care home
☐ In assisted living facility
☐ In the same household as you
☐ With someone else
☐ Alone in their own home/apartment
☐ Other (please specify) ________________

10. Does the person you are helping have any of the following conditions?
Check any that apply

☐ Alzheimer's Disease or other dementia
☐ Parkinson's Disease or other movement disorder
☐ Stroke
☐ Other (please describe)______________________
☐ Diabetes
☐ Heart Disease
☐ Cancer

11. Does the person you are caring for have any trouble with memory loss?
Check one box

☐ NO ☐ YES

If YES, how severe? **Check one box**

☐ Mild ☐ Moderate ☐ Severe

Figure 2. *Care Receiver Demographic Survey Questions*

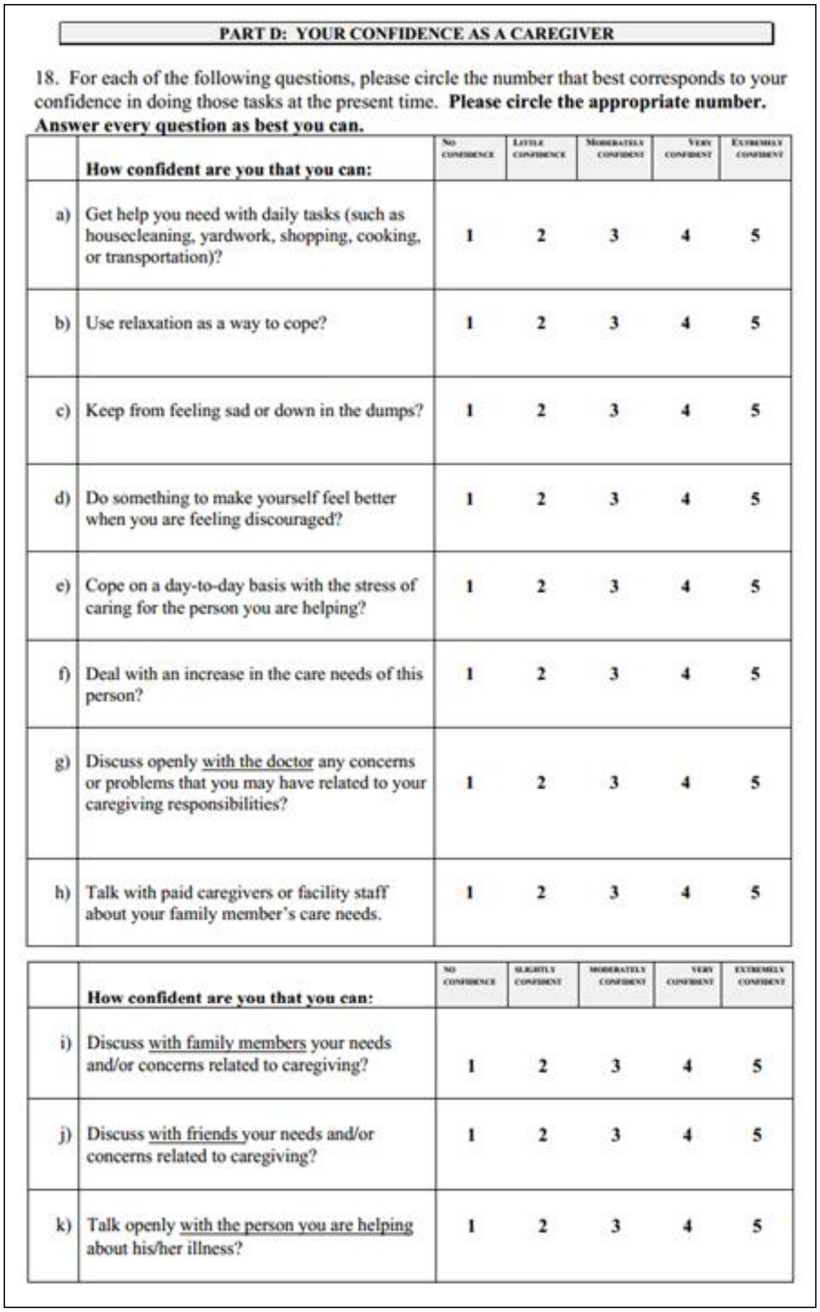
PTC Outcome Scale Development

Self-Efficacy Scale

While the wording of the Wisconsin self-efficacy questions was identical to the original questions, the metric had been changed from a 10- to 5-point Likert-type scale. There have been no published studies regarding the potential effects of such changes on the psychometric properties of this scale: therefore, the impact of such changes are difficult to assess. Other elements of this scale, for example corresponding response options such as; “No Confidence”, “Little Confidence”, Moderately Confident”, Very Confident”, and “Extremely Confident”, remained unchanged. Self-efficacy questions are shown below in Figure 3.

The self-efficacy questions developed for the PTC program were similar to and modeled after those developed by Lorig and colleagues (1996) to assess changes among participants completing the CDSMP (Boise et al., 2005). For example, self-efficacy questions for both programs began with, “How confident are you that you can…”, with response options ranging from “totally confident” to “not confident at all” (Boise et al., 2005). Self-efficacy questions were developed to assess skills, behaviors, and attitudes acquired by caregivers during program learning modules, such as getting needed help, being able to relax, managing emotions, communicating with others, and making decisions about care (Boise et al., 2005). According to Boise et al. the self-efficacy scale underwent several phases of pilot-testing and refinement prior to the 2002 study with the self-efficacy items computed to have internal consistency reliability estimates of alpha=.91. The original self-efficacy scales were compared using a sample of 148 caregivers and analyzed with paired sample *t*-tests. The Psychometric properties of the original scales used to assess self-efficacy are reviewed in Appendix H.

An analysis of the self-efficacy scale used for the current study revealed Chronbach's Alpha=.852. Furthermore, pre-post mean self-efficacy score and standard deviation changes are reported in Table 3.3, while frequency response information for each question is reported in Table 3.4. Finally, self-efficacy intra-scale correlation results are listed in Table 3.14.



PART D: YOUR CONFIDENCE AS A CAREGIVER

18. For each of the following questions, please circle the number that best corresponds to your confidence in doing those tasks at the present time. **Please circle the appropriate number. Answer every question as best you can.**

	How confident are you that you can:	No Confidence	Little Confidence	Moderately Confident	Very Confident	Extremely Confident
a)	Get help you need with daily tasks (such as housecleaning, yardwork, shopping, cooking, or transportation)?	1	2	3	4	5
b)	Use relaxation as a way to cope?	1	2	3	4	5
c)	Keep from feeling sad or down in the dumps?	1	2	3	4	5
d)	Do something to make yourself feel better when you are feeling discouraged?	1	2	3	4	5
e)	Cope on a day-to-day basis with the stress of caring for the person you are helping?	1	2	3	4	5
f)	Deal with an increase in the care needs of this person?	1	2	3	4	5
g)	Discuss openly with the doctor any concerns or problems that you may have related to your caregiving responsibilities?	1	2	3	4	5
h)	Talk with paid caregivers or facility staff about your family member's care needs.	1	2	3	4	5

	How confident are you that you can:	NO CONFIDENCE	SLIGHTLY CONFIDENT	MODERATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT
i)	Discuss with family members your needs and/or concerns related to caregiving?	1	2	3	4	5
j)	Discuss with friends your needs and/or concerns related to caregiving?	1	2	3	4	5
k)	Talk openly with the person you are helping about his/her illness?	1	2	3	4	5

Figure 3. *Pre-Post Self-Efficacy Scale Questions*

Table 3.3

Descriptive Statistics Pre-Post M (SD) Results for Self-Efficacy Questions

Self-Efficacy Questions	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)
18a. Get help	3.12 (1.09)	3.64 (0.85)	0.52 (0.24)
18b. Use	2.91 (0.96)	3.72 (0.81)	0.81 (0.15)
18c. Keep from	2.84 (0.94)	3.44 (0.75)	0.60 (0.19)
18d. Do	3.13 (0.91)	3.72 (0.73)	0.59 (0.18)
18e. Cope on	3.05 (0.83)	3.60 (0.74)	0.55 (0.09)
18f. Deal with	2.86 (0.94)	3.47 (0.80)	0.61 (0.14)
18g. Discuss	3.50 (1.06)	3.99 (0.87)	0.49 (0.19)
18h. Talk	3.39 (1.10)	3.92 (0.85)	0.53 (0.25)
18i. Discuss	3.26 (1.16)	3.74 (0.93)	0.48 (0.23)
18j. Discuss	3.10 (1.01)	3.64 (0.88)	0.54 (0.13)
18k. Talk	2.88 (1.21)	3.48 (1.07)	0.60 (0.14)

Table 3.4

Descriptive Statistics Item Frequency Results for Self-efficacy Questions

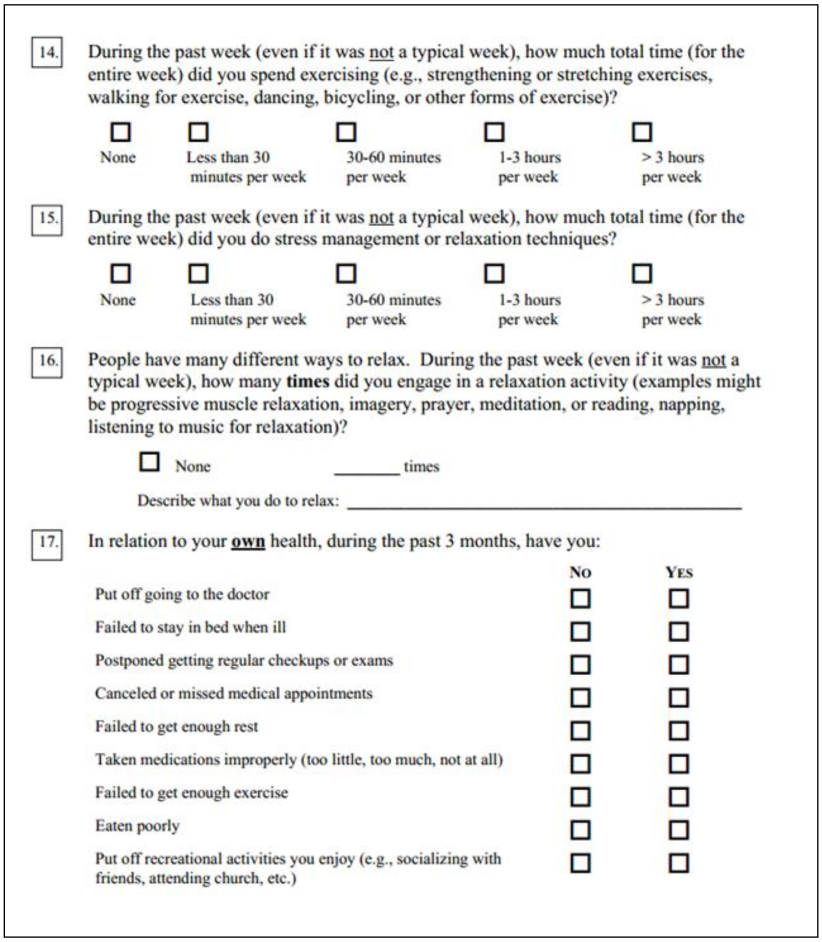
Self-Efficacy Questions	Pre-Post No Confidence	Pre-Post Little Confidence	Pre-Post Moderately Confident	Pre-Post Very Confident	Pre-Post Extremely Confident
18a. Get	30-2	64-28	130-116	88-156	40-51
18b. Use	25-1	82-20	159-116	65-167	21-59
18c. Keep	31-3	82-23	170-168	56-130	15-23
18d. Do	15-1	64-11	171-121	83-182	23-44
18e. Cope	13-3	63-11	180-149	85-159	12-35
18f. Deal	26-5	89-21	167-168	58-132	15-31
18g. Discuss	18-2	42-19	101-68	122-158	69-108
18h. Talk	21-2	44-15	107-78	100-156	58-91
18i. Discuss	19-5	72-26	105-93	95-146	61-77
18j. Discuss	21-2	76-32	129-115	97-148	29-60
18k. Talk	55-17	88-40	99-106	70-130	38-56

Self-Care Scale

The self-care questions used in the Wisconsin questionnaires remained identical to the original questions developed by Boise and colleagues (2002). Furthermore, there were no changes in the structure or format of these questions. Self-care questions are shown in Figure 4, Question 16 was excluded from the analysis.

According to Boise et al. (2005) self-care behaviors were measured using standardized scales from other studies. For example, the use of relaxation techniques and the frequency of exercise were measured using single-item questions from Lorig et al. (1996). Furthermore, a Health Self-Care Neglect Scale to assess caregivers' neglect of health-related self-care behaviors was adapted from prior research by Boise as well as Zarit's Health Behaviors Scale (Boise et al., 2005). The Health Self-Care Neglect Scale asks self-care related questions with a "yes" or "no" format. For example, "In relation to your own health, during the past month, have you…Put off going to the doctor?", "yes" or "no". The internal consistency reliability estimates reported for all nine self-care questions were determined from class data collected in 2001 with Chronbach's alpha=.758 (Boise et al., 2005). The psychometric properties of the original scales used to assess self-care are reviewed in Appendix H.

An analysis of the self-care scale used for the current study revealed Chronbach's Alpha=.642. Furthermore, pre-post self-care mean score and standard deviation changes are reported in Table 3.5. Frequency response information for self-care questions 14 and 15 are reported in Table 3.6, while question 17a-17i are reported in Table 3.7. Finally, self-care intra-scale correlation results are listed in Table 3.15.



14. During the past week (even if it was not a typical week), how much total time (for the entire week) did you spend exercising (e.g., strengthening or stretching exercises, walking for exercise, dancing, bicycling, or other forms of exercise)?

☐	☐	☐	☐	☐
None	Less than 30 minutes per week	30-60 minutes per week	1-3 hours per week	> 3 hours per week

15. During the past week (even if it was not a typical week), how much total time (for the entire week) did you do stress management or relaxation techniques?

☐	☐	☐	☐	☐
None	Less than 30 minutes per week	30-60 minutes per week	1-3 hours per week	> 3 hours per week

16. People have many different ways to relax. During the past week (even if it was not a typical week), how many **times** did you engage in a relaxation activity (examples might be progressive muscle relaxation, imagery, prayer, meditation, or reading, napping, listening to music for relaxation)?

☐ None _______ times

Describe what you do to relax: ____

17. In relation to your **own** health, during the past 3 months, have you:

	No	Yes
Put off going to the doctor	☐	☐
Failed to stay in bed when ill	☐	☐
Postponed getting regular checkups or exams	☐	☐
Canceled or missed medical appointments	☐	☐
Failed to get enough rest	☐	☐
Taken medications improperly (too little, too much, not at all)	☐	☐
Failed to get enough exercise	☐	☐
Eaten poorly	☐	☐
Put off recreational activities you enjoy (e.g., socializing with friends, attending church, etc.)	☐	☐

Figure 4. *Pre-Post Self-Care Scale Questions*

Table 3.5

Descriptive Statistics Pre-Post M (SD) Results for Self-Care Questions

Self-Care Questions	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)
14. During	3.02 (1.41)	3.39 (1.21)	0.37 (0.20)
15. During	2.26 (1.35)	2.83 (1.10)	0.57 (0.25)
17a. Put off	0.25 (0.46)	0.81 (0.39)	0.56 (0.07)
17b. Failed	0.27 (0.44)	0.82 (0.38)	0.55 (0.06)
17c. Postponed	0.24 (0.43)	0.82 (0.38)	0.58 (0.05)
17d. Canceled	0.15 (0.36)	0.88 (0.32)	0.73 (0.04)
17e. Failed	0.61 (0.49)	0.50 (0.50)	-0.11 (0.01)
17f. Taken	0.18 (0.38)	0.87 (0.34)	0.69 (0.04)
17g. Failed	0.72 (0.45)	0.38 (0.49)	-0.34 (0.04)
17h. Eaten	0.49 (0.50)	0.55 (0.50)	0.06 (0.00)
17i. Put off	0.66 (0.47)	0.59 (0.49)	-0.07 (0.02)

Table 3.6

Descriptive Statistics Item Frequency Results for Self-Care Questions

Self-Care Questions	Pre-Post None	Pre-Post < 30 min.	Pre-Post 30-60 min.	Pre-Post 1-3 hrs.	Pre-Post > 3 hrs.
14. During	70-26	76-62	63-97	74-90	75-83
15. During	142-34	83-119	56-107	41-70	33-27

Table 3.7

Descriptive Statistics Item Frequency Results for Self-Care Questions

Self-Care Questions	Pre-Post No	Pre-Post Yes
17a. Put off	260-299	100-59
17b. Failed	259-302	95-48
17c. Postponed	265-303	90-55
17d. Canceled	301-324	53-29
17e. Failed	144-183	210-172
17f. Taken	289-319	104-33
17g. Failed	104-139	250-217
17h. Eaten	185-203	169-154
17i. Put off	121-217	238-140

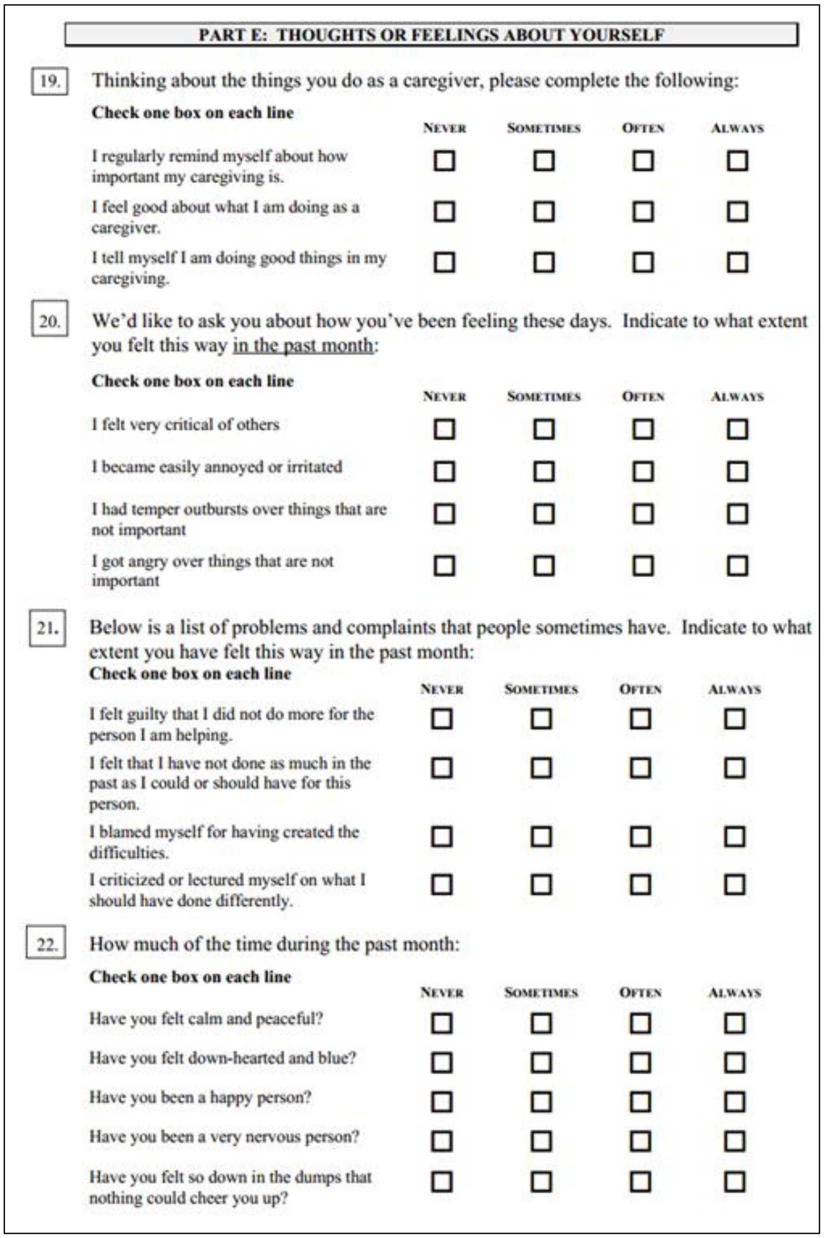
Management of Emotions Scale

During the early PTC pre-post questionnaire development, the term “emotional well-being” was used to describe the construct related to caregivers’ various emotional states. A PTC marketing document provided to the researcher by the Co-Executive Director, L. Congleton (personal communication, September 14, 2012), suggested that the term, “management of emotions” is also used to describe participants’ emotional status. The present study adopted and used the term, “management of emotions or emotions”, to describe the emotional construct and scale.

According to Boise et al. (2005) five separate measures comprised and were used to assess changes in caregivers’ management of emotions; however, only four of the original measures appeared in the Wisconsin questionnaires. It appeared that, during some point in time, representatives from Wisconsin eliminated the abbreviated Center for Epidemiological Study Depression Scale (CESD-10) from the original questionnaire for unknown reasons. All other management of emotions questions used in the Wisconsin pre- and post-class questionnaires, as well as the survey structure and format, remained intact, identical to the original questions developed by Boise and colleagues. There are no published studies regarding the elimination of the CESD-10 from the management of emotions scale; therefore, the effects of these changes are difficult to assess. The management of emotions questions are shown in Figure 4. Descriptive statistics for the management of emotions scale used in the current study are listed in Table 3.5

The four original measures comprising the management of emotions scale will be reviewed in this section. First, a 3-item Positive Feelings about Caregiving Scale was developed specifically for the PTC program to assess how positively or negatively caregivers felt about their caregiving roles. This scale is related to the concept of positive self-talk, which is also part of the PTC curriculum. According to Boise et al. (2005) this measure was found to have an internal consistency reliability estimate of alpha=.766. Second, potential caregiver anger was assessed using a 4-item Anger/Irritability Scale which was adapted from an existing scale developed by Pearlin and Mullen (1988), with an internal consistency reliability estimate of alpha=.81, according to these authors. Next, potential caregiver guilt was measured using a 4-item scale adapted from the Feelings of Not Doing Enough subscale of the Caregiver Guilt Scale developed by Kingsman (1992). The internal consistency reliability estimate for the Guilt Scale was determined from an earlier sample in the PTC program with an internal consistency reliability estimate of alpha=.733 (Boise et al., 2005). Finally, the Mental Health Index-5 scale was also used to assess the management of emotions construct in both the original and Wisconsin surveys; however, the scale was not reviewed in the Boise et al. (2005) publication. The researcher determined that the Mental Health Index-5 was developed by Berwick, Murphy, Goldman, and Ware (1991) and consists of a five item mental health screening test and includes items, such as “Have you been a happy person?”. The psychometric properties of the original scales used to assess self-care are reviewed in Appendix H.

An analysis of the emotion scale used for the current study revealed Chronbach’s Alpha=.795. Furthermore, pre-post mean emotion score and standard deviation changes are reported in Table 3.8, while frequency response information for each question are reported in Table 3.9. Finally, emotion intra-scale correlation results are listed in Table 3.16.



PART E: THOUGHTS OR FEELINGS ABOUT YOURSELF

19. Thinking about the things you do as a caregiver, please complete the following:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I regularly remind myself about how important my caregiving is.	☐	☐	☐	☐
I feel good about what I am doing as a caregiver.	☐	☐	☐	☐
I tell myself I am doing good things in my caregiving.	☐	☐	☐	☐

20. We'd like to ask you about how you've been feeling these days. Indicate to what extent you felt this way in the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt very critical of others	☐	☐	☐	☐
I became easily annoyed or irritated	☐	☐	☐	☐
I had temper outbursts over things that are not important	☐	☐	☐	☐
I got angry over things that are not important	☐	☐	☐	☐

21. Below is a list of problems and complaints that people sometimes have. Indicate to what extent you have felt this way in the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt guilty that I did not do more for the person I am helping.	☐	☐	☐	☐
I felt that I have not done as much in the past as I could or should have for this person.	☐	☐	☐	☐
I blamed myself for having created the difficulties.	☐	☐	☐	☐
I criticized or lectured myself on what I should have done differently.	☐	☐	☐	☐

22. How much of the time during the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
Have you felt calm and peaceful?	☐	☐	☐	☐
Have you felt down-hearted and blue?	☐	☐	☐	☐
Have you been a happy person?	☐	☐	☐	☐
Have you been a very nervous person?	☐	☐	☐	☐
Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐

Figure 5. *Pre-Post Management of Emotions Scale Questions*

Table 3.8

Descriptive Statistics Pre-Post M (SD) Results for Emotion Questions

Emotion Questions	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)
19a. I regularly	2.69 (0.90)	2.80 (0.77)	0.11 (0.13)
19b. I feel	2.83 (0.83)	2.99 (0.69)	0.16 (0.14)
19c. I tell	2.69 (0.85)	2.88 (0.72)	0.19 (0.13)
20a. I felt	3.01 (0.60)	3.28 (0.56)	0.27 (0.04)
20b. I became	2.73 (0.60)	3.10 (0.53)	0.37 (0.07)
20c. I had	3.22 (0.66)	3.57 (0.56)	0.35 (0.10)
20d. I got	3.10 (0.59)	3.40 (0.57)	0.30 (0.02)
21a. I felt	2.85 (0.77)	3.21 (0.68)	0.36 (0.09)
21b. I felt	3.05 (0.79)	3.27 (0.68)	0.22 (0.11)
21c. I blamed	3.53 (0.65)	3.65 (0.56)	0.12 (0.09)
21d. I criticized	3.13 (0.74)	3.34 (0.61)	0.21 (0.13)
22a. Have	2.18 (0.60)	2.58 (0.62)	0.40 (0.02)
22b. Have	2.81 (0.59)	3.20 (0.55)	0.39 (0.04)
22c. Have	2.47 (0.67)	2.76 (0.63)	0.29 (0.04)
22d. Have	2.93 (0.74)	3.27 (0.70)	0.34 (0.04)
22e. Have	3.45 (0.66)	3.76 (0.49)	0.31 (0.17)

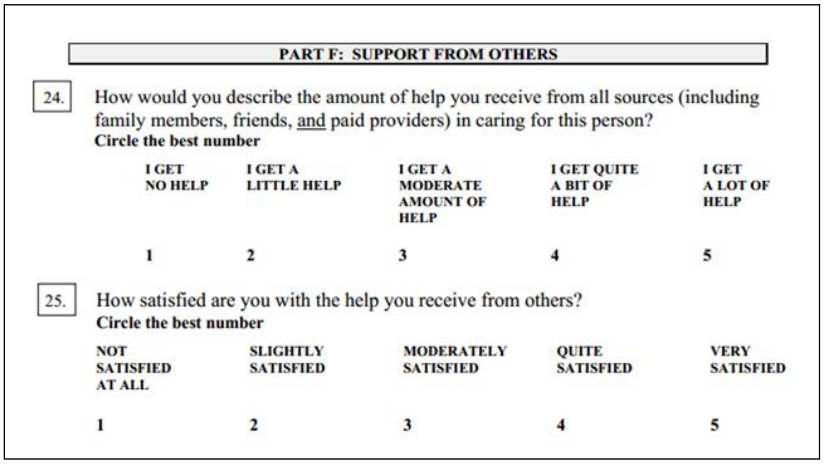
Table 3.9

Descriptive Statistics Item Frequency Results for Emotion Questions

Emotion Questions	Pre-Post Never	Pre-Post Sometimes	Pre-Post Often	Pre-Post Always
19a. I regularly	34-14	121-107	132-176	70-61
19b. I feel	15-5	119-73	140-203	81-77
19c. I tell	23-6	131-99	136-184	64-69
20a. I felt	3-1	48-17	234-223	62-115
20b. I became	9-2	95-28	228-256	20-70
20c. I had	3-0	33-12	190-127	123-215
20d. I got	3-1	33-12	234-187	81-154
21a. I felt	17-5	77-35	188-195	67-122
21b. I felt	11-4	63-32	165-186	111-136
21c. I blamed	5-0	14-16	121-92	211-251
21d. I criticized	10-2	39-22	189-186	110-149
22a. Have	34-9	221-149	99-186	3-14
22b. Have	8-1	75-24	248-236	25-98
22c. Have	11-2	180-121	139-200	24-35
22d. Have	17-5	51-37	214-171	71-144
22e. Have	5-1	16-8	140-68	194-280

Amount of and Satisfaction with Help from Others Scale

The amount of and satisfaction with help from others questions used in the Wisconsin surveys remained identical to the original questions developed by Boise and colleagues (2002). There were, however, Likert-type scale additions to Questions 24 and 25 on the Wisconsin version as corresponding descriptions were added to scale numerals 2, 3, 4. The original questionnaire did not contain corresponding response definitions for Likert scale numerals 2, 3, 4. Wisconsin defined these numerals by adding "Slightly Satisfied" for 2, "Moderately Satisfied" for 3, and "Quite Satisfied" for 4. The amount of and satisfaction with help from others items are shown in Figure 6. Descriptive statistics for the help from others scale used in the current study are listed in Table 3.6. Questions 24 and 25 comprise the amount of and satisfaction with help from others scale and according to L. Congleton these items were developed specifically for the PTC program (personal communication, January 3, 2011). An analysis of the help scale used for the current study revealed Chronbach's Alpha=.708. Furthermore, pre-post mean help score and standard deviation changes are reported in Table 3.10, while frequency response information for each question are reported in Table 3.11. Finally, help intra-scale correlation results are listed in Table 3.17.



PART F: SUPPORT FROM OTHERS

24. How would you describe the amount of help you receive from all sources (including family members, friends, and paid providers) in caring for this person?
Circle the best number

I GET NO HELP	**I GET A LITTLE HELP**	**I GET A MODERATE AMOUNT OF HELP**	**I GET QUITE A BIT OF HELP**	**I GET A LOT OF HELP**
1	**2**	**3**	**4**	**5**

25. How satisfied are you with the help you receive from others?
Circle the best number

NOT SATISFIED AT ALL	**SLIGHTLY SATISFIED**	**MODERATELY SATISFIED**	**QUITE SATISFIED**	**VERY SATISFIED**
1	**2**	**3**	**4**	**5**

Figure 6. *Pre-Post Amount of and Satisfaction with Help from Others Scale*

Table 3.10

Descriptive Statistics Pre-Post M (SD) Results for Help Questions

Help Questions	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)
24. Amount	3.08 (1.11)	3.09 (1.18)	0.01 (0.07)
25. Satisfaction	3.47 (1.06)	3.58 (1.04)	0.11 (0.02)

Table 3.11

Descriptive Statistics Item Frequency Results for Help Questions

Help Questions	Pre-Post Not Satisfied	Pre-Post Slightly Satisfied	Pre-Post Moderately Satisfied	Pre-Post Quite Satisfied	Pre-Post Very Satisfied
24. Amount	31-34	104-85	91-98	87-93	38-43
25. Satisfaction	15-16	50-30	92-90	129-149	52-61

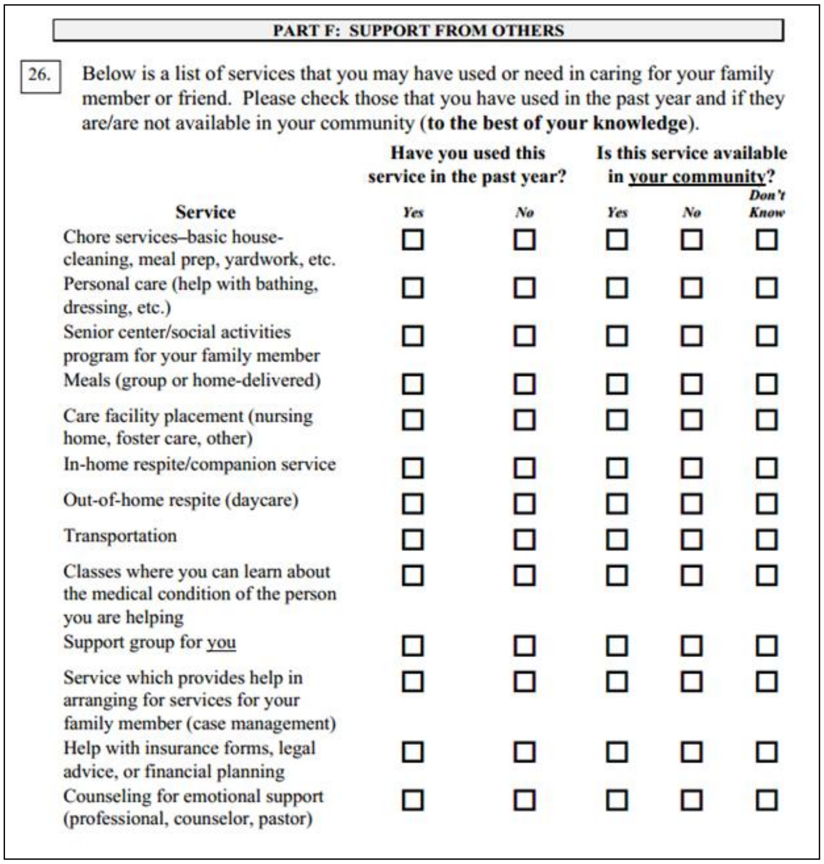
Use of Community Resources Scale

Referred to as “knowledge and use of services” by Boise et al. (2005), this construct will be referred to as, “the use of community resources” in the present study. The use of community resources questions used in the Wisconsin questionnaires remained identical to the original questions developed by Boise and colleagues (2002). Furthermore, there were no changes to the structure or format of these questions. Use of community resources questions are shown in Figure 7. Descriptive statistics for the use of community resources scale used in the current study are listed in Table 3.7

In the present study, the query, “is this service available in your community?” was excluded from the analysis, because a more applicable question would have been to ask caregivers if they needed this service during the past year.

According to Boise et al. (2005), the use of community resources was assessed by asking caregivers what services were available in their communities followed by asking if they had used the service during the past year. Survey developers were likely interested in assessing whether the PTC program promoted the knowledge and utilization of resources among caregivers completing the program. According to Boise et al. (2005), the list of 13 services were defined from prior research and included a number of services relevant to caregivers’ needs. The psychometric properties of the original scales used to assess use of resources are reviewed in Appendix H.

An analysis of the resource scale used for the current study revealed Chronbach’s Alpha=.727. Furthermore, pre-post mean help score and standard deviation changes are reported in Table 3.12, while frequency response information for each question are reported in Table 3.13. Finally, resources intra-scale correlation results are listed in Table 3.18.



PART F: SUPPORT FROM OTHERS

26. Below is a list of services that you may have used or need in caring for your family member or friend. Please check those that you have used in the past year and if they are/are not available in your community (**to the best of your knowledge**).

Service	**Have you used this service in the past year?** *Yes*	*No*	**Is this service available in your community?** *Yes*	*No*	*Don't Know*
Chore services–basic house-cleaning, meal prep, yardwork, etc.	☐	☐	☐	☐	☐
Personal care (help with bathing, dressing, etc.)	☐	☐	☐	☐	☐
Senior center/social activities program for your family member	☐	☐	☐	☐	☐
Meals (group or home-delivered)	☐	☐	☐	☐	☐
Care facility placement (nursing home, foster care, other)	☐	☐	☐	☐	☐
In-home respite/companion service	☐	☐	☐	☐	☐
Out-of-home respite (daycare)	☐	☐	☐	☐	☐
Transportation	☐	☐	☐	☐	☐
Classes where you can learn about the medical condition of the person you are helping	☐	☐	☐	☐	☐
Support group for you	☐	☐	☐	☐	☐
Service which provides help in arranging for services for your family member (case management)	☐	☐	☐	☐	☐
Help with insurance forms, legal advice, or financial planning	☐	☐	☐	☐	☐
Counseling for emotional support (professional, counselor, pastor)	☐	☐	☐	☐	☐

Figure 7. *Pre-Post Use of Community Resources Scale Questions*

Table 3.12

Descriptive Statistics Pre-Post M (SD) Results for Resource Questions

Resource	Pre-Test	Post-Test	Score Change
Questions	*M* (SD)	*M* (SD)	*M* (SD)
26a. Chore	0.27 (0.44)	0.34 (0.48)	0.07 (0.04)
26b. Personal	0.28 (0.47)	0.29 (0.46)	0.01 (0.01)
26c. Senior	0.23 (0.44)	0.26 (0.46)	0.03 (0.02)
26d. Meals	0.24 (0.45)	0.28 (0.46)	0.04 (0.01)
26e. Care	0.27 (0.48)	0.26 (0.46)	-0.01 (0.02)
26f. In-Home	0.22 (0.48)	0.21 (0.43)	-0.01 (0.05)
26g. Out-of-Home	0.19 (0.46)	0.17 (0.40)	-0.02 (0.06)
26h. Transportation	0.23 (0.48)	0.22 (0.43)	-0.01 (0.05)
26i. Classes	0.31 (0.52)	0.43 (0.51)	0.12 (0.01)
26j. Support	0.43 (0.53)	0.66 (0.48)	0.23 (0.05)
26k. Service	0.35 (0.50)	0.33 (0.49)	-0.02 (0.01)
26l. Help	0.30 (0.49)	0.33 (0.49)	0.03 (0.00)
26m. Counseling	0.25 (0.48)	0.28 (0.47)	0.03 (0.01)

Table 3.13

Descriptive Statistics Item Frequency Results for Resource Questions

Resource Questions	Pre-Post No	Pre-Post Yes
26a. Chore	240-225	99-122
26b. Personal	247-245	91-96
26c. Senior	253-247	76-85
26d. Meals	239-242	78-94
26e. Care	245-242	77-88
26f. In-Home	263-261	58-72
26g. Out-of-Home	272-273	50-60
26h. Transportation	253-257	69-77
26i. Classes	231-196	93-139
26j. Support	197-115	127-219
26k. Service	215-211	108-115
26l. Help	235-226	94-116
26m. Counseling	252-241	74-95

Table 3.14

Descriptive Statistics Intra-Correlation Results for Self-efficacy Scale

Self-Efficacy	Self-Care	Emotion	Help	Resources
Pearson Correlation	.379*	.528*	.323*	.197*
Sig. (2-Tailed)	.000	.000	.000	.000

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

Table 3.15

Descriptive Statistics Intra-Correlation Results for Self-Care Scale

Self-Care	Self-Efficacy	Emotion	Help	Resources
Pearson Correlation	.379*	.402*	.197*	.018
Sig. (2-Tailed)	.000	.000	.000	.729

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

Table 3.16

Descriptive Statistics Intra-Correlation Results for Emotion Scale

Emotion	Self-Efficacy	Self-Care	Help	Resources
Pearson Correlation	.528*	.402*	.277*	.084
Sig. (2-Tailed)	.000	.000	.000	.108

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

Table 3.17

Descriptive Statistics Intra-Correlation Results for Help Scale

Help	Self-Efficacy	Self-Care	Emotion	Resources
Pearson Correlation	.323*	.197*	.277*	.198*
Sig. (2-Tailed)	.000	.000	.000	.000

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

Table 3.18

Descriptive Statistics Intra-Correlation Results for Resources Scale

Resources	Self-Efficacy	Self-Care	Emotion	Help
Pearson Correlation	.197*	.018	.084	.198*
Sig. (2-Tailed)	.000	.729	.108	.000

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

CHAPTER FOUR

Results

The purpose of the present study was to explore changes in caregivers' self-efficacy, self-care, management of emotions, the amount of and satisfaction with help from other people, and the utilization of community resources after completing the PTC psychoeducational intervention. A paired sample *t*-test, with a pre-experimental one-group pre-post test design, was used to assess changes in these treatment outcomes. The present study also sought to examine the potential effects of caregivers' age, gender, and educational attainment as well as their care receivers' memory loss, medical condition/illness type, and living situation on the aforementioned treatment outcomes. Research questions two and three were analyzed using a mixed design consisting of a series of univariate ANOVAs to assess for potential interaction effects between demographic variables and the caregiver intervention on psychosocial adjustment outcomes.

The terms, "emotion", "help", and "resource" will replace the terms management of emotions, the amount of and satisfaction with help from others, and the utilization of community resources, respectively.

Preliminary Questionnaire and Data Screening

A review of the PTC pre-post class questionnaires, as well as a preliminary data screening, were conducted before beginning formal analysis. The following section will describe the questionnaire review and data screening process, as well as the management of missing data.

Prior to conducting the formal analysis, items that were reverse scored in outcome measures were recoded so as to be consistent. Then inter-item correlations were computed for each outcome measure, and inter-correlations among the outcome measures were examined.

A missing value analysis using SPSS-20 was conducted for questions within each scale. For example, the missing value analysis revealed that approximately 6% of the self-efficacy scale data contained missing information. Ideal research datasets contain no missing values, but as in most research, this is not the case. The researcher considered various options to account for missing values. A missing value imputation procedure using regression analysis was determined to be the most appropriate way to account for the missing values within each scale as the procedure considers multiple variables within the dataset in order to determine the appropriate substitution value for each missing item. Additionally, performing a missing value imputation was also determined to be appropriate due to relatively low missing value percentages. Following the missing value imputation procedure, each scale contained no missing values and was merged back into SPSS in preparation for the formal analysis. This process, as described, was repeated for each outcome variable scale.

Analysis

Analysis-Research Question One

The first research question sought to determine the effect of the PTC intervention on caregivers' self-efficacy, self-care, emotions, help, and resources pre-post score changes. This question was analyzed by using a paired sample *t*-test. An alpha of $< .01$ was used as the statistically significant cut-off value for research question one, and the .01 value was derived by dividing $p < .05$ by five, the number of outcomes being analyzed in research question one, and was done to control for Type I errors. An alpha of 0.05 was used a cut off value when assessing interaction effects for research questions two and three.

The final results of the paired sample statistics test, (see Table 4.1), revealed that caregivers' post-class self-efficacy, self-care, emotion, help, and resource scores significantly improved after completing the PTC intervention compared to pre-class levels. To illustrate, the average caregiver self-efficacy score prior to beginning the PTC program was 34.09, and after completing the treatment their scores improved, on average 6.27 points, with a final self-efficacy score averaging 40.36 points. Similar improvements were demonstrated across all treatment outcomes.

The effect size analysis demonstrated a large effect for the PTC self-efficacy, self-care, and emotion scales as partial eta-squared=.47, .25, and .35 respectively. Furthermore, a small to medium effect for the help scale was found as partial eta-squared=.04, while a small effect was found for the resource scale as partial eta-squared=.02.

Table 4.1

Descriptive and Paired Samples Test Statistics-Research Question One

	Powerful Tools			
	Pre-Test	Post-Test	*Paired Samples*	P
Construct	*M (SD)*	*M (SD)*	*Test df*	
Self-Efficacy	34.09 (7.24)	40.36 (5.93)	367	<.001
Self-Care	10.37 (3.81)	12.44 (3.22)	367	<.001
Emotions	46.93 (5.81)	51.05 (4.95)	367	<.001
Help	3.17 (1.04)	3.34 (0.98)	357	<.001
Resources	3.41 (3.15)	3.83 (2.38)	367	<.006

Analysis-Research Question Two

The second research question looked at the age, gender, and educational attainment of caregivers with the pre-to-post class program outcome score changes to assess potential interaction effects.

Caregiver Age

Prior to completing the analysis, the age variable had to be converted from a continuous to a categorical variable. The caregiver literature and a report published by the U.S. Census Bureau (2011) were used as guides to create age range categories for the study analysis. Pinquart and Sorensen (2007), published a meta-analysis, which in part, assessed the influence of caregiver age and its relationship to caregiver health status and found that older caregivers experienced worse physical health compared to their younger counter parts. Additionally, these authors also reported that younger caregivers who care for a spouse reported higher levels of burden and depression as a result of their care provision compared to older caregivers (Pinquart & Sorensen, 2007). Such findings suggested that the analysis should be done, in part, according to younger versus older age divisions. Next, a report published by the U.S. Census Bureau (2011), was used to guide age cut-off ranges. The report entitled, *Age and Sex Composition: 2010*, grouped individuals according to the following ranges; 18-44yr., 45-64yr., and 65yr. or older(+) (U.S. Census Bureau, 2011). The ranges in the Census Bureau report were used because they could be analyzed according to Pinquart and Sorensen's (2007), health related findings regarding younger versus older caregivers.

Next, the dataset was programmed to assign caregivers to one of three age categories. The youngest age group, those 18-44yr. were excluded from the final analysis because only 18 individuals fell within this category. Furthermore, four individuals who did not report their ages were also excluded from analysis. The two remaining groups of caregivers, those 45-64yr.and 65yr.+, both comprised 173 individuals, for a combined age group total of 346 individuals used to assess possible age effects with each program outcome variable.

Caregiver Age and Self-Efficacy

Hypothesis: There will be no interaction effect between caregiver age and pre-post test self-efficacy scores.

When comparing caregivers' pre-post class self-efficacy scores, (see Table 4.2), both age groups demonstrated improvements. For example, the self-efficacy scores of those within the 45-64yr. group improved 7.78 points while those within the 65yr.+ group improved 4.84 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver age was the between subjects variable with two levels (45-64yr. versus 65yr.+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis demonstrated an interaction effect between treatment and age, $F(1,344)=16.71$, $p < .0001$, (see Table 4.2), as the 45-64yr. group improved their self-efficacy scores more than the 65yr.+ group.

Caregiver Age and Self-Care

Hypothesis: There will be no interaction effect between caregiver age and pre-post test self-care scores.

When comparing caregivers' pre-post class self-care scores, (see Table 4.3), both age groups demonstrated improvements. For example, the self-care scores of those within the 45-64yr. group improved 2.33 points while those within the 65yr.+ group improved 1.77 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver age was the between subjects variable with two levels (45-64yr. versus 65yr.+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and age, $F(1,344)=2.04$, $p < .154$, (see Table 4.3), as both groups improved their self-care scores uniformly.

Caregiver Age and Management of Emotions

Hypothesis: There will be no interaction effect between caregiver age and pre-post test emotion scores.

When comparing caregivers' pre-post class emotion scores, (see Table 4.4), both age groups demonstrated improvements. For example, the emotion scores of those within the 45-64yr. group improved 5.48 points while those within the 65yr.+ group improved 2.61 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver age was the between subjects variable with two levels (45-64yr. versus 65yr.+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis demonstrated an interaction effect between treatment and age, $F(1,344)=21.91$, $p < .0001$, (see Table 4.4), as the 45-64yr. group improved their emotion scores more than the 65yr.+ group.

Caregiver Age and Help

Hypothesis: There will be no interaction effect between caregiver age and pre-post test help scores.

When comparing caregivers' pre-post class help scores, (see Table 4.5), both age groups demonstrated improvements. For example, the help scores of those within the 45-64yr. group improved 0.3 points while those within the 65yr.+ group improved 0.05 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver age was the between subjects variable with two levels (45-64yr. versus 65yr.+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis demonstrated an interaction effect between treatment and age, $F(1,334)=6.76$, $p < .010$, (see Table 4.5), as the 45-64yr. group improved their help scores more than the 65yr.+ group.

Caregiver Age and Utilization of Community Resources

Hypothesis: There will be no interaction effect between caregiver age and pre-post test resource scores.

When comparing caregivers' pre-post class resource scores, (see Table 4.6), both age groups demonstrated improvements. For example, the resource scores of those within the 45-64yr. group improved 0.41 points while those within the 65yr.+ group improved 0.40 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver age was the between subjects variable with two levels (45-64yr. versus 65yr.+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate a significant interaction effect between treatment and age, $F(1,344)=0.002$, $p < .966$, (see Table 4.6), as both groups resource scores changed uniformly.

Table 4.2

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Age

	Powerful Tools			
	Pre-Test	Post-Test	Change	
Age Group	*M* (SD)	*M* (SD)	*M* (SD)	N
45-64yr.	33.09 (6.97)	40.87 (5.89)	7.78 (1.08)	173
65yr. or older	34.91 (7.32)	39.75 (5.86)	4.84 (1.46)	173
Total	34.00 (7.19)	40.31 (5.89)	6.31 (1.30)	346

Table 4.3

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Age

	Powerful Tools			
	Pre-Test	Post-Test	Change	
Age Group	*M* (SD)	*M* (SD)	*M* (SD)	N
45-64yr.	9.52 (3.43)	11.85 (3.31)	2.33 (0.12)	173
65yr. or older	11.31 (3.97)	13.08 (3.02)	1.77 (0.95)	173
Total	10.41 (3.81)	12.46 (3.23)	2.06 (0.58)	346

Table 4.4

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Age

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Age Group	*M* (SD)	*M* (SD)	*M* (SD)	N
45-64yr.	45.82 (5.73)	51.30 (5.07)	5.48 (0.66)	173
65yr. or older	48.20 (5.70)	50.82 (4.88)	2.61 (0.82)	173
Total	47.01 (5.83)	51.06 (4.97)	4.05 (0.86)	346

Table 4.5

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Age

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Age Group	*M* (SD)	*M* (SD)	*M* (SD)	N
45-64yr.	2.98 (0.96)	3.28 (0.98)	0.30 (0.02)	170
65yr. or older	3.37 (1.12)	3.42 (0.98)	0.05 (0.14)	166
Total	3.18 (1.06)	3.35 (0.98)	0.17 (0.08)	336

Table 4.6

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Age

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Age Group	*M* (SD)	*M* (SD)	*M* (SD)	N
45-64yr.	3.66 (3.53)	4.07 (2.39)	0.41 (1.14)	173
65yr. or older	3.24 (2.85)	3.63 (2.38)	0.40 (0.48)	173
Total	3.45 (3.21)	3.85 (2.39)	0.40 (0.83)	346

Primary Analysis-Research Question Two-Gender

Caregiver gender was the second variable analyzed in research question two. Descriptive statistics for gender demonstrated that of the total sample 286 were females, 79 were males, and three individuals did not report their gender and were excluded from the analysis.

Caregiver Gender and Self-Efficacy

Hypothesis: There will be no interaction effect between caregiver gender and pre-post test self-efficacy scores.

When comparing caregivers' pre-post class self-efficacy scores, (see Table 4.7), both males and females demonstrated improvements. For example, the self-efficacy scores among males improved 5.03 points while female's scores improved 6.65 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver gender was the between subjects variable with two levels (male versus female). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and gender, $F(1,363)=3.57$, $p < .060$, (see Table 4.7), as both groups improved their self-efficacy scores uniformly.

Caregiver Gender and Self-Care

Hypothesis: There will be no interaction effect between caregiver gender and pre-post test self-care scores.

When comparing caregivers' pre-post class self-care scores, (see Table 4.8), both males and females demonstrated improvements. For example, the self-care scores among males improved 0.81 points while female's scores improved 2.42 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted.

Caregiver gender was the between subjects variable with two levels (male versus female). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis demonstrated an interaction effect between treatment and gender, *F*(1,363)=12.79, *p* < .0001, (see Table 4.8), as the self-care scores among females improved more significantly than among males.

Caregiver Gender and Management of Emotions

Hypothesis: There will be no interaction effect between caregiver gender and pre-post test emotion scores.

When comparing caregivers' pre-post class emotion scores, (see Table 4.9), both males and females demonstrated improvements. For example, the emotion scores among males improved 2.33 points while female's scores improved 4.65 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver gender was the between subjects variable with two levels (male versus female). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis demonstrated an interaction effect between treatment and gender, *F*(1,363)=10.01, *p* < .002, (see Table 4.9), as the emotion scores among females improved more significantly than among males.

Caregiver Gender and Help

Hypothesis: There will be no interaction effect between caregiver gender and pre-post test help scores.

When comparing caregiver's pre-post class help scores, (see Table 4.10), males demonstrated essentially no change while females showed only slight improvements. For example, the help scores among males decreased slightly –0.04 points while female's scores increased 0.23 points from pre-to-post class levels. To assess the significance of these changes, a 2 x 2 mixed design ANOVA was conducted. Caregiver gender was the between subjects variable with two levels (male versus female). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis demonstrated an interaction effect between treatment and gender, $F(1,353)=5.60$, $p < .018$, (see Table 4.10), as help scores among females improved more significantly than among males.

Caregiver Gender and Utilization of Community Resources

Hypothesis: There will be no interaction effect between caregiver gender and pre-post test resource scores.

When comparing caregivers’ pre-post class resource scores, (see Table 4.11), both males and females demonstrated slight improvements. For example, the resource scores among males improved 0.36 points while female’s scores improved 0.42 points from pre- to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregiver gender was the between subjects variable with two levels (male versus female). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and gender, $F(1,363)=0.25$, $p < .875$, (see Table 4.11), as both groups improved their scores, uniformly.

Table 4.7

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Gender

	Powerful Tools			
	Pre-Test	Post-Test	Change	
Gender	*M* (SD)	*M* (SD)	*M* (SD)	N
Male	35.44 (8.01)	40.46 (6.38)	5.02 (1.63)	79
Female	33.68 (7.00)	40.32 (5.84)	6.64 (1.16)	286
Total	34.06 (7.26)	40.35 (5.96)	6.29 (1.30)	365

Table 4.8

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Gender

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Gender	*M* (SD)	*M* (SD)	*M* (SD)	N
Male	12.33 (3.71)	13.13 (2.73)	0.8 (0.98)	79
Female	9.81 (3.67)	12.24 (3.34)	2.43 (0.33)	286
Total	10.36 (3.82)	12.43 (3.23)	2.07 (0.59)	365

Table 4.9

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Gender

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Gender	*M* (SD)	*M* (SD)	*M* (SD)	N
Male	48.52 (5.74)	50.84 (5.56)	2.32 (0.18)	79
Female	46.44 (5.76)	51.09 (4.79)	4.65 (0.97)	286
Total	46.89 (5.81)	51.03 (4.96)	4.14 (0.85)	365

Table 4.10

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Gender

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Gender	*M* (SD)	*M* (SD)	*M* (SD)	N
Male	3.51 (1.04)	3.47 (1.03)	0.04 (0.01)	79
Female	3.07 (1.02)	3.30 (0.96)	0.23 (0.06)	286
Total	3.17 (1.04)	3.34 (0.98)	0.17 (0.06)	365

Table 4.11

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Gender

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Gender	*M* (SD)	*M* (SD)	*M* (SD)	N
Male	3.54 (2.95)	3.90 (2.42)	0.36 (0.53)	79
Female	3.36 (3.22)	3.78 (2.34)	0.42 (0.88)	286
Total	3.40 (3.16)	3.80 (2.35)	0.40 (0.81)	365

Primary Analysis-Research Question Two-Educational Attainment

Caregiver educational attainment was the final of three variables analyzed in the second research question. Prior to completing the analysis the number of educational groups were collapsed from six to four groups. Caregivers with either a grade 0-8 or grade 9-11 education were combined into one group due to an insufficient sample within either group to be analyzed separately. Next, caregivers with either a college degree or had completed some graduate work or beyond were combined into one group to simplify interpretation. It was believed that individuals within outcome scores among these two groups would differ little; therefore, they were combined to simplify interpretation. Descriptive statistics for caregiver education were as follows; 28 individuals had completed grades 0-11, 147 were high school graduates, 89 completed some college, 99 had graduated college+. Five individuals failed to report their education and were excluded from analysis for a combined sample of 363 individuals used to assess education effects.

The terms, “HS-graduate”, “some college”, and “college graduate+” will replace the terms high school graduates, completed some college, and college graduate or beyond.

Caregiver Educational Attainment and Self-Efficacy

Hypothesis: There will be no interaction effect between caregiver educational attainment and pre-post test self-efficacy scores.

When comparing caregivers’ pre-post class self-efficacy scores, (see Table 4.12), all four groups demonstrated improvements with a trend favoring higher scores with more education. For example, the self-efficacy scores among individuals with the highest level of education improved 7.25 points, while individuals with a grade 0-11 education improved 5.20 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design

ANOVA was conducted. Caregiver education was the between subjects variable with four levels (grades 0-11, HS-graduate, some college, and college graduate+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and education, $F(1,359)=1.13$, $p < .335$, (see Table 4.12), as the four groups improved their self-efficacy scores uniformly.

Caregiver Educational Attainment and Self-Care

Hypothesis: There will be no interaction effect between caregiver educational attainment and pre-post test self-care scores.

When comparing caregivers' pre-post class self-care scores, (see Table 4.13), all four groups demonstrated improvements. For example, the self-care scores of each group improved approximately two points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Caregiver education was the between subjects variable with four levels (grades 0-11, HS-graduate, some college, and college graduate+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and education, $F(1,359)=.08$, $p < .973$, (see Table 4.13), as the four groups improved their self-care scores uniformly.

Caregiver Educational Attainment and Management of Emotions

Hypothesis: There will be no interaction effect between caregiver educational attainment and pre-post test emotion scores.

When comparing caregivers' pre-post class emotion scores, (see Table 4.14), all four groups demonstrated improvements. For example, the emotion scores among caregivers with some college improved 5.50 points while individuals with a grade 0-11 education improved 0.27 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Caregiver education was the between subjects variable with four levels (grades 0-11, HS-graduate, some college, and college graduate+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis demonstrated an interaction effect between treatment and education, $F(1,359)=6.68$, $p < .0001$, (see Table 4.14), as the emotion scores among caregivers with a grade 0-11 education improved less significantly than the scores of the other three groups.

Caregiver Educational Attainment and Help

Hypothesis: There will be no interaction effect between caregiver educational attainments and pre-post test help scores.

When comparing caregivers' pre-post class help scores, (see Table 4.15), all four groups demonstrated either very minimal or no improvements. To assess the significance of these changes, a 2 x 4 mixed design ANOVA was conducted. Caregiver education was the between subjects variable with four levels (grades 0-11, HS-graduate, some college, and college graduate+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and education, $F(1,350)=.727$, $p < .536$, (see Table 4.15), as the four group's help scores changed, albeit minimally, uniformly.

Caregiver Educational Attainment and Utilization of Community Resources

Hypothesis: There will be no interaction effect between caregiver educational attainment and pre-post test resource scores.

When comparing caregivers' pre-post class resource scores, (see Table 4.16), all educational groups demonstrated either very minimal or no improvements. To assess the significance of these changes, a 2 x 4 mixed design ANOVA was conducted. Caregiver education was the between subjects variable with four levels (grades 0-11, HS-graduate, some college, and college graduate+). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and education, $F(1,359)=.724$, $p < .538$, (see Table 4.16), as caregivers resource scores changed uniformly.

Table 4.12

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Education

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Education	*M* (SD)	*M* (SD)	*M* (SD)	N
Grades 0-11	36.13 (8.15)	41.33 (7.37)	5.20 (0.78)	28
HS-Graduate	34.24 (6.98)	40.09 (5.11)	5.85 (1.87)	147
Some College	33.29 (7.67)	39.74 (6.21)	6.45 (1.46)	89
College Grd.+	34.00 (6.86)	41.25 (6.35)	7.25 (0.51)	99
Total	34.09 (7.22)	40.42 (5.94)	6.33 (1.28)	363

Table 4.13

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Education

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Education	*M* (SD)	*M* (SD)	*M* (SD)	N
Grades 0-11	11.71 (3.56)	13.58 (2.90)	1.87 (0.66)	28
HS-Graduate	10.50 (4.02)	12.53 (3.40)	2.03 (0.62)	147
Some College	9.60 (3.57)	11.79 (3.12)	2.19 (0.45)	89
College Grd.+	10.45 (3.48)	12.54 (3.08)	2.09 (0.40)	99
Total	10.36 (3.76)	12.43 (3.23)	2.07 (0.53)	363

Table 4.14

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Education

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Education	*M* (SD)	*M* (SD)	*M* (SD)	N
Grades 0-11	49.71 (5.42)	49.98 (6.24)	0.27 (0.82)	28
HS-Graduate	47.19 (6.03)	50.98 (5.02)	3.79 (1.01)	147
Some College	45.51 (5.60)	51.01 (4.54)	5.50 (1.06)	89
College Grd.+	46.80 (5.49)	51.64 (4.77)	4.84 (0.72)	99
Total	46.87 (5.81)	51.09 (4.94)	4.22 (0.87)	363

Table 4.15

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Education

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Education	*M* (SD)	*M* (SD)	*M* (SD)	N
Grades 0-11	3.76 (0.86)	3.75 (0.89)	0.01 (0.03)	27
HS-Graduate	3.23 (1.12)	3.38 (0.93)	0.15 (0.19)	143
Some College	2.96 (0.95)	3.22 (1.02)	0.26 (0.07)	89
College Grd.+	3.15 (0.95)	3.33 (0.99)	0.18 (0.04)	95
Total	3.18 (1.03)	3.35 (0.97)	0.17 (0.06)	354

Table 4.16

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Education

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Education	*M* (SD)	*M* (SD)	*M* (SD)	N
Grades 0-11	4.42 (3.64)	4.21 (2.67)	-0.21 (0.97)	28
HS-Graduate	3.18 (3.48)	3.59 (2.21)	0.41 (1.27)	147
Some College	3.24 (2.41)	3.95 (2.57)	0.71 (0.16)	89
College Grd.+	3.64 (3.12)	3.99 (2.32)	0.35 (0.80)	99
Total	3.41 (3.17)	3.83 (2.37)	0.42 (0.80)	363

Analysis-Research Question Three

The third research question looked at the effect of care receivers' memory loss, medical condition/illness type, and living situation on caregivers' pre-to-post class outcome scores to assess interaction effects.

Care Receiver Memory Loss

On pre-class questionnaires, caregivers were asked and reported if their care receiver experienced any memory loss, and if so, its severity. Caregivers were grouped and analyzed according to one of four groups; no care receiver memory loss, mild care receiver memory loss, moderate care receiver memory loss, or severe care receiver memory loss. Of the four groups, 51 caregivers reported no care receiver memory loss, 115 reported mild care receiver memory loss, 139 reported moderate care receiver memory loss, and 52 reported severe care receiver memory loss. Information from 357 caregivers was used to assess possible care receiver memory loss interactions with program outcomes. Eleven individuals did not report their care receiver memory loss information and, as a result, were excluded from the analysis.

Care Receiver Memory Loss and Self-Efficacy

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test self-efficacy scores.

When comparing caregivers' pre-post class self-efficacy scores, (see Table 4.17), all memory groups demonstrated improvements. For example, the self-efficacy scores of caregivers whose care receiver had no memory loss demonstrated the largest gains as their scores improved 8.33 points while those caring for someone with severe memory loss demonstrated the smallest gains as their scores improved 5.36 points from pre-to-post class scores. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Care recipient memory loss was the between subjects variable with four levels (none, mild, moderate, or severe memory loss). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and memory loss, $F(1,353)=2.38$, $p < .070$, (see Table 4.17), as the four groups improved their self-efficacy scores uniformly.

Care Receiver Memory Loss and Self-Care

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test self-care scores.

When comparing caregivers' pre-post class self-care scores, (Table 4.18), all memory groups demonstrated improvements. For example, the self-care scores of caregivers whose care receiver had moderate memory loss demonstrated the largest gains as their scores improved 2.35 points while those caring for someone with mild memory loss demonstrated the smallest gains as their scores improved 1.39 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Care recipient memory loss was the between subjects variable with four levels (none, mild, moderate, or severe memory loss). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and memory loss, $F(1,353)=1.87$, $p < .134$, (see Table 4.18), as the four groups self-care scores improved uniformly.

Care Receiver Memory Loss and Management of Emotions

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test emotion scores.

When comparing caregivers’ pre-post class emotion scores, (see Table 4.19), all memory groups demonstrated improvements. For example, the emotion scores of caregivers whose care receiver had mild memory loss demonstrated the largest gains as their scores improved 4.32 points while those caring for someone with moderate memory loss demonstrated the smallest gains as their scores improved 3.96 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Care recipient memory loss was the between subjects variable with four levels (none, mild, moderate, or severe memory loss). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and memory loss, $F(1,353)=0.82$, $p < .970$, (see Table 4.19), as the four groups emotion scores improved uniformly.

Care Receiver Memory Loss and Help

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test help scores.

When comparing caregivers’ pre-post class help scores, (see Table 4.20), all memory groups demonstrated slight to relatively no improvements. For example, the help scores of caregivers whose care receiver had moderate memory loss demonstrated the largest gains as their scores improved 0.21 points while those caring for someone with severe memory loss demonstrated the smallest gains as their scores improved slightly 0.03 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Care recipient memory loss was the between subjects variable with four levels (none, mild, moderate, or severe memory loss). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and memory loss, *F*(1,346)=.481, *p* < .696, (see Table 4.20), as the four groups help scores improved uniformly.

Care Receiver Memory Loss and Utilization of Community Resources

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test resource scores.

When comparing caregivers' pre-post class resource scores, (see Table 4.21), all groups, except the no memory loss group, demonstrated improvements. For example, the resource scores of caregivers whose care receiver had mild memory loss demonstrated the largest gains as their scores improved 0.55 points while those caring for someone with no memory loss decreased -0.11 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 4 mixed design ANOVA was conducted. Care recipient memory loss was the between subjects variable with four levels (none, mild, moderate, or severe memory loss). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and memory loss, *F*(1,353)=.578, *p* < .578, (see Table 4.21), as the four groups resource scores changed uniformly.

Table 4.17

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Care Receivers' Memory Loss

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Memory Loss	*M* (SD)	*M* (SD)	*M* (SD)	N
None	32.56 (7.92)	40.89 (6.05)	8.33 (1.87)	51
Mild	35.00 (7.31)	40.61 (6.06)	5.61 (1.25)	115
Moderate	33.79 (7.12)	40.12 (6.09)	6.33 (1.03)	139
Severe	34.55 (6.42)	39.91 (5.42)	5.36 (1.00)	52
Total	34.11 (7.22)	40.36 (5.97)	6.25 (1.25)	357

Table 4.18

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Care Receivers' Memory Loss

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Memory Loss	*M* (SD)	*M* (SD)	*M* (SD)	N
None	10.53 (3.94)	12.81 (3.05)	2.28 (0.89)	51
Mild	10.54 (3.68)	11.93 (3.48)	1.39 (0.20)	115
Moderate	10.36 (3.40)	12.71 (2.90)	2.35 (0.50)	139
Severe	10.27 (4.42)	12.61 (3.44)	2.34 (0.98)	52
Total	10.43 (3.71)	12.46 (3.21)	2.03 (0.50)	357

Table 4.19

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Care Receivers' Memory Loss

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Memory Loss	*M* (SD)	*M* (SD)	*M* (SD)	N
None	46.70 (5.96)	50.77 (5.09)	4.07 (0.87)	51
Mild	46.92 (6.03)	51.24 (5.02)	4.32 (1.01)	115
Moderate	47.03 (5.55)	50.99 (4.85)	3.96 (0.70)	139
Severe	47.02 (5.85)	51.12 (5.28)	4.10 (0.57)	52
Total	46.95 (5.79)	51.06 (4.98)	4.11 (0.81)	357

Table 4.20

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Care Receivers' Memory Loss

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Memory Loss	*M* (SD)	*M* (SD)	*M* (SD)	N
None	3.10 (1.12)	3.28 (1.18)	0.18 (0.06)	51
Mild	3.08 (0.99)	3.26 (0.90)	0.18 (0.09)	113
Moderate	3.09 (1.05)	3.29 (0.93)	0.20 (0.12)	134
Severe	3.69 (0.78)	3.72 (0.93)	0.03 (0.15)	52
Total	3.17 (1.03)	3.34 (0.97)	0.17 (0.06)	350

Table 4.21

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Care Receivers' Memory Loss

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Memory Loss	*M* (SD)	*M* (SD)	*M* (SD)	N
None	3.47 (5.04)	3.36 (2.28)	-0.11 (2.76)	51
Mild	3.21 (3.30)	3.77 (2.34)	0.56 (0.96)	115
Moderate	3.27 (2.26)	3.74 (2.38)	0.47 (0.12)	139
Severe	4.06 (2.56)	4.58 (2.48)	0.52 (0.08)	52
Total	3.40 (3.17)	3.82 (2.38)	0.42 (0.79)	357

Primary Analysis-Research Question Three-Medical Condition

Care receivers' medical condition was the second variable analyzed in the third research question. Caregivers were asked on pre-class questionnaires to report the medical condition(s) their care receiver experienced. Some caregivers reported that the individual for whom they cared experienced one illness, while others reported multiple conditions. Analyzing multiple care receiver conditions created profound analysis difficulties due to the absence of non-mutually exclusive categories. After considering multiple analysis options, it was determined that the best way to analyze medical condition was to create two categories: one including care receivers with Alzheimer's disease and another without. Of the two medical condition groups, 236 caregivers reported caring for an individual with Alzheimer's disease or Alzheimer's disease in addition to one or more other medical conditions(/+), while 132 caregivers reported caring for someone with a medical condition other than Alzheimer's disease. The "other" group consisted of care receivers experiencing one or more of the following conditions: Parkinson's disease, stroke, diabetes, heart disease, and/or cancer.

Care Receiver Medical Condition and Self-Efficacy

Hypothesis: There will be no interaction effect between care receiver medical condition and pre-post test self-efficacy scores.

When comparing caregivers' pre-post class self-efficacy scores, (see Table 4.22), both groups demonstrated improvements. For example, the self-efficacy scores of caregivers whose care receiver fell in the Other medical condition group demonstrated the largest gains as their scores improved 6.74 points while those caring for someone with Alzheimer's disease/+ improved 5.90 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Care recipient medical condition was the between subjects variable with two levels (Alzheimer’s disease/+ versus Other condition). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and medical condition, $F(1,366)=1.40$, $p < .238$, (see Table 4.22), as the two groups self-efficacy scores improved uniformly.

Care Receiver Medical Condition and Self-Care

Hypothesis: There will be no interaction effect between care receiver memory loss and pre-post test self-care scores.

When comparing caregivers’ pre-post class self-care scores, (see Table 4.23), both groups demonstrated similar improvements. For example, the self-care scores of caregivers whose care receiver fell in the Other medical condition group demonstrated an improvement of 2.21 points while those caring for someone with Alzheimer’s disease(/+) improved 1.97 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Care recipient medical condition was the between subjects variable with two levels (Alzheimer’s disease(/+) versus Other condition). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and medical condition, $F(1,366)=.430$, $p < .513$, (see Table 4.23), as the two groups self-care scores improved uniformly.

Care Receiver Medical Condition and Management of Emotions

Hypothesis: There will be no interaction effect between care receiver medical condition and pre-post test emotion scores.

When comparing caregivers' pre-post class emotion scores, (see Table 4.24), both groups demonstrated similar improvements. For example, the emotion scores of caregivers whose care receiver experienced Alzheimer's disease(/+) demonstrated an improvement of 4.27 points while those whose care receiver fell in the Other medical condition group improved 3.94 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregivers' care recipient medical condition was the between subjects variable with two levels (Alzheimer's disease(/+) versus Other condition). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and medical condition, $F(1,366)=.283$, $p < .595$, (see Table 4.24), as the two groups emotion scores improved uniformly.

Care Receiver Medical Condition and Help

Hypothesis: There will be no interaction effect between care receiver medical condition and pre-post test help scores.

When comparing caregivers' pre-post class help scores, (see Table 4.25), both groups demonstrated similar improvements. For example, the help scores of caregivers whose care receiver fell in the Other medical condition group demonstrated an improvement of 0.20 points while those caring for someone with Alzheimer's disease(/+) improved 0.15 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregivers' care recipient medical condition was the between subjects variable with two levels (Alzheimer's disease(/+) versus Other condition). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and medical condition, *F*(1,356)=.168, *p* < .682, (see Table 4.25), as the two groups help scores improved uniformly.

Care Receiver Medical Condition and Utilization of Community Resources

Hypothesis: There will be no interaction effect between care receiver medical condition and pre-post test resource scores.

When comparing caregivers' pre-post class resource scores, (see Table 4.26), both groups demonstrated similar improvements. For example, the resource scores of caregivers whose care receiver fell in the Other medical condition group demonstrated an improvement of 0.46 points while those caring for someone with Alzheimer's disease(/+) improved 0.40 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 2 mixed design ANOVA was conducted. Caregivers' care recipient medical condition was the between subjects variable with two levels (Alzheimer's disease(/+) versus Other condition). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and medical condition, *F*(1,366)=0.50, *p* < .824, (see Table 4.26), as the two groups resource scores improved uniformly.

Table 4.22

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Care Receivers' Medical Condition

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Condition	*M* (SD)	*M* (SD)	*M* (SD)	N
Alzheimer's/+	33.80 (7.49)	40.32 (6.21)	5.52 (1.28)	236
Other	34.60 (6.78)	40.43 (5.43)	6.83 (1.35)	132
Total	34.09 (7.24)	40.36 (5.93)	6.27 (1.31)	368

Table 4.23

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Care Receivers' Medical Condition

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Condition	*M* (SD)	*M* (SD)	*M* (SD)	N
Alzheimer's	10.07 (3.77)	12.28 (3.23)	1.39 (0.61)	236
Other	10.89 (3.84)	12.73 (3.20)	2.66 (0.57)	132
Total	10.37 (3.81)	12.45 (3.22)	2.08 (0.59)	368

Table 4.24

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Care Receivers' Medical Condition

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Condition	*M* (SD)	*M* (SD)	*M* (SD)	N
Alzheimer's	46.80 (6.03)	51.08 (5.08)	4.28 (0.95)	236
Other	47.16 (5.42)	51.00 (4.75)	3.84 (0.67)	132
Total	46.93 (5.81)	51.05 (4.95)	4.12 (0.86)	368

Table 4.25

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Care Receivers' Medical Condition

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Condition	*M* (SD)	*M* (SD)	*M* (SD)	N
Alzheimer's	3.11 (1.03)	3.32 (1.00)	0.21 (0.03)	229
Other	3.26 (1.04)	3.38 (.93)	0.12 (0.11)	129
Total	3.17 (1.04)	3.34 (0.98)	0.17 (0.06)	358

Table 4.26

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Care Receivers' Medical Condition

	Powerful Tools			
	Pre-Test	Post-Test	Score Change	
Condition	*M* (SD)	*M* (SD)	*M* (SD)	N
Alzheimer's	3.41 (3.42)	3.91 (2.44)	0.50 (0.98)	236
Other	3.39 (2.61)	3.69 (2.27)	0.30 (.34)	132
Total	3.41 (3.15)	3.83 (2.38)	0.42 (0.77)	368

Primary Analysis-Research Question Three-Living Situation

Care receivers' living situation was the final variable analyzed in research question three. Prior to completing this portion of the analysis, care receivers' living situation was collapsed from six to three categories. This change was made because combining these categories had the benefit of simplifying interpretation without losing meaningful information. The final three categories included: care receivers who lived with others, care receivers who lived with their caregiver, and care receivers living alone. Of these groups, 202 lived with other individuals (i.e., nursing home, foster care, assisted living, or with someone else), 71 lived with their caregiver, and 76 lived alone, while 19 individuals did not report their care receivers' living situation and were excluded from the analysis for a total sample of 349 caregivers.

The terms, "with others", "with caregivers", and "alone" will replace the terms care receivers who live with others, care receivers who live with their caregivers, and care receivers who live alone respectively.

Care Receiver Living Situation and Self-Efficacy

Hypothesis: There will be no interaction effect between care receiver living situation and pre-post test self-efficacy scores.

When comparing caregivers' pre-post class self-efficacy scores, (see Table 4.27), all three groups demonstrated an improvement of approximately 6 points. To assess the significance of these improvements, a 2 x 3 mixed design ANOVA was conducted. Caregivers' care recipient living situation was the between subjects variable with three levels (with caregivers, with others, or alone). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-efficacy was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and living situation,

$F(1,346)=.187$, $p < .830$, (see Table 4.27), as the three groups self-efficacy scores improved uniformly.

Care Receiver Living Situation and Self-Care

Hypothesis: There will be no interaction effect between care receiver living situation and pre-post test self-care scores.

When comparing caregivers' pre-post class self-care scores, (see Table 4.28), all three groups demonstrated an improvement of approximately 2 points. To assess the significance of these improvements, a 2 x 3 mixed design ANOVA was conducted. Caregivers' care recipient living situation was the between subjects variable with three levels (with caregivers, with others, or alone). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Self-care was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and living situation, $F(1,346)=.288$, $p < .750$, (see Table 4.28), as the three groups' self-care scores improved uniformly.

Care Receiver Living Situation and Management of Emotions

Hypothesis: There will be no interaction effect between care receiver living situation and pre-post test emotion scores.

When comparing caregivers' pre-post class emotion scores, (see Table 4.29), all three groups demonstrated improvements. For example, the emotion scores of caregivers whose care recipients lived alone demonstrated the largest gains as their scores improved 5.18 points while those caring for a recipient who lived with someone else demonstrated the smallest gains as their scores improved 3.54 points from pre-to-post class levels. To assess the significance of these improvements, a 2 x 3 mixed design ANOVA was conducted. Caregivers' care recipient living situation was the between subjects variable with three levels (with caregivers, with others, or alone). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Emotion was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and living situation, $F(1,346)=2.22$, $p < .110$, (see Table 4.29), as the three groups' emotion scores improved uniformly.

Care Receiver Living Situation and Help

Hypothesis: There will be no interaction effect between care receiver living situation and pre-post test help scores.

When comparing caregivers' pre-post class help scores, (see Table 4.30), all three groups demonstrated improvements. For example, the help scores of caregivers whose care recipients lived alone demonstrated the largest gains as their scores improved 0.30 points while those caring for someone living with someone else demonstrated the smallest gains as their scores improved 0.12 points from pre-to-post class scores. To assess the significance of these improvements, a 2 x 3 mixed design ANOVA was conducted. Caregivers' care recipient living situation was the between subjects variable with three levels (with caregivers, with others, or alone). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Help was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and help, $F(1,338)=1.05$, $p < .353$, (see Table 4.30), as the three groups' help scores improved uniformly.

Care Receiver Living Situation and Utilization of Community Resources

Hypothesis: There will be no interaction effect between care receiver living situation and pre-post test resource scores.

When comparing caregivers' pre-post class resource scores, (see Table 4.31), all three groups demonstrated improvements. For example, the resource scores of caregivers whose care recipients lived with others demonstrated the largest gains as their scores improved 0.61 points while those caring for someone who lived alone demonstrated the smallest gains as their scores improved .017 points from pre-to-post class scores. To assess the significance of these improvements, a 2 x 3 mixed design ANOVA was conducted. Caregivers' care recipient living situation was the between subjects variable with three levels (with caregivers, with others, and or alone). The Powerful Tools intervention was the within subjects variable with two levels (pre-test and post-test). Resource was the dependent variable. The analysis failed to demonstrate an interaction effect between treatment and living situation, $F(1,346)=.797$, $p < .451$, (see Table 4.31), as the three groups' resource scores changed uniformly.

Table 4.27

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Efficacy Scores by Care Receivers' Living Situation

		Powerful Tools		
Living Situation	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)	N
With Others	33.83 (7.27)	39.95 (6.04)	6.12 (1.23)	202
With Caregiver	34.81 (7.41)	41.46 (6.07)	6.65 (1.34)	71
Alone	34.63 (7.24)	40.66 (5.66)	6.03 (1.58)	76
Total	34.21 (7.29)	40.41 (5.98)	6.20 (1.31)	349

Table 4.28

Descriptive Statistics for Caregivers' Pre-Post Treatment Self-Care Scores by Care Receivers' Living Situation

		Powerful Tools		
Living Situation	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)	N
With Others	10.53 (3.76)	12.66 (3.15)	2.13 (0.61)	202
With Caregiver	10.30 (3.79)	12.06 (3.54)	1.76 (0.25)	71
Alone	10.53 (3.82)	12.46 (3.02)	1.93 (0.80)	76
Total	10.48 (3.77)	12.49 (3.20)	2.01 (0.57)	349

Table 4.29

Descriptive Statistics for Caregivers' Pre-Post Treatment Emotion Scores by Care Receivers' Living Situation

		Powerful Tools		
Living Situation	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)	N
With Others	47.20 (5.82)	50.73 (5.13)	3.53 (0.69)	202
With Caregiver	47.48 (5.29)	51.78 (4.71)	4.30 (0.58)	71
Alone	46.22 (6.11)	51.40 (4.19)	5.18 (1.92)	76
Total	47.04 (5.78)	51.09 (4.86)	4.05 (0.92)	349

Table 4.30

Descriptive Statistics for Caregivers' Pre-Post Treatment Help Scores by Care Receivers' Living Situation

		Powerful Tools		
Living Situation	Pre-Test *M* (SD)	Post-Test *M* (SD)	Score Change *M* (SD)	N
With Others	3.07 (1.08)	3.20 (0.96)	0.13 (0.12)	197
With Caregiver	3.21 (0.91)	3.36 (0.94)	0.15 (0.03)	70
Alone	3.38 (1.05)	3.67 (0.96)	0.29 (0.09)	74
Total	3.17 (1.04)	3.33 (0.97)	0.16 (0.07)	341

Table 4.31

Descriptive Statistics for Caregivers' Pre-Post Treatment Resource Scores by Care Receivers' Living Situation

		Powerful Tools		
Living	Pre-Test	Post-Test	Score Change	
Situation	*M* (SD)	*M* (SD)	*M* (SD)	N
With Others	2.84 (2.34)	3.45 (2.33)	0.61 (0.01)	202
With Caregiver	3.36 (3.38)	3.61 (2.14)	0.25 (1.24)	71
Alone	4.65 (4.12)	4.83 (2.45)	0.18 (1.67)	76
Total	3.34 (3.11)	3.78 (2.38)	0.44 (0.73)	349

CHAPTER FIVE

Summary

During the past several decades a literature has accumulated illuminating the negative mental health effects of caregiving. These studies consistently demonstrate that caregivers experience higher rates of clinical depression as well as depressive symptomology compared to non-caregiving individuals (Baumgarten et al., 1992; Cohen et al., 1990; Schubert et al., 2008; Schulz & Williamson, 1991; Zanetti et al., 1998).

Lines of research have extended beyond caregiver mental health to include the examination of the physical health consequences of providing care. This research has demonstrated that compared to non-caregivers, caregivers experience increased susceptibility to acquiring serious illnesses (Shaw et al., 1997), higher blood pressure rates akin to acute psychological stress (King et al., 1994), higher rates of immunological dysfunction (Kiecolt-Glaser et al., 1987), significantly slower wound healing rates (Kiecolt-Glasser et al., 1995), and increased rates of alcohol and other drug abuse (Chronister & Chan, 2006). Furthermore, Schulz and Beach (1999) found that caregivers experiencing physical or emotional “strain” in conjunction with their duties had higher mortality rates. In relation to physical health, physiological stress responses among caregivers have also been studied. For example, Vitaliano et al. (2003), reported that, compared to non-caregivers, caregivers had a 23% higher stress hormone response and a 15% lower level antibody response. Together, these studies have advanced scientific understanding of the mental and physical health consequences of stress upon caregivers.

Research has also demonstrated that, compared to the general population, caregivers experience higher stress levels regardless of their care receivers’ disability, medical condition, or illness type. For example, caregivers have been found to experience elevated stress levels when caring for individuals with: Alzheimer's disease (Schulz & Williamson 1991); cancer (Gaugler et al., 2005; Kim & Schultz, 2008); mental illness (Moller et al., 2009); heart disease (Whittingham, 2009); stroke (Grant et al., 2004); multiple sclerosis (Khan et al., 2007); arthritis (Riemsma et al., 1999); mental retardation and developmental delay (Caldwell, 2008); and traumatic brain and head injury (Chronister & Chan, 2006; Blake, 2008).

Studying caregiving interventions with the potential to ameliorate negative health consequences of stress have become important for two primary reasons; first, because of the large number of caregivers currently providing services, and second, due to the predicted future increase in demand for caregivers. For example, a study published by the National Alliance for Caregiving (2009) reported that from November 2008-2009 there were an estimated 48.9 million, or nearly one in five, Americans providing voluntary caregiving services for another adult. Increased caregiver demand will be fueled by a surge in the number of Americans turning 65-years-of-age and older. The most recent U.S. Census Bureau (2010) projections estimate that the number of individuals 65-years-of-age and older will double to more than 88.5 million by 2050. The number of aging individuals will dramatically increase the demand for caregivers.

The CDSMP was selected as a model for developing the PTC likely because of the CDSMPs extensive development, health improvements among participants, similarities among participants (i.e., age), and numerous publications demonstrating the programs efficacy. Similar to the development of the CDSMP, the PTC program underwent an extensive research and development phase where portions of the curriculum, teaching methods, and materials were completely changed or created for caregivers. Furthermore, special care was taken to create a curriculum, which promoted the self-efficacy, self-care, emotional stability, requests for help, and better awareness and use of community resources among caregiver participants. Promotion of caregiver self-efficacy was considered the most important theoretical agent for healthy caregiver change. As a result, the PTC program adopted four empirically validated self-efficacy enhancement strategies (e.g., skills mastery, modeling, reinterpretation of feelings and attitudes, and persuasion) based on their successful use in the CDSMP (Boise et al., 2005). These four strategies for promoting self-efficacy were originally outlined in Bandura's (1977) social learning and self-efficacy theory.

The PTC program is among a small number of caregiver interventions with scholarly research demonstrating the programs effectiveness. In spite of being among a few interventions with support, only the study published by Boise et al. (2005), examined and found support for all program outcomes. Other studies have also conducted research and found support for the PTC program, but assessed a limited number of outcomes (see: Kuhn et al., 2003; Kuhn et al., 2008; Savundranayagam & Brintnall-Peterson, 2010; Won et al., 2008). Therefore, the current study sought to address this research gap by assessing all program outcome score changes among caregivers following the program.

While these publications support the general effectiveness of the PTC program, little is known and less is understood concerning the relationship of caregivers' outcome score changes, or improvements in key areas, when considering caregiver age, gender, or educational attainment. In a similar vein, little is known about the relationship of caregivers' outcome score changes when considering care receivers' memory loss, medical condition, or living situation. Therefore, to assess the potential benefits of the PTC program based on these caregiver characteristics and to expand upon the current knowledge base gained from previous studies, the purpose of the present study was to answer the following research questions:

1. What is the effect of the PTC intervention on caregiver self-efficacy, self-care, management of emotions, the amount of and satisfaction with help from others, and the use of community resources?

2. Do caregiver characteristics including age, gender, and educational attainment interact with the PTC outcomes (i.e., self-efficacy, self-care, management of emotions, the amount of and satisfaction with help from others, and the use of community resources), and if so, how?

3. Do care recipient characteristics including memory loss, medical condition/illness type, and living situation interact with the PTC outcomes (i.e., self-efficacy, self-care management of emotions, the amount off and satisfaction with help from others, and the use of community resources), and if so, how?

A total of 715 caregivers met the study inclusion criteria and were used when selecting a random sample. It was not possible to calculate a response rate for this study as no records pertaining to the number of participants who received but declined or failed to submit a survey were kept. A pre-experimental one-group pre-test and post-test design was used for this study. Research question one was analyzed using a paired sample *t*-test to determine the potential effect of the PTC intervention on caregivers' pre-test and post-test self-efficacy, self-care, management of emotions, amount of and satisfaction with help from others, and use of community resources score changes. Research question two and three were analyzed using a mixed design consisting of a series of univariate ANOVAs to examine interaction effects between demographic variables and caregiver intervention on psychosocial adjustment outcomes.

Discussion

Research Question One

The first research question sought to determine the effect of the PTC intervention on caregiver's self-efficacy, self-care, emotions, help, and resources. The final statistics, listed in Table 4.1, revealed caregivers' self-efficacy, self-care, emotion, help, and resource scores significantly improved following the PTC intervention. These are important findings as they confirm, with an appropriately sized, randomly selected sample, collected over a long duration that caregivers significantly improved in all program outcomes.

Prior to this research, only a single study, published by Boise et al. (2005), examined and found significant support for caregiver pre-post class improvements in all PTC outcome domains. Therefore, a benefit of the current study is, for the first time, it is possible to make outcome finding comparisons with those published by Boise et al. (2005). Other PTC studies have also examined and found support for caregiver pre-post class improvements in two or three outcome domains. For example, Kuhn et al. (2003), Kuhn et al. (2008), and Savundranayagam and Brintnall-Peterson (2010) each assessed and reported self-efficacy and self-care score improvements following PTC. Furthermore, the study completed by Won et al. (2008) examined and found self-care and emotion score improvements among participants following the PTC intervention compared to pre-class levels. Finally, the study conducted by Kuhn et al. (2008) assessed and reported emotion scores among caregivers significantly appreciated following the intervention. Combining the results of the present study with findings reported in these publications provides additional support that the PTC intervention fosters improvement in areas shown to help caregivers cope with, reduce, or eliminate the unhealthy effects of caregiving stress.

Research Question Two-Interaction Effects

The second research question sought to examine outcome score changes according to the age, gender, and educational attainment of caregivers to assess potential interaction effects, see tables 4.2 - 4.16. Regarding these categories, caregiver data was analyzed by comparing: two age groups (45-64yr. vs. 65yr.+); two gender groups (male vs. female), and four educational groups (0-11grade, HS graduate, some college, and college grad.+). Positive interactions indicated caregivers' pre-post class outcome scores changed non-uniformly or, one group improved more or less than another.

Age

The analysis demonstrated an interaction effect by caregiver age for self-efficacy, emotion, and help scores. Younger caregivers, those in the 45-64yr. group, showed greater improvement in these three outcomes than individuals in the 65yr. group. There were no interaction effects by caregiver age for self-care or resource scores as they changed uniformly.

There are two published PTC studies describing outcome changes related to caregiver age. First, Won et al. (2008), published results suggesting younger caregivers demonstrated a greater degree of emotional improvement following PTC participation compared to older caregivers. The study completed by Kuhn et al. (2003), also published information about caregiver age and the PTC program outcomes. Kuhn et al. (2003) reported that the effect size increase in caregiver confidence, or self-efficacy, was "large" for spouse, or older, caregivers and "very large" for children, or younger, caregivers when assessing self-efficacy changes using Cohen's (1992) guidelines for interpreting effect sizes (p. 196). Combining present study results with the findings published by Won et al. (2008) and Kuhn et al. (2003) provides further evidence that younger caregivers are demonstrating age related effects in key PTC outcomes.

While Won et al. (2008), did not suggest or test a possible hypothesis for age related outcome differences, Kuhn et al. (2003), explored a possible explanation for this age phenomenon by testing the framework developed by Montgomery and Kosloski (2000). This framework hypothesized that the duration of caregiving is an important variable in intervention programs and in this case, may account for PTC outcome differences by age. Kuhn et al. (2003), tested this possibility and found no significant support to suggest that the caregiving duration could account for outcome differences by age.

A hypothesis, posed by the researcher of the current study, is older caregivers' outcome scores maybe lower because they experience more stress and burden than younger counterparts. This is because; typically older caregivers are spouses, while younger caregivers are adult-children. Related to this, Pinquart and Sorensen (2011), suggested that one might expect higher levels of distress among spouse than among adult-children caregivers and conducted a meta-analysis to assess possible differences. These authors found support for higher levels of psychological distress among spouse caregivers compared to adult-caregivers, lending support to such a hypothesis.

Gender

The analysis demonstrated an interaction effect by caregiver gender for self-care, emotion, and help scores. Female caregivers showed greater improvement in these outcomes over their male counterparts. There were no interaction effects by caregiver gender for self-efficacy and resource scores as they changed uniformly.

There are no studies examining gender and PTC outcomes; therefore, comparing results is not possible. In the absence of PTC literature regarding the relationship of outcomes and gender a brief review of the general caregiving literature is reviewed. In a meta-analysis examining gender differences, Pinquart and Sorensen (2006), reported female caregivers had to deal with higher levels of care recipient behavior problems, provided more hours of care, a higher number of caregiving tasks, more burden and depression, and lower subjective well-being and physical health. It is important to note these authors found most gender differences (i.e., stressors, social resources, and health) of a very small magnitude. For example, after applying Cohen's (1992) criteria, these researchers found that only gender differences in burden, depression, and the number of caregiving tasks were of practical importance as gender only explained 2.8% of the variance of depression, 2.7% of the variance of burden, and 1% of the variance of the number of caregiving tasks (Pinquart & Sorensen, 2006). As a result of such findings, it is plausible that female caregivers are "more stressed" than male counterparts when it comes to caregiving, and after participating in the PTC intervention their scores improve appreciably.

Education

The analysis demonstrated an interaction effect by caregiver education for emotion scores. Caregivers with a high school diploma, some college, or a college diploma+ showed greater emotion score improvement than those with a 0-11 grade education. There was no interaction effect by caregiver education for self-efficacy, self-care, help, and resource scores as these changed uniformly.

There are no studies examining caregiver education level and PTC outcomes; therefore, comparing results is not possible. In the absence of PTC literature regarding the relationship of outcomes and education a brief review of the general caregiving literature is reviewed. Butterworth et al. (2010), published a study related to the health of caregivers and their educational attainment. These researchers reported that holding other variables constant, being a woman coupled with having less education were associated with greater mental health symptoms (Butterworth et al., 2010).

Research Question Three-Interaction Effects

The third research question sought to examine caregiver outcome score changes according to their care receivers' memory loss, medical condition, and living situation to assess potential interaction effects, see Table 4.17 - 4.31. Regarding these categories, caregiver data was analyzed by comparing: four memory groups (none, mild, moderate, severe); two care receiver medical condition groups (Alzheimer's disease+ vs. Other+), and three care receiver living situation groups (living with someone else, living with caregiver, living alone). Positive interactions indicated caregivers' pre-post class outcome scores changed non-uniformly or, one group improved more or less than another.

Memory Loss, Medical Condition, Living Situation

With the exception of two interaction effects (i.e., caregiver resource scores interacting with care receiver memory loss and care receiver living situation), the analysis failed to demonstrate interaction effects for caregivers based on care receivers' memory loss, medical condition, or living situation. More specifically, caregivers' self-efficacy, self-care, emotion, help and resource scores changed uniformly regardless of their care receivers' memory loss, medical condition, or living situation. There are no studies examining caregivers' PTC outcomes related to their care receivers' memory loss, medical condition, or living situation; therefore, comparing results is not possible.

In the absence of PTC literature regarding the relationship of outcomes and care receivers' memory loss, medical condition, and living situation a brief review of the general caregiving literature is described.

Related to care receiver memory loss research, most research protocols use well-known empirically validated scales such as The Global Deterioration Scale (Reisberg et al., 1982), to describe memory loss severity and not simple subjective ratings captured in the PTC program (i.e., none, mild, moderate, severe). Evaluating the current memory results in conjunction with current research becomes difficult if not impossible, as there exists no way to convert PTC memory loss categories to other published scales.

The researcher assumed that care provision becomes more stressful among caregivers as care receiver memory loss severity increases. Based on this assumption the researcher presumed that the greatest outcome score differences would be between caregivers of individuals with no memory impairment compared to individuals with severe memory impairment. This working hypothesis was surprisingly not supported by the results of the study, as caregivers' outcome scores changed uniformly regardless of caregiver memory loss.

Related to care receiver medical condition research, there are studies demonstrating that providing care for individuals with a variety of conditions is stressful; however, some have been published showing that caring for individuals Alzheimer's disease is more stressful than caring for an individual with, for example, a physical impairment (Schulz & Martire, 2004). The researcher assumed, based on this study that caregivers providing services to those with Alzheimer's disease would experience the most stress and as a result, there would be an interaction effect. The study results did not confirm this hypothesis as caregivers' outcome scores changed uniformly regardless of care receivers' medical condition.

Pinquart and Sorensen (2007) published a meta-analysis exploring the living situation of care receivers and the impacts on caregiver health. Results demonstrated worse physical health among caregivers residing with their care receiver (Pinquart & Sorensen, 2007). Interestingly, these authors also reported that living with care receivers had a stronger impact on physical health compared to mental health which may indicate that health-related habits, like getting enough sleep as well as engaging in healthy eating patterns, may be impaired when residing with the care receiver (Pinquart & Sorensen, 2007). It was hypothesized, based on this publication, that caregivers living with their care receiver would likely have worse physical health and; therefore, demonstrate greater score improvements compared to care receivers living with someone else or alone. This hypothesis was not confirmed by the study results as caregivers scores changed uniformly regardless of where care receivers lived.

Implications

Study Suggestions Related to Caregiver Age

The results demonstrated younger caregivers' self-efficacy, emotion, and help scores improved more than their older counterparts. Two PTC studies have published similar findings based on caregiver age (see: Won et al., 2008; and Kuhn et al., 2003). It is recommended that future research be conducted to determine possible explanations for this phenomenon, as it could be attributable to a number of factors, including research methodology, the assessment tool, or program curriculum limitations. Once research helps to clarify why younger caregivers are experiencing greater improvements in these three outcomes it becomes possible to direct changes in the proper area(s).

Study Suggestions Related to Caregiver Gender

The results demonstrated that female caregivers' self-care, emotion, and help scores improved more than their male counterparts. It is highly recommended that a study be undertaken to see if these results are replicable, prior to undertaking research to assess why these results exist. This recommendation is made, because there are no other PTC publications assessing gender and program outcomes; therefore, this could be a spurious finding. If such a result is replicated, additional research should be directed to clarify why females are experiencing improvements over males so adjustments can be directed appropriately.

Study Suggestions Related to PTC Assessment Instrument

It is recommended that a Well-Being or Quality-of-Life (QOL) instrument be added to and given as a regular part of the PTC assessment process. This recommendation is made because the current PTC instrument lacks a caregiver health-related QOL scale, which would provide valuable health-related information. Both the Short Form-36 Health Survey (SF-36) as well as the Short Form-12 Health Survey (SF-12) is designed to yield physical health and mental health information. Additionally, the SF-36 has also been used to research the cost-effectiveness of treatments as well as monitor and compare disease burden. Furthermore, it is recommended that the 5-item Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen & Griffin, 1985), also be incorporated into and given as a regular part of the PTC assessment process, in the absence of a subjective well-being measure. Combining the PTC instrument with the SF-36 and the SWLS would not only provide quantifiable caregiver health-related and life-satisfaction information, but would also create numerous and valuable research opportunities not currently available.

The use of community resources scale also appears to be in need of revision as it failed to demonstrate a significant intra-correlation with self-care and emotion scales, see Table 3.18. To improve the information gathered by the scale and address this concern, it is recommended the question, “is this service available in your community?” be replaced with, “I know how to access community support and resources?”, which is taken from the 5-item Community Self-Efficacy scale developed by Degeneffe, Chan, Dunlap, Man, and Sung (2011). Revising this inquiry would likely improve the scale’s ability to discern if participants are learning of and using community resources as a result of their participation in the PTC intervention, which is what the scale seeks to assess. In addition to gathering better information about the services caregivers learn of and utilize as a result of PTC participation, this alteration may also help improve intra-correlations with other PTC scales.

Study Suggestions Related to Research Methodology

It is recommended that future PTC program studies utilize a Randomized Controlled Trial (RCT) study design. This suggestion is made because a RCT design helps to control threats to internal validity within studies, which allows researchers to definitively state, for example, that outcome improvements among caregivers are attributable to the PTC program. The current study design, a pre-experimental one group pre-post test lacks a control group, which creates the possibility that caregivers’ outcome improvements could be attributable to factors other than participation in the PTC program.

Strengths and Limitations

The current research study contains a number of sample and methodological related benefits. Some of the sample benefits included the use of a large data sample of PTC participants, which was collected over a long period of time, approximately 10 years. There are a number of methodological advantages, first, the researcher did not participate in or supervise the recruitment of program attendees, second participants were referred from a variety of sources, and third the program is open to the general public. The current research also used an *a priori* power analysis to determine an appropriate study sample size, which provides not only statistical significance but clinical relevance as well. Furthermore, study participants were selected at random providing stronger external validity, or the generalizeablity of study results. Together these study strengths culminate to create a robust PTC study.

Several limitations of this study should be noted. First, the study design, a pre-experimental one group pre-post test and lacked a control group, which creates a threat to internal validity, as the results may be attributable to factors other than participation in the PTC program. Next, participants were exclusively from Wisconsin, which could create possible external validity problems, as results may not be generalizable to caregivers in other states. Additionally, almost all of the study subjects were Caucasian, creating potential problems with generalizeablity of study results among individuals of varying races/ethnicities. Furthermore, the 18-44-year-old caregiver age group was excluded from question two analyses due to an insufficient sample size. As a result, it is not known how caregivers' outcome scores among this age group change compared to other age groups. Finally, more than half of the study sample was highly educated, potentially creating possible problems generalizing study results to individuals of varying socioeconomic status.

Conclusion

Current study findings demonstrated that caregivers' self-efficacy, self-care, emotion, help, and resource scores significantly improved following the PTC intervention compared to pre-class levels. This finding is significant because, for the first time, it is possible to compare similar results found by Boise et al. (2005), with the benefit of an appropriately sized, randomly selected sample, gathered over an extended period. The present research study also found, in a large majority of cases, that caregivers not only improved their outcome scores, but also did so in a uniform fashion, regardless of their age, gender, or educational attainment. Study findings also demonstrated that irrespective of care receivers' memory loss, medical condition, or living situation that PTC outcome scores among caregivers also changed uniformly. These results are significant because this is the first systematic PTC outcome study assessing these caregiver and care receiver characteristics. Based on these findings, caregivers appear to benefit from the PTC program regardless of their age, gender, or education and in spite of their care receivers' memory loss, medical condition, or living situation.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD NOTICE OF APPROVAL

Notice of Action

University of Wisconsin–Madison
Institutional Review Board (IRB)

Principal Investigator:	Ruth T Lynch, Ph.D.
Department:	Rehabilitation Psychology and Special Education
Co-Investigator:	Nicholas J. McLain
Point of Contact:	Nicholas J. McLain
Protocol Title:	Caregiver Self-Efficacy, Self-Care, & Management of Emotions: An Analysis of the Powerful Tools for Caregivers Program
Protocol Number:	SE-2012-0002
IRB:	Social & Behavioral Sciences IRB (Contact: 263-2320)
Committee Action:	Approved on: **January 10, 2012** Expires: **January 09, 2013**

Special Notes or Instructions: This protocol is approved per 45 CFR, 46.110 (b)(1), 7, as a study of group characteristics. The IRB has waived the documentation of written consent per 45 CFR, 46.116 (d), as the research could not otherwise practicably be carried out. Risk is considered minimal.

INVESTIGATOR RESPONSIBILITIES:

Unless this protocol is exempt, or the IRB specifically waived the use of written consent, an approved consent form that is stamped with approval and expiration dates can be found on IRB WebKit. To find the stamped consent form, go to IRB WebKit at https://rcr.gradsch.wisc.edu/irbwebkit/Login.asp. Login and open this protocol number. The link to the consent form can be found on the left side of the page. All copies of the form must be made from this original. Any changes to the consent form must be approved in advance by the IRB.

Any changes to the protocol must be approved by the IRB before they are implemented.

Any new information that would affect potential risks to subjects, any problems or adverse reactions must be reported immediately to the IRB contact listed above.

If the research will continue beyond the expiration date indicated above, a request for renewal/continuing review must be submitted to the IRB. You must obtain approval before the current expiration date. If you do not obtain approval by the expiration date noted above, you are not authorized to collect any data until the IRB re-approves your protocol.

Signed consent forms must be retained on campus for seven years following the end of the project.

If you are continuing to analyze data, even though you are no longer collecting data, you should keep this protocol active.

APPENDIX B
LETTER OF SUPPORT

THE UNIVERSITY of WISCONSIN
MADISON

HUMAN DEVELOPMENT & FAMILY STUDIES

School of Human Ecology
Third Floor Middleton Bldg.
1305 Linden Drive
Madison WI 53706
608/263-2381
FAX: 608/265-6048

November 7, 2011

Nicholas McLain
Doctoral Student
Rehabilitation Psychology & Special Education
University of Wisconsin-Madison
1000 Bascom Mall, Rm. 431B
Madison, WI 53706

Dear Mr. McLain,

I am writing in response to your request for access to the Taking Care of You…Powerful Tools for Caregiving survey database managed by the University of Wisconsin-Extension. As we discussed previously, after receiving IRB approval from the university, you have our full support to use the database to assist you in answering your valuable research questions.

You also have my individual support in pursuing this important line of caregiver research, and with the exception of one of your research questions, have not been previously addressed in the caregiver literature. I wish you the best of luck in your use of this database upon study approval.

Sincerely,

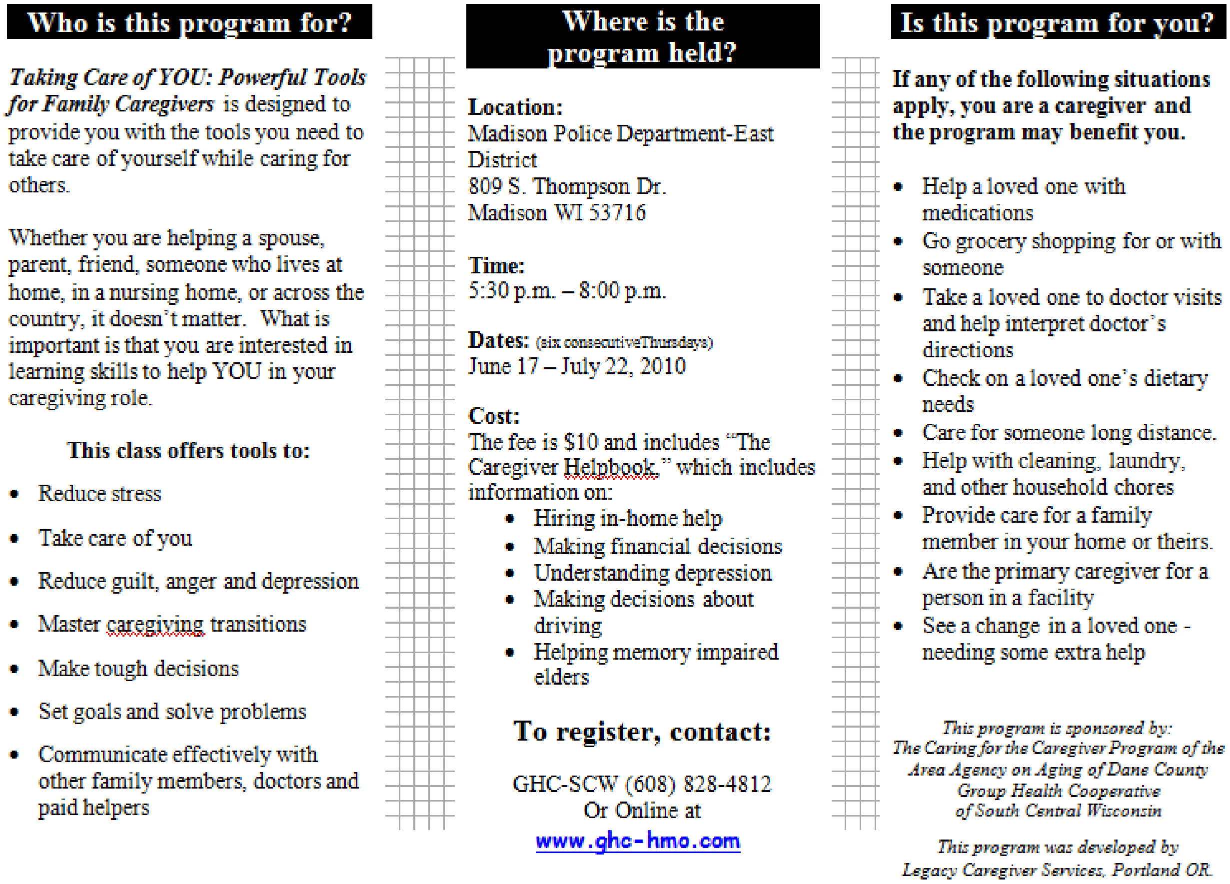
Clifton E. Barber

Clifton E. Barber

Associate Dean for Outreach & Extension
School of Human Ecology
University of Wisconsin-Madison

334 Middleton Bldg
1305 Linden Dr
Madison, WI 53706-1523

APPENDIX C
RECRUITMENT FLYER



Who is this program for?

Taking Care of YOU: Powerful Tools for Family Caregivers is designed to provide you with the tools you need to take care of yourself while caring for others.

Whether you are helping a spouse, parent, friend, someone who lives at home, in a nursing home, or across the country, it doesn't matter. What is important is that you are interested in learning skills to help YOU in your caregiving role.

This class offers tools to:

- Reduce stress
- Take care of you
- Reduce guilt, anger and depression
- Master caregiving transitions
- Make tough decisions
- Set goals and solve problems
- Communicate effectively with other family members, doctors and paid helpers

Where is the program held?

Location:
Madison Police Department-East District
809 S. Thompson Dr.
Madison WI 53716

Time:
5:30 p.m. – 8:00 p.m.

Dates: (six consecutiveThursdays)
June 17 – July 22, 2010

Cost:
The fee is $10 and includes "The Caregiver Helpbook," which includes information on:

- Hiring in-home help
- Making financial decisions
- Understanding depression
- Making decisions about driving
- Helping memory impaired elders

To register, contact:

GHC-SCW (608) 828-4812
Or Online at
www.ghc-hmo.com

Is this program for you?

If any of the following situations apply, you are a caregiver and the program may benefit you.

- Help a loved one with medications
- Go grocery shopping for or with someone
- Take a loved one to doctor visits and help interpret doctor's directions
- Check on a loved one's dietary needs
- Care for someone long distance.
- Help with cleaning, laundry, and other household chores
- Provide care for a family member in your home or theirs.
- Are the primary caregiver for a person in a facility
- See a change in a loved one - needing some extra help

This program is sponsored by:
The Caring for the Caregiver Program of the Area Agency on Aging of Dane County
Group Health Cooperative of South Central Wisconsin

This program was developed by Legacy Caregiver Services, Portland OR.

Please Join Us!

To register for
"Taking Care of YOU:
Powerful Tools for Caregivers"
fill out this form and enclose a check
for $10.00.

Name: ______________________

Address: ______________________

____

Phone: ______________________

Email: ______________________

Make checks payable to:

Group Health Cooperative of South
Central Wisconsin
Send payment and registration to:
Administrative Offices
Attn: Amy Rockhill
1265 John Q. Hammons Drive
PO Box 44971
Madison WI 53744-4971

Space is limited.
Register soon!

Answers to concerns caregivers have about finding time to attend:

I can't leave my loved one alone…
We understand, and will arrange for someone to stay with your loved one while you attend.

I don't have time to attend a class…
The time spent learning new tools for caregiving and spending time with other caregivers with similar experiences will be extremely worthwhile. It will also help to make the rest of your time more enjoyable and productive.

I don't have a ride…
A ride can be arranged for you each week.

Other concerns…
Give us a call so we can solve other barriers that may prevent you from joining us.

For more information, contact:

Claire Culbertson
Caregiver Program Coordinator
Area Agency on Aging
(608) 261-5679

Taking Care of YOU: Powerful Tools for Caregivers

A program designed for family caregivers will be held on

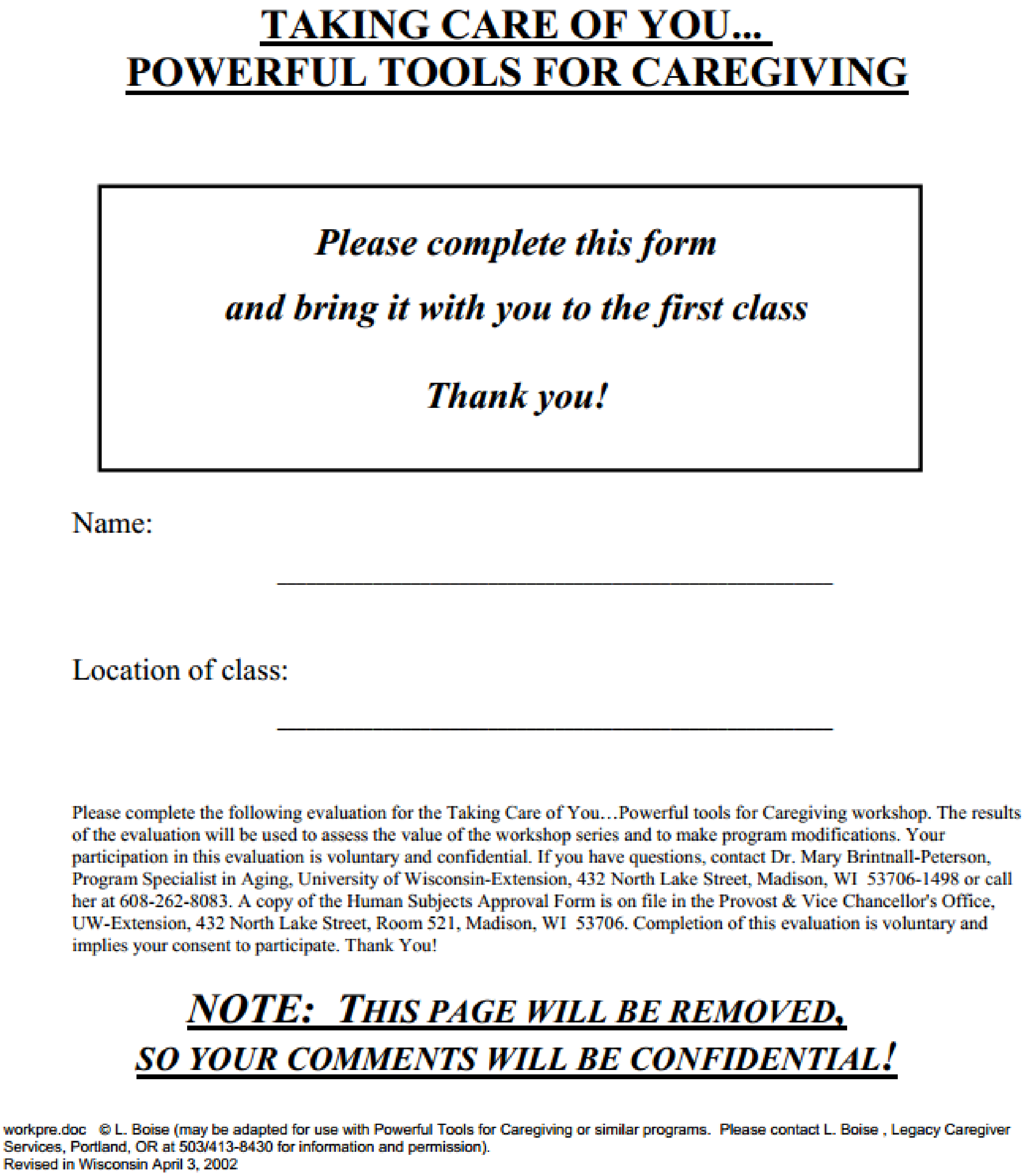
Thursdays
June 17, 2010
Through
July 22, 2010

Madison Police Department
East District

5:30 p.m. – 8:00 p.m.

Caring for the Caregiver

APPENDIX D
PRE-CLASS CONSENT FORM



ID # __________

TAKING CARE OF YOU...
POWERFUL TOOLS FOR CAREGIVING

Please complete this form

and bring it with you to the first class

Thank you!

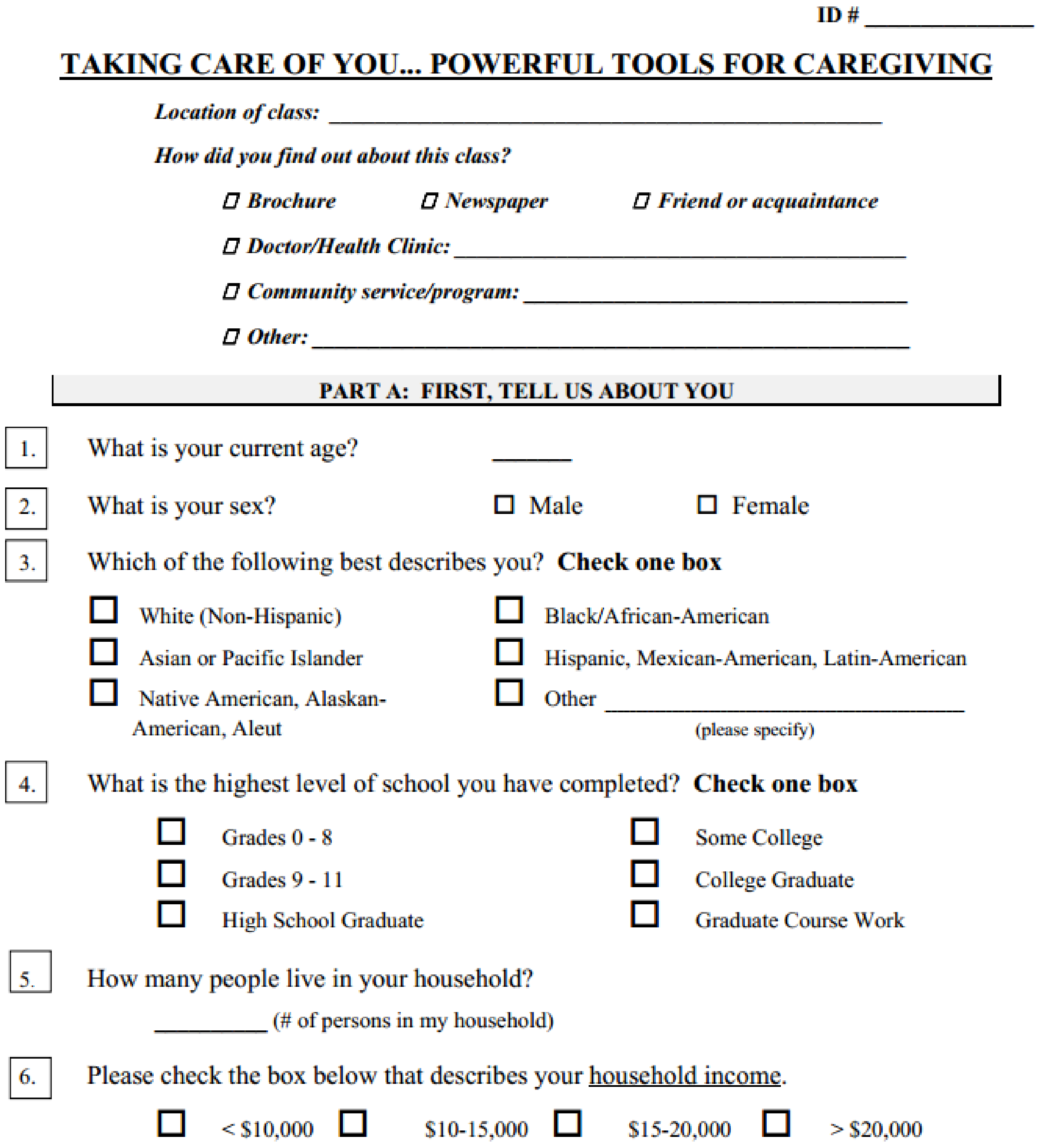
Name: ____

Location of class: ____

Please complete the following evaluation for the Taking Care of You…Powerful tools for Caregiving workshop. The results of the evaluation will be used to assess the value of the workshop series and to make program modifications. Your participation in this evaluation is voluntary and confidential. If you have questions, contact Dr. Mary Brintnall-Peterson, Program Specialist in Aging, University of Wisconsin-Extension, 432 North Lake Street, Madison, WI 53706-1498 or call her at 608-262-8083. A copy of the Human Subjects Approval Form is on file in the Provost & Vice Chancellor's Office, UW-Extension, 432 North Lake Street, Room 521, Madison, WI 53706. Completion of this evaluation is voluntary and implies your consent to participate. Thank You!

NOTE: THIS PAGE WILL BE REMOVED, SO YOUR COMMENTS WILL BE CONFIDENTIAL!

APPENDIX E
PRE-CLASS ASSESSMENT INSTRUMENT



ID # ______________

TAKING CARE OF YOU... POWERFUL TOOLS FOR CAREGIVING

Location of class: ____

How did you find out about this class?

☐ ***Brochure*** ☐ ***Newspaper*** ☐ ***Friend or acquaintance***

☐ ***Doctor/Health Clinic:*** _____________________________________

☐ ***Community service/program:*** ______________________________

☐ ***Other:*** ____

PART A: FIRST, TELL US ABOUT YOU

1. What is your current age? ______

2. What is your sex? ☐ Male ☐ Female

3. Which of the following best describes you? **Check one box**

☐ White (Non-Hispanic)
☐ Asian or Pacific Islander
☐ Native American, Alaskan-American, Aleut
☐ Black/African-American
☐ Hispanic, Mexican-American, Latin-American
☐ Other ______________________________ (please specify)

4. What is the highest level of school you have completed? **Check one box**

☐ Grades 0 - 8
☐ Grades 9 - 11
☐ High School Graduate
☐ Some College
☐ College Graduate
☐ Graduate Course Work

5. How many people live in your household?

_________ (# of persons in my household)

6. Please check the box below that describes your household income.

☐ < $10,000 ☐ $10-15,000 ☐ $15-20,000 ☐ > $20,000

PART B: THE PERSON YOU CARE FOR

If you are caring for <u>more</u> than one person,
please answer these questions
for the person to whom you provide the <u>most</u> care.

7. Are you currently caring for or helping a family member or friend (including persons who live in a nursing home or other care facility)?

☐ YES ☐ NO

8. Who is the person you are helping?

Check one box

☐ Your SPOUSE
☐ Your PARENT
☐ Your MOTHER-IN-LAW or FATHER-IN-LAW
☐ Other (please describe): ____________________________________

9. Where does the person you are helping currently live? **Check one box**

☐ In a nursing home
☐ In adult foster care home
☐ In assisted living facility
☐ In the same household as you
☐ With someone else
☐ Alone in their own home/apartment
☐ Other (please specify) ___________________________

10. Does the person you are helping have any of the following conditions?
Check any that apply

☐ Alzheimer's Disease or other dementia
☐ Parkinson's Disease or other movement disorder
☐ Stroke
☐ Other (please describe)_______________________________________
☐ Diabetes
☐ Heart Disease
☐ Cancer

11. Does the person you are caring for have any trouble with memory loss?
Check one box

☐ NO ☐ YES

If YES, how severe? **Check one box**

☐ Mild ☐ Moderate ☐ Severe

12. How often do you do any of the following activities for the person you are helping? **(If you are helping more than one person, answer these questions for the person you help the most.)**

Check one box on each line	**NOT AT ALL**	**SOME DAYS BUT NOT EVERY DAY**	**DAILY, OR ALMOST DAILY**
Personal care, such as dressing/undressing, or bathing/showering	☐	☐	☐
Household help, such as housekeeping, using the telephone, handling finances, or managing other household affairs	☐	☐	☐
Arranging for care or help, such as contacting agencies or professionals about services, or taking the person to the doctor	☐	☐	☐

PART C: ISSUES AND CONCERNS IN CAREGIVING

13. What is your most important concern related to your caregiving?

____

____

____

____

____

14. During the past week (even if it was not a typical week), how much total time (for the entire week) did you spend exercising (e.g., strengthening or stretching exercises, walking for exercise, dancing, bicycling, or other forms of exercise)?

☐ None
☐ Less than 30 minutes per week
☐ 30-60 minutes per week
☐ 1-3 hours per week
☐ > 3 hours per week

15. During the past week (even if it was not a typical week), how much total time (for the entire week) did you do stress management or relaxation techniques?

☐ None
☐ Less than 30 minutes per week
☐ 30-60 minutes per week
☐ 1-3 hours per week
☐ > 3 hours per week

16. People have many different ways to relax. During the past week (even if it was not a typical week), how many **times** did you engage in a relaxation activity (examples might be progressive muscle relaxation, imagery, prayer, meditation, or reading, napping, listening to music for relaxation)?

☐ None ________ times

Describe what you do to relax: ____

17. In relation to your **own** health, during the past 3 months, have you:

	No	Yes
Put off going to the doctor	☐	☐
Failed to stay in bed when ill	☐	☐
Postponed getting regular checkups or exams	☐	☐
Canceled or missed medical appointments	☐	☐
Failed to get enough rest	☐	☐
Taken medications improperly (too little, too much, not at all)	☐	☐
Failed to get enough exercise	☐	☐
Eaten poorly	☐	☐
Put off recreational activities you enjoy (e.g., socializing with friends, attending church, etc.)	☐	☐

PART D: YOUR CONFIDENCE AS A CAREGIVER

18. For each of the following questions, please circle the number that best corresponds to your confidence in doing those tasks at the present time. **Please circle the appropriate number. Answer every question as best you can.**

	How confident are you that you can:	NO CONFIDENCE	LITTLE CONFIDENCE	MODERATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT
a)	Get help you need with daily tasks (such as housecleaning, yardwork, shopping, cooking, or transportation)?	**1**	**2**	**3**	**4**	**5**
b)	Use relaxation as a way to cope?	**1**	**2**	**3**	**4**	**5**
c)	Keep from feeling sad or down in the dumps?	**1**	**2**	**3**	**4**	**5**
d)	Do something to make yourself feel better when you are feeling discouraged?	**1**	**2**	**3**	**4**	**5**
e)	Cope on a day-to-day basis with the stress of caring for the person you are helping?	**1**	**2**	**3**	**4**	**5**
f)	Deal with an increase in the care needs of this person?	**1**	**2**	**3**	**4**	**5**
g)	Discuss openly with the doctor any concerns or problems that you may have related to your caregiving responsibilities?	**1**	**2**	**3**	**4**	**5**
h)	Talk with paid caregivers or facility staff about your family member's care needs.	**1**	**2**	**3**	**4**	**5**

	How confident are you that you can:	NO CONFIDENCE	SLIGHTLY CONFIDENT	MODERATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT
i)	Discuss with family members your needs and/or concerns related to caregiving?	**1**	**2**	**3**	**4**	**5**
j)	Discuss with friends your needs and/or concerns related to caregiving?	**1**	**2**	**3**	**4**	**5**
k)	Talk openly with the person you are helping about his/her illness?	**1**	**2**	**3**	**4**	**5**

PART E: THOUGHTS OR FEELINGS ABOUT YOURSELF

19. Thinking about the things you do as a caregiver, please complete the following:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I regularly remind myself about how important my caregiving is.	☐	☐	☐	☐
I feel good about what I am doing as a caregiver.	☐	☐	☐	☐
I tell myself I am doing good things in my caregiving.	☐	☐	☐	☐

20. We'd like to ask you about how you've been feeling these days. Indicate to what extent you felt this way in the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt very critical of others	☐	☐	☐	☐
I became easily annoyed or irritated	☐	☐	☐	☐
I had temper outbursts over things that are not important	☐	☐	☐	☐
I got angry over things that are not important	☐	☐	☐	☐

21. Below is a list of problems and complaints that people sometimes have. Indicate to what extent you have felt this way in the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt guilty that I did not do more for the person I am helping.	☐	☐	☐	☐
I felt that I have not done as much in the past as I could or should have for this person.	☐	☐	☐	☐
I blamed myself for having created the difficulties.	☐	☐	☐	☐
I criticized or lectured myself on what I should have done differently.	☐	☐	☐	☐

22. How much of the time during the past month:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
Have you felt calm and peaceful?	☐	☐	☐	☐
Have you felt down-hearted and blue?	☐	☐	☐	☐
Have you been a happy person?	☐	☐	☐	☐
Have you been a very nervous person?	☐	☐	☐	☐
Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐

PART F: SUPPORT FROM OTHERS

23. During the last 6 months, have you considered or looked into placement at a care facility?

Check one box ☐ NO ☐ YES ☐ ALREADY IN A CARE FACILITY

24. How would you describe the amount of help you receive from all sources (including family members, friends, and paid providers) in caring for this person?

Circle the best number

I GET NO HELP	I GET A LITTLE HELP	I GET A MODERATE AMOUNT OF HELP	I GET QUITE A BIT OF HELP	I GET A LOT OF HELP
1	2	3	4	5

25. How satisfied are you with the help you receive from others?
Circle the best number

NOT SATISFIED AT ALL	SLIGHTLY SATISFIED	MODERATELY SATISFIED	QUITE SATISFIED	VERY SATISFIED
1	2	3	4	5

26. Below is a list of services that you may have used or need in caring for your family member or friend. Please check those that you have used in the past year and if they are/are not available in your community (**to the best of your knowledge**).

	Have you used this service in the past year?		**Is this service available in your community?**		
Service	***Yes***	***No***	***Yes***	***No***	***Don't Know***
Chore services–basic house-cleaning, meal prep, yardwork, etc.	☐	☐	☐	☐	☐
Personal care (help with bathing, dressing, etc.)	☐	☐	☐	☐	☐
Senior center/social activities program for your family member	☐	☐	☐	☐	☐
Meals (group or home-delivered)	☐	☐	☐	☐	☐
Care facility placement (nursing home, foster care, other)	☐	☐	☐	☐	☐
In-home respite/companion service	☐	☐	☐	☐	☐
Out-of-home respite (daycare)	☐	☐	☐	☐	☐
Transportation	☐	☐	☐	☐	☐
Classes where you can learn about the medical condition of the person you are helping	☐	☐	☐	☐	☐
Support group for <u>you</u>	☐	☐	☐	☐	☐
Service which provides help in arranging for services for your family member (case management)	☐	☐	☐	☐	☐
Help with insurance forms, legal advice, or financial planning	☐	☐	☐	☐	☐
Counseling for emotional support (professional, counselor, pastor)	☐	☐	☐	☐	☐

27. What other services have you used?

____

____

____

____

28. What other services would be helpful for you?

____

____

____

____

29. What problems, if any, have you had getting the help or services you need in caring for your family member or friend?

____

____

____

____

30. Is there anything else you think is important to tell us about your caregiving situation?

____

____

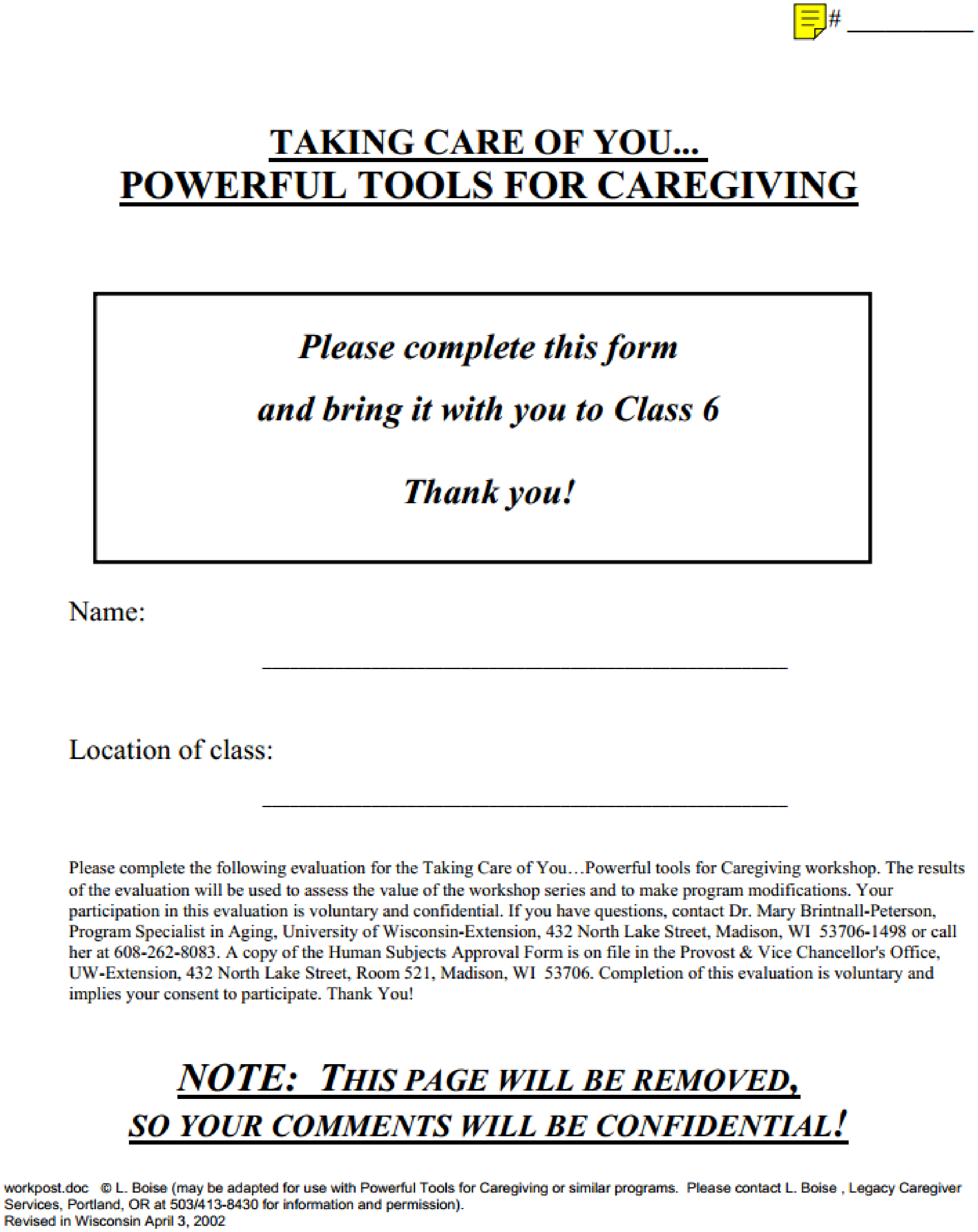
____

____

DID YOU ANSWER <u>ALL</u> OF THE QUESTIONS?

THANK YOU FOR TAKING TIME TO COMPLETE THIS QUESTIONNAIRE.

APPENDIX F
POST-CLASS CONSENT FORM



______

TAKING CARE OF YOU…
POWERFUL TOOLS FOR CAREGIVING

Please complete this form

and bring it with you to Class 6

Thank you!

Name: ____

Location of class: ____

Please complete the following evaluation for the Taking Care of You…Powerful tools for Caregiving workshop. The results of the evaluation will be used to assess the value of the workshop series and to make program modifications. Your participation in this evaluation is voluntary and confidential. If you have questions, contact Dr. Mary Brintnall-Peterson, Program Specialist in Aging, University of Wisconsin-Extension, 432 North Lake Street, Madison, WI 53706-1498 or call her at 608-262-8083. A copy of the Human Subjects Approval Form is on file in the Provost & Vice Chancellor's Office, UW-Extension, 432 North Lake Street, Room 521, Madison, WI 53706. Completion of this evaluation is voluntary and implies your consent to participate. Thank You!

NOTE: THIS PAGE WILL BE REMOVED,
SO YOUR COMMENTS WILL BE CONFIDENTIAL!

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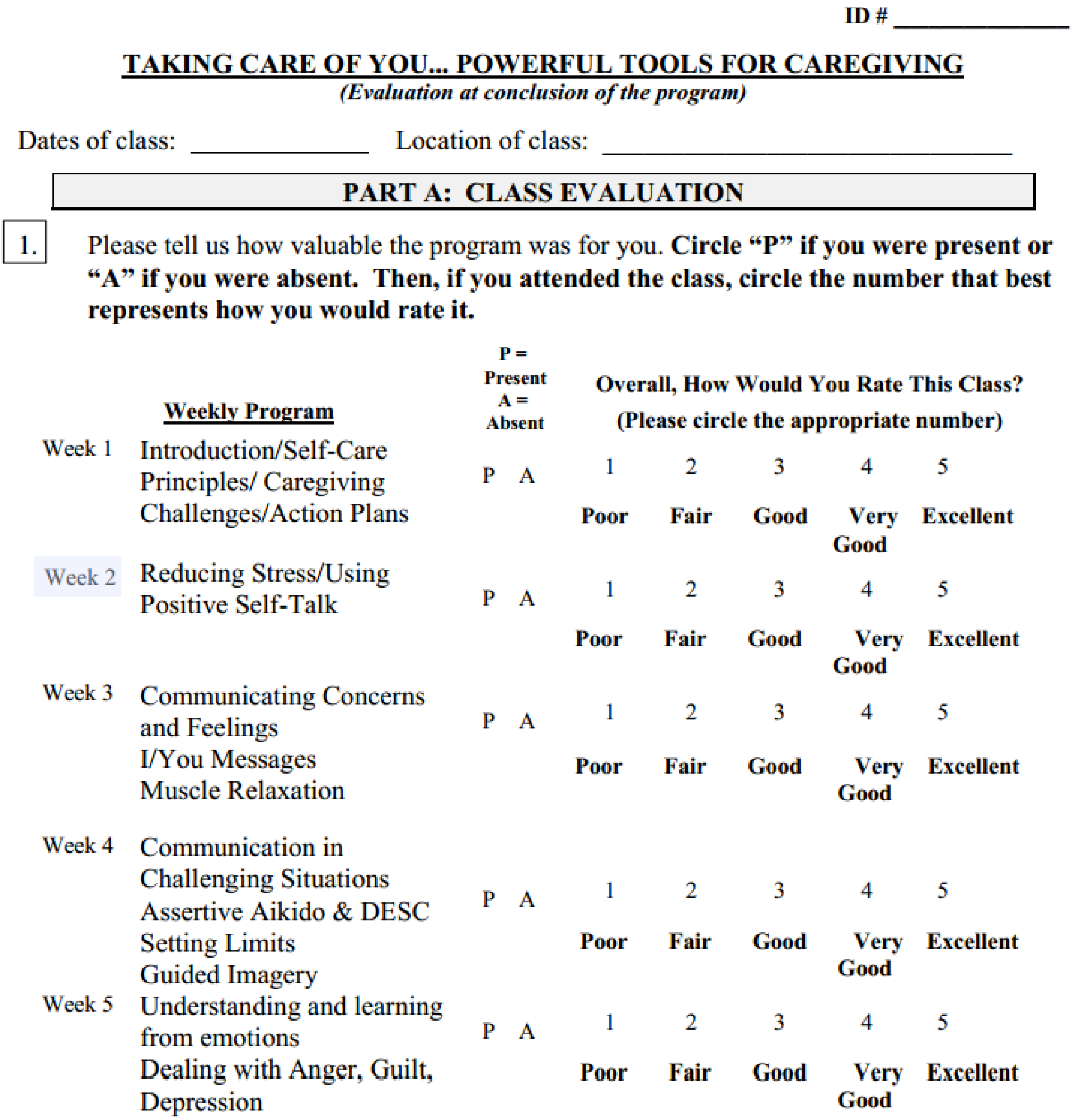
Revised in Wisconsin April 3, 2002

APPENDIX G

POST-CLASS ASSESSMENT INSTRUMENT



ID # ______________

TAKING CARE OF YOU... POWERFUL TOOLS FOR CAREGIVING

(Evaluation at conclusion of the program)

Dates of class: ______________ Location of class: ________________________________

PART A: CLASS EVALUATION

1. Please tell us how valuable the program was for you. **Circle "P" if you were present or "A" if you were absent. Then, if you attended the class, circle the number that best represents how you would rate it.**

	Weekly Program	**P = Present A = Absent**	**Overall, How Would You Rate This Class? (Please circle the appropriate number)**				
Week 1	Introduction/Self-Care Principles/ Caregiving Challenges/Action Plans	P A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**
Week 2	Reducing Stress/Using Positive Self-Talk	P A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**
Week 3	Communicating Concerns and Feelings I/You Messages Muscle Relaxation	P A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**
Week 4	Communication in Challenging Situations Assertive Aikido & DESC Setting Limits Guided Imagery	P A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**
Week 5	Understanding and learning from emotions Dealing with Anger, Guilt, Depression	P A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**

Week 6	Mastering Caregiving Decisions: Decision-Making & Future Planning	P	A	1 **Poor**	2 **Fair**	3 **Good**	4 **Very Good**	5 **Excellent**

2. What did you like best about the program? (Please refer to page 1 for weekly topics):

____

____

____

3. Have you used any of the tools presented in class? If so, check (Π) the tools you have used:

___ Action Plans

___ Relaxation Tools

___ Positive Self-Talk

___ "I" Messages

___ Assertive Communication: DESC

___ Aikido Communication Style

___ Family Meeting

___ Long-Range Goal-Setting

___ Other: ____

___ Other: ____

Comments: ____

____

4. Did the class help you with specific concerns or problems related to your caregiving? If so, how?

____

____

____

5. Overall, how would you rate the program? **(Please circle the appropriate number.)**

Poor	**Fair**	**Good**	**Very Good**	**Excellent**
1	2	3	4	5

Comments: ____

____

6. What suggestions do you have for making this class better?

____

____

____

PART B: YOUR CONFIDENCE AS A CAREGIVER

For each of the following questions, please circle the number that best corresponds to your confidence in doing those things at the present time. **Please circle the appropriate number. Answer every question as best you can.**

7.	**How confident are you that you can…?**	NO CONFIDENCE	LITTLE CONFIDENCE	MODERATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT
a)	Get help you need with daily tasks (such as housecleaning, yardwork, shopping, cooking, or transportation)?	**1**	**2**	**3**	**4**	**5**
b)	Use relaxation as a way to cope?	**1**	**2**	**3**	**4**	**5**

	How confident are you that you can…?	NO CONFIDENCE	LITTLE CONFIDENCE	MODERATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT
c)	Keep from feeling sad or down in the dumps?	**1**	**2**	**3**	**4**	**5**
d)	Do something to make yourself feel better when you are feeling discouraged?	**1**	**2**	**3**	**4**	**5**
e)	Cope on a day-to-day basis with the stress of caring for the person you are helping?	**1**	**2**	**3**	**4**	**5**
f)	Deal with an increase in the care needs of this person?	**1**	**2**	**3**	**4**	**5**
g)	Discuss <u>with the doctor</u> any concerns or problems that you may have related to your caregiving responsibilities?	**1**	**2**	**3**	**4**	**5**
h)	Talk with paid caregivers or facility staff about your family member's care needs.	**1**	**2**	**3**	**4**	**5**
i)	Discuss <u>with family members</u> your needs and/or concerns related to caregiving?	**1**	**2**	**3**	**4**	**5**
j)	Discuss <u>with friends</u> your needs and/or concerns related to caregiving?	**1**	**2**	**3**	**4**	**5**
k)	Talk openly <u>with the person you are helping</u> about his/her illness?	**1**	**2**	**3**	**4**	**5**

PART C: THOUGHTS OR FEELINGS ABOUT YOURSELF

8. Thinking about the things you do as a caregiver, please complete the following:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I regularly remind myself about how important my caregiving is.	☐	☐	☐	☐
I feel good about what I am doing as a caregiver.	☐	☐	☐	☐
I tell myself I am doing good things in my caregiving.	☐	☐	☐	☐

9. We'd like to ask you about how you've been feeling these days. Indicate to what extent you felt this way in the past week:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt very critical of others	☐	☐	☐	☐
I became easily annoyed or irritated	☐	☐	☐	☐
I had temper outbursts over things that are not important	☐	☐	☐	☐
I got angry over things that are not important	☐	☐	☐	☐

10. Below is a list of problems and complaints that people sometimes have. Indicate to what extent you have felt this way in the past week:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
I felt guilty that I did not do more for the person I am helping.	☐	☐	☐	☐
I felt that I have not done as much in the past as I could or should have for this person.	☐	☐	☐	☐
I blamed myself for having created the difficulties.	☐	☐	☐	☐
I criticized or lectured myself on what I should have done differently.	☐	☐	☐	☐

11. How much of the time <u>during the past week</u>:

Check one box on each line

	NEVER	SOMETIMES	OFTEN	ALWAYS
Have you felt calm and peaceful?	☐	☐	☐	☐
Have you felt down-hearted and blue?	☐	☐	☐	☐
Have you been a happy person?	☐	☐	☐	☐
Have you been a very nervous person?	☐	☐	☐	☐
Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐

12. During the past week (even if it was <u>not</u> a typical week), how much total time (for the entire week) did you spend exercising (e.g., strengthening or stretching exercises, walking for exercise, dancing, bicycling, or other forms of exercise)?

☐	☐	☐	☐	☐
None	Less than 30 minutes per week	30-60 minutes per week	1-3 hours per week	> 3 hours per week

13. During the past week (even if it was <u>not</u> a typical week), how much total time (for the entire week) did you do stress management or relaxation techniques?

☐	☐	☐	☐	☐
None	Less than 30 minutes per week	30-60 minutes per week	1-3 hours per week	> 3 hours per week

14. People have many different ways to relax. During the past week (even if it was <u>not</u> a typical week), how many **times** did you engage in a relaxation activity (examples might be progressive muscle relaxation, imagery, prayer, meditation, or reading, napping, listening to music for relaxation)?

☐ None _______ times

Describe what you do to relax: ______________________________________

15. In relation to your **own** health, during the past month, have you…?

	NO	**YES**
Put off going to the doctor	☐	☐
Failed to stay in bed when ill	☐	☐
Postponed getting regular checkups or exams	☐	☐
Canceled or missed medical appointments	☐	☐
Failed to get enough rest	☐	☐
Taken medications improperly (too little, too much, not at all)	☐	☐
Failed to get enough exercise	☐	☐
Eaten poorly	☐	☐
Put off recreational activities you enjoy (e.g., socializing with friends, attending church, etc.)	☐	☐

PART D: SUPPORT FROM OTHERS

16. During the past month, have you considered or looked into placement at a care facility?

Check one box ☐ NO ☐ YES ☐ ALREADY IN A CARE FACILITY

17. How would you describe the amount of help you receive from all sources (including family members, friends, and paid providers) in caring for this person?
Circle the best number

I GET NO HELP	**I GET A LITTLE HELP**	**I GET A MODERATE AMOUNT OF HELP**	**I GET QUITE A BIT OF HELP**	**I GET A LOT OF HELP**
1	**2**	**3**	**4**	**5**

18. How satisfied are you with the help you receive from others?
Circle the best number

NOT SATISFIED AT ALL	**SLIGHTLY SATISFIED**	**MODERATELY SATISFIED**	**QUITE SATISFIED**	**VERY SATISFIED**
1	**2**	**3**	**4**	**5**

19. Below is a list of services that you may have used or need in caring for your family member or friend. Please check those that you have used in the past year and if they are/are not available in your community (**to the best of your knowledge**).

	Have you used this service in the past year?		**Is this service available in your community?**		
Service	**Yes**	**No**	**Yes**	**No**	**Don't Know**
Chore services–basic house-cleaning, meal prep, yardwork	☐	☐	☐	☐	☐
Personal care (help with bathing, dressing, etc.)	☐	☐	☐	☐	☐
Senior center/social activities program for your family member	☐	☐	☐	☐	☐
Meals (group or home-delivered)	☐	☐	☐	☐	☐
Care facility placement (nursing home, foster care, other)	☐	☐	☐	☐	☐
In-home respite/companion service	☐	☐	☐	☐	☐
Out-of-home respite (daycare)	☐	☐	☐	☐	☐
Transportation	☐	☐	☐	☐	☐
Classes where you can learn about the medical condition of the person you are helping	☐	☐	☐	☐	☐
Support group for you	☐	☐	☐	☐	☐
Service which provides help in arranging for services for your family member (case management)	☐	☐	☐	☐	☐
Help with insurance forms, legal advice, or financial planning	☐	☐	☐	☐	☐
Counseling for emotional support (professional, counselor, pastor)	☐	☐	☐	☐	☐

20. What other services have you used?

____

____

____

____

21. What other services would be helpful for you?

____

____

____

22. What problems, if any, have you had getting the help or services you need in caring for your family member or friend?

____

____

____

Is there anything else you would like us to know about your caregiving situation?

____

____

____

____

DID YOU ANSWER ALL OF THE QUESTIONS?

THANK YOU FOR TAKING TIME TO COMPLETE THIS QUESTIONNAIRE.

APPENDIX H
2005 SCALE DEVELOPMENT RESULTS

Participant outcomes for self-efficacy

Outcome-	Sample	Pre-Class		Post-Class		
Self-Efficacy	N	*M*	(SD)	*M*	(SD)	*t* test
Self-Efficacy (Summary) Scale	148	55.90	(16.4)	73.34	(16.2)	-11.71***
Self-Efficacy for communication Scale	159	20.12	(7.0)	25.40	(8.4)	-6.79***

*p<.05

**p<.01

***p<.001

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Participant outcomes for self-care

Outcome- Self-Care	Sample N	Pre-Class M	 (SD)	Post-Class M	 (SD)	 t test
Exercise Frequency Scale	182	2.05	(1.5)	2.47	(1.3)	-4.41***
Frequency of relaxation Scale	173	1.29	(1.4)	2.02	(1.1)	-6.60***
Health Self-Care Neglect Scale	178	3.40	(2.3)	2.40	(1.9)	6.05***

*p<.05

**p<.01

***p<.001

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Participant outcomes for emotional management

Outcome- Self-Care	Sample N	Pre-Class M	 (SD)	Post-Class M	 (SD)	 t test
Positive Feelings About Caregiving Scale	164	5.37	(2.4)	5.76	(1.9)	–2.32*
Anger Scale	172	3.64	(2.2)	2.55	(1.7)	6.96***
Guilt Scale	163	3.11	(2.5)	2.22	(1.8)	5.08***

*p<.05

**p<.01

***p<.001

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Participant outcomes for help and resources

Outcome-	Sample	Pre-Class		Post-Class		
Help & Resource	N	M	(SD)	M	(SD)	t test
Service Use Scale	184	2.54	(2.5)	3.39	(2.8)	-5.33***

*p<.05

**p<.01

***p<.001

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