

2007

Effect of personal and practice contexts on occupational therapists' assessment practices in geriatric rehabilitation

Mirtha Montejo Whaley
University of South Florida

Follow this and additional works at: <http://scholarcommons.usf.edu/etd>

 Part of the [American Studies Commons](#)

Scholar Commons Citation

Whaley, Mirtha Montejo, "Effect of personal and practice contexts on occupational therapists' assessment practices in geriatric rehabilitation" (2007). *Graduate Theses and Dissertations*.
<http://scholarcommons.usf.edu/etd/2406>

This Dissertation is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.

Effect of Personal and Practice Contexts on Occupational Therapists' Assessment
Practices In Geriatric Rehabilitation

by

Mirtha Montejo Whaley

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Community and Family Health
College of Public Health
University of South Florida

Co-Major Professor: Elizabeth Gulitz, Ph.D.
Co-Major Professor: James Mortimer, Ph.D.
Karen Liller, Ph.D.
Karen Perrin, Ph.D.

Date of Approval:
June 15, 2007

Keywords: age associated cognitive decline, cognition and rehabilitation outcomes,
cognitive assessment, geriatric rehabilitation, occupational therapy

© Copyright 2007 , Mirtha M. Whaley

Dedication

Ancora Imparo (I'm still learning)

Michaelangelo

This dissertation is dedicated to my parents and my former patients, who sparked in me the curiosity to inquire; to my daughter Tanya, my sister Daisy and our family, whose support helped me find the courage to challenge myself and persevere, no matter how difficult the journey became; to my mentors and professors, whose encouragement and wisdom guided me so that I may turn my fire and passion into reasonable science; to my friends and colleagues who have shown me how it's done and cheered me on to the finish line; and to Larry, my late husband, who so anxiously awaited my graduation, and was convinced that the time to completion was measured in dog years.

This dissertation is as much their triumph as it is mine. This has been more than a scholarly journey to a higher degree; it has been a test of resilience and determination and at times...a lifeline. We can all now joyfully say...

Ph-inally D-one!

Acknowledgements

I would like to acknowledge and thank the individuals whose support and assistance were crucial to my success, beginning with J. Neil Henderson Ph.D., and Magdalene Argiry, who encouraged me to embark on this adventure.

To my Co-Chairs, Elizabeth Gulitz Ph.D., whose knowledge, guidance and support throughout this process have been invaluable to my personal and professional growth; and James Mortimer Ph.D., for his responsiveness, willingness to assist and share his knowledge and for challenging me to stretch beyond what I thought were my limits. To Karen Liller, Ph.D., and Karen Perrin, Ph.D., for their infinite patience and guidance.

To Kay White, Beverly Sanchez and the Academic Affairs staff, and also to Tom Ross, Paula Geist, Sandhya Srinivasan, Wendy Lay, Carol Williams and the faculty and staff of the College of Public Health for their unconditional support and technical assistance. A special thanks to Chodaessie Wellesley-Cole Morgan, Ph.D., for the late nights, the helping hand, the endless tutorials, and her unconditional friendship.

To Angela Edney and the occupational therapy staff at Aegis Therapies; Dyanne Havner and occupational therapists at the Tampa V.A. Medical Center; to Pam Toto and Ann O'Sullivan Chairs of the special interest sections at AOTA; to Kathy Farber, Nancy Allen and all the members of my panel of experts who helped refine my survey instrument; and, finally, to the occupational therapists who contributed to my study and my professional development. Without them, this journey would not have been possible.

Table of Contents

List of Tables	vi
Abstract	viii
Chapter One: Introduction	1
Overview of Aging: A Historical Perspective	4
Cognition: Issues and Implications for Occupational Therapy	6
Determining What to Assess: Clinical Reasoning in Occupational Therapy	10
Statement of the Problem	11
Need for the Study	13
Theoretical Model	16
Implications for Public Health	17
Research Questions	18
Delimitations	20
Limitations of the Study	20
Assumptions	21
Definitions	23
Chapter Two: Review of the Literature	27
Overview of cognition	27

Factors Affecting Cognition: Aging and Disease _____	29
Cognition and Functional Status: Perceptions of Health Professionals _____	34
Functional Status as Behavioral or Performance-based _____	35
Cognitive Status as a Separate Construct from functional status _____	35
Cognitive Function Assumed Through Instrumental Activities _____	35
Cognition as a Dimension of Functional Status _____	36
Geriatric Rehabilitation _____	37
Occupational Therapy Practice _____	39
Clinical Reasoning in Occupational Therapy _____	42
Ecological Systems Model and Occupational Therapy _____	44
Chapter Three: Methods _____	49
Type of Study, Population, and Sample Selection _____	49
Variables _____	50
Instrument Development _____	52
Validity _____	54
Reliability _____	56
Data Collection _____	59
Response Rates _____	63
Data Management _____	64
Data Analyses _____	65
Missing Data _____	66

Testing Data for Normality	66
Bivariate Analyses	67
Non-responders	68
External Validity of the sample	69
Effect of Social Desirability	70
Multivariate Analysis	70
Power Analysis and Sample Size	72
Chapter Four: Results	74
Overview of the Study	74
Description of the Case Selection Process	75
Description of Non-responders	76
Description of Study Sample	78
Demographic Characteristics of Participants	78
Description of the Clinical Practice	79
External Validity of the sample	82
Effect of Social Desirability	83
Results of Research Questions	84
Assessing the Logistic Model	94
Assessing the Logistic Regression	95
Chapter Five: Discussion	97
Effect of Context on Therapists' Assessment Practices	97
Knowledge of Aging and Cognition	101

Beliefs _____	103
Practice Setting _____	105
Implications for Occupational Therapy Practice _____	105
Public Health Implications _____	108
Limitations of the Study _____	109
Strengths of the Study _____	110
Recommendations for Future Research _____	113
References _____	117
Appendices _____	131
Appendix A: Summary of Research Questions _____	132
Appendix B: Expert Panel Members and Credentials _____	136
Appendix C: Expert Panel Instructions and Worksheets _____	137
Appendix D: IRB Exemption Certificate _____	151
Appendix E: Pilot Study Reliability Summary _____	153
Appendix F: IRB Certificate of Approval for URL _____	170
Appendix G: Electronic and Postal Notifications _____	171
Appendix H: IRB Certificate of Approval for Incentive and Yahoo Account _____	184
Appendix I: Distribution of Respondents by SIS Membership _____	185
Appendix J: Bivariate Analyses – Chi Square _____	186
Appendix K: Summary of Logistic Regressions _____	187
Appendix L: Summary of Responses to Belief Questions _____	188

Appendix M: Temporal Variables of Participants	189
Appendix N: Summary of Logistic Regressions	190
Appendix O: Summary of Regression Diagnostics	194
About the Author	End Page

List of Tables

Table 1	Geographic Distribution of Sampling Frame _____	61
Table 2	Summary of Test for Normality for Continuous Variables _____	67
Table 3	Comparison of Early and Late Responders _____	77
Table 4	Summary of <i>t</i> Test of Predictor Variable Age for Early and Late Responders _____	78
Table 5	Summary of Sample Demographics _____	79
Table 6	Years in Clinical Practice _____	80
Table 7	Distribution of Sampling Frame and Responders by Geographic Region _____	80
Table 8	Descriptors of Clinical Practice _____	81
Table 9	Practice Context by Type of Setting and Ownership _____	82
Table 10	Comparison of Demographic Characteristics: AOTA 2006 Workforce Study and Current Study on Effect of Personal and Practice Contexts _____	83
Table 11	Distribution of Therapists Who Almost Always Assess Cognition on Initial Evaluation by Choice of Method _____	85
Table 12	Frequency of Use of Informal Assessment of Orientation and Standardized Screening and Assessment Instruments _____	86

Table 13	Important Characteristics in Therapists' Choice of Assessment Instruments _____	87
Table 14	Summary of Logistic Regression Analysis Predicting Use of Standardized Assessment Instruments _____	94
Table 15	Assessment of Logistic Model _____	95
Table 16	Correlation Matrix for Predictor Variables in Logistic Model _____	96

Effect of Personal and Practice Contexts on Occupational Therapists' Assessment
Practices in Geriatric Rehabilitation

Mirtha Montejo Whaley

ABSTRACT

Despite considerable debate surrounding an age associated cognitive decline in non-demented elders, recent studies indicate that changes attributable to normal aging affect cognitive processes and fluid abilities. Additionally, studies indicate that factors such as physical illness, depression, neurological damage, medication side effects, drug interactions, and the effects of surgery and anesthesia may also cause varying degrees of cognitive impairment. Impairment of cognitive function is known to affect treatment and rehabilitation outcomes for older persons, and increase their likelihood of institutionalization.

Although proper screening and identification of cognitive deficits in geriatric patients are crucial in developing treatment plans, there is evidence in the medical and nursing literature that cognitive decline in older non-demented patients is often not identified. Proper screening in this case, refers not only to whether or not clinicians engage in assessment behavior, but that they adhere to evidence-based practices and

utilize standardized instruments which can identify the type, extent, and implications of the cognitive deficits.

This study used an exploratory, non-experimental design and the population of interest consisted of occupational therapists providing physical rehabilitation to patients >65 years of age in the United States. The Ecological Systems Model was chosen as the theoretical framework, because it depicts human behavior as the product of the interaction between the individual's personal attributes and the physical and social environment in which the individual functions. Given the changes in health care, and the limits imposed by third party payers, it would seem important to inquire as to the effect of personal and practice contexts on therapists' assessment practices in geriatric rehabilitation.

Although results of the study indicate that factors in the practice context are stronger predictors of therapists' use of standardized cognitive screening and assessment instruments, the study supports principles of Ecological Systems Models in that both practice and personal contexts contribute to therapists' assessment practices.

CHAPTER I

Introduction

The purpose of this study is to determine personal and practice contexts in occupational therapy associated with the use of cognitive screening and assessment tools. The study specifically focuses on the use of such instruments by occupational therapists (OTs), with individuals 65 years of age and older referred for physical rehabilitation.

The need for this study is supported by factors such the research literature, individual and focus group interviews of OTs conducted by this researcher during a previous qualitative study and by the researcher's own experience as a geriatric rehabilitation therapist.

Two important themes emerged from the focus groups regarding therapists' use of cognitive screens or assessments with elderly patients. The first theme addressed the influence of therapists' personal factors (e.g. knowledge and beliefs) on their use of cognitive assessment instruments. The second theme addressed the effect of practice factors (e.g. fixed assessment and treatment protocols; increased demands for productivity; cost-containment measures imposed by third party payers) on therapists' assessment practices.

The therapists' interviews and a review of the literature revealed a number of semantic inconsistencies that highlight the difficulty involved in reaching consensus as to

what constitutes cognitive impairment in elderly rehabilitation patients, and what instruments should be used to determine level of impairment. While mild, moderate, and severe all denote degrees of cognitive impairment, the meaning of this classification depends on the instrument used to measure the impairment as well as which components of cognition are measured (Collie & Maruff, 2002; Petersen et al. 2001).

With regard to this researcher's clinical experience, approximately 80% of patients admitted to a rehabilitation facility in Hillsborough County and assessed using the Large Allen Cognitive Assessment Test (LACL) between 1996 and 1999 were found to experience mild to moderate cognitive deficits at the time of initial evaluation. These deficits often had been missed by nursing and social service staff using shortened versions of the Mini Mental Status Questionnaire, because they did not present as deficits of memory or orientation, nor did the patients or their caregivers offer any complaints or awareness of the impairments. In fact, the patients' difficulties were often attributed to either lack of motivation or obstinacy rather than to limited cognitive capacity.

Mild cognitive deficits, according to Allen's framework (1992; 1995), are those that affect problem-solving, correcting an error, anticipating and identifying a hazard, knowing when to report health problems or side effects of medications, and generally maintaining safety. Moderate deficits as described by this framework are those that, while not completely precluding performance of activities of daily living (ADLs), interfere with certain aspects of performance such as initiating and ending a task, sequencing through the steps of a familiar activity, and judging how much pressure to apply or how much quantity of something to use. These deficits are the result of disruptions of fluid processes that are essential for the acquisition of new learning. The

impact of such deficits is particularly important for elderly persons experiencing the onset of an illness or following an injury, which require different ways of engaging in previously familiar tasks, closely following medical recommendations and/or observing safety precautions. The need to identify cognitive deficits becomes crucial when the individual lives alone, particularly if he or she experiences health conditions that require scheduling and managing prescribed medications, special diets or medical regimens (MacNeill & Lichtenberg, 1997).

While there is evidence in the nursing and medical literature as to the effect of the practice environment on clinical decision making and other aspects of practice, this type of inquiry is not found in the occupational therapy literature. To date, much of the research on clinical reasoning and clinical decision-making in occupational therapy has focused on internal processes, such as the therapists' knowledge, beliefs, and attitudes (Mattingly, 1991; Penney, Kasar, & Sinay, 2001; Schell & Cervero, 1993; Unsworth, 2002).

Focusing on personal factors alone fails to account for the interaction between the therapist and the environment in which he or she practices. Therefore, conducting an inquiry into therapists' screening and assessment behavior requires a theoretical framework that takes into account personal factors, as well as factors in the external environment. This study is framed by the Ecological Systems Model, which explicates human behavior as the product of the interaction between the individual's personal attributes and the physical and social environment in which the individual functions.

Ecological models were introduced to occupational therapy (OT) in the 1970's (Howe & Briggs, 1982) in an attempt to understand and improve patients' functional

performance. However, this type of model also is also particularly well suited for an inquiry into OT practice in light of recent changes in case mix and reimbursement affecting the duration and scope of services.

Overview of Aging: A Historical Perspective

During the 20th century, demographic changes resulted in record growth in the number of persons 65 years of age and older living in the United States, increasing from 3.1 million to 35 million persons between 1900 and 2000 (Hobbs & Stoops, 2002). Within this group, the fastest rate of growth, six times that of the general population, occurred among persons 85 years of age and older (Tideiksaar, 1997). More rapid growth among elders is predicted by the year 2011, when the first wave of baby boomers will turn 65 years of age (Hobbs & Stoops).

The elderly have changed the face of health care and rehabilitation. The caseload, which through the 1970's consisted of a younger population, shifted in the past 25 years to increasing numbers of elderly persons. Younger patients were more likely to require care for birth defects, acute conditions, or injuries. Today's older rehabilitation patients, however, more commonly experience chronic conditions and comorbidity, which increase the complexity of treating any new or acute condition or occurrence. They're likely to present with functional deficits, to experience repeated hospitalizations, and to be at risk for institutionalization (Miller, 2000). Additionally, older individuals may experience declines in cognition due to age-associated frontal lobe changes that are further affected by a number of factors including illness, traumatic stress, sleep disordered breathing, and medications (Cohen-Zion et al. 2004; Cohendy, Brougere, & Cuvillon, 2005; Raz, Rodrigue, & Acker, 2003; Stoner, 1997; Van Boxtel et al. 1998).

As the case mix has changed, so has the delivery of health services. Changes in reimbursement for health services over the past 10 to 15 years have impacted service provision by requiring reduced lengths of stay in hospitals and rehabilitation facilities, by emphasizing functional performance that generally translates to focusing interventions on regaining basic physical skills, and by requiring expeditious discharge to the least costly environments. Concomitantly, there has been an increased demand for patient-centered treatment, for accountability through both the collection and measurement of outcomes of care, and for the justification of health interventions through evidence-based practice (Hinojosa, Kramer, & Crist, 2005).

The current health system, predicated on acute care, is driven by market pressures that impact the scope of occupational therapy services and the manner in which they are delivered. Howard (1991) noted that changes in reimbursement and the rise of managed care were redefining the practice, the management, and even the professional ethics of occupational therapy. As she further explained, both the frequency and nature of the treatment provided by occupational therapists has changed. Perhaps, this is most clearly demonstrated by the focus on utilizing diagnosis-based treatment protocols to ensure reimbursement for services (Howard, 1991).

In practice, the current system of care focuses on ameliorating the presenting health problem in order to expedite discharge and places demands on practitioners across disciplines for increased productivity. The parameters of care imposed on providers by the health care system may indeed preclude occupational therapists from identifying and addressing important components of function, and/or conditions that have a direct effect on the identified presenting problem. This limitation has the potential for increasing

morbidity and mortality and promoting age related discrimination and health disparities. As such, it is in direct conflict with the goals of Healthy People 2010 and should be cause for alarm to public health practitioners.

The convergence of the demographic transition, changes in the delivery of services and reimbursement, and increased demand for patient-centered treatment and accountability has serious implications for health care in general, as well as for occupational therapy and rehabilitation, public health, and community resources. As the number and proportion of individuals 65 and older increases in the future, there will be an increase in health services utilization, increased demand on already limited resources, and an increased risk for both excess disability and age related health disparities.

Cognition: Issues and Implications for Occupational Therapy

In clinical practice and across disciplines, the role of cognition is generally considered in the initial treatment plan, primarily in cases where the diagnosis indicates the presence or likelihood of a cognitive impairment (e.g. Alzheimer's disease, head injury, or stroke). In the course of treatment, cognitive status may be considered when problems arise as a result of the patient's behavior or when the individual appears unable to acquire and retain new skills.

Conversely, as noted by occupational therapists in earlier interviews conducted by this researcher, assessment of cognitive function at initial evaluation is actually discouraged in some settings. These occupational therapists noted that any indication of cognitive impairment could raise questions from third party payers as to the necessity and appropriateness of the individual's referral to and participation in rehabilitation, and could ultimately lead to denial of reimbursement.

Although the prospect of identifying cognitive decline in elders appears to be a monumental task, there are a number of naturally occurring opportunities available to health care personnel to screen for cognitive deficits in this population. For example, in primary care practice, physicians have been encouraged to assess their patients' cognitive status during routine visits in an effort to identify those individuals experiencing memory deficits that may be caused by treatable conditions or are indicative of early stages of Alzheimer's disease.

In rehabilitation settings, occupational therapists, by virtue of their training and focus on function, have a unique opportunity to serve as gatekeepers. Assessing their patients' cognitive status would allow therapists to communicate with treating physicians as to the need for further testing and/or referral to other professionals for identification of the underlying etiology and/or remediation. Assessment would also allow therapists to engage in preventive interventions, by identifying factors that place their patients at risk for adverse events, falls, injuries and non-compliance.

Issues regarding the selection and proper use of assessment instruments by occupational therapists are neither new nor insignificant. Ina Elfant Asher (1996) in her annotated bibliography of occupational therapy assessment instruments, describes how in 1984 the Representative Assembly of the American Occupational Therapy Association (AOTA) released a statement identifying as a top priority the development of standardized assessments for occupational therapy, and the utilization of such instruments by occupational therapists.

In a subsequent document addressing the identified need, AOTA outlined 4 hierarchical competencies regarding therapists' use of standardized assessments. Two of

the 4 hierarchical competencies charged users with the responsibility to a) *recognize the importance of using standardized, reliable, and valid instruments when these are appropriate* and b) *distinguish the critical difference between standardized and nonstandardized instruments* (Elfant Asher, 1996). These competencies are particularly pertinent to the findings of this study.

Occupational therapists are directed by AOTA's Scope of Practice, which clearly defines the basis for assessment and interventions. This document delineates the domains and processes of practice for occupational therapists and assistants, and recognizes the importance of assessing components of function, including cognitive status (AOTA, 2002).

Occupational therapy evaluation marks the beginning of the treatment process, and provides the foundation for the treatment plan, as well goals indicated to meet the discharge needs of the patient and his or her caregivers. Assessment should be an inquiry that provides a snapshot of (AOTA, 2002; Hinojosa, Kramer, & Crist, 2005):

- the individual's wishes, plans, and needs related to discharge
- his/her occupational performance history
- remaining skills and level and type of assistance and support needed and available after discharge
- deficits that interfere or have the potential to interfere with functional performance
- the individual's understanding of the health event and of his or her current situation

The treatment plan and its goals reflect the therapist's best estimate of the person's capacity to learn and acquire new skills. As part of the process of occupational therapy, assessment and treatment planning should be guided by clinical reasoning, taking into account those "occupations that are significant for the individual, and the roles that he or she occupies within the contexts of his or her life (AOTA, 2002). Clinical reasoning should be grounded on knowledge of underlying conditions and of limitations likely imposed by the presenting illness or injury and also should consider the impact of the individual's physical and social environments on his or her ability to function.

Changes in occupational therapy in response to market pressures have shifted the practice from interventions based on a holistic paradigm, to interventions crafted within a more reductionistic functional/biomedical model (Howard, 1991). Within the biomedical model, rehabilitation goals are set taking into account the patient's pre-morbid level of function; improvement of physical measures from admission to discharge; diagnosis-related potential for improvement; and constraints imposed by third party payers (e.g. limited length of hospitalizations as determined by the Diagnostic Related Groups, restrictions on services provided, and limits on post acute treatment as determined by the Prospective Payment System) (Howard, 1991). The underlying assumption in this model is that of intact cognitive abilities and, as such, it places the burden of assimilation, performance, and compliance on the individual patient.

Often cognitive status is determined by assessing the patient's orientation (to self, place, and time) and his or her ability to follow simple commands. Frequently, potential for rehabilitation is estimated by the individual's ability to communicate, by self report regarding functional performance or by a brief observation of an activity of daily living

(ADL). However, orientation, following commands, and communication skills are not indicative of an individual's capacity to initiate and sequence him/herself through the steps of an activity, to problem solve or to anticipate, identify, or manage safety hazards (C. Allen, personal communication, September 1998).

Similarly, ADLs are not an accurate measure of cognitive status, as they are crystallized abilities stored in procedural memory (C. Allen, personal communication, September 1998; Ruchinskas, Singer, & Repetz, 2000). This dissociation between functional status and cognitive abilities was supported in an earlier study by Galanos, Fillenbaum, Cohen, and Burchett in 1994. These researchers found that although over 50% of their study participants experienced cognitive impairment, health problems and depression, they were still able to perform activities of daily living. A similar dissociation was reported by Ruschinskas et al. (2000) in their study of the relationship between ambulation and cognitive abilities.

Determining What to Assess: Clinical Reasoning in Occupational Therapy

Although several styles of clinical reasoning have been identified in occupational therapy research, they have been traditionally considered to correspond to one of two major categories. In their review of the literature, Schell and Cervero (1993) identified these two categories as:

- *scientific reasoning* - suggesting a methodical, hypothesis-based, cognitive process
- *narrative reasoning* - describing “reflection-in-action”, in the process of treatment, and serving to help the therapist understand their patients’ experiences as well as to help patients develop a new future

These authors also report having found indications of an emerging third category of clinical reasoning that had not previously been acknowledged in inquiries about professional practice. This third category, identified as *pragmatic reasoning*, parallels the process identified in cognitive psychology as *situated cognition* and explains a more complex method of reasoning (Schell & Cervero, 1993).

Pragmatic reasoning and situated cognition share in common a belief in the effect of personal and practice contexts on mental activity (Schell & Cervero, 1993) and offer a different perspective as to how clinical decisions are made. As described by these authors, personal contexts include internal characteristics of the therapist, e.g. his or her values, motivation, knowledge, and available repertoire and level of skills. Practice contexts exist in the therapist's external environment and include the physical environment and its culture, as well as organizational, political, and economic factors that can both facilitate or inhibit therapists' practices. Inquiring about the therapists' personal and practice contexts may increase our understanding of the factors involved in their decisions regarding assessment and their choice of assessment instruments (Schell & Cervero).

Statement of the Problem

Although screening for cognitive problems is a reasonable step in developing occupational therapy treatment plans in geriatric rehabilitation (Barnes, Conner, Legault, Reznickova, & Harrison-Felix, 2004), there is evidence in the literature that impaired cognition in non-demented elderly patients is often not identified (Ruchinskas, 2002). This is particularly true for patients experiencing mild cognitive deficits, especially when they retain adequate verbal and social skills.

Assessing a patient's cognitive status during the initial evaluation, allows the therapist to develop treatment goals based on the individual's capacity and his/her safe performance in areas of occupation (activities of daily living, instrumental activities of daily living, work, leisure, etc. The burden in this case is on the clinician to maximize performance and safety during treatment and upon discharge by teaching or training the individual; by modifying the physical, temporal, and social environment in order to facilitate functional performance; and by providing caregiver training and making appropriate recommendations.

To date, much of the research on clinical reasoning and clinical decision-making in occupational therapy has focused on treatment decisions guided by internal processes such as the therapists' knowledge, beliefs, and attitudes (Mattingly, 1991; Penney, Kasar, & Sinay, 2001; Schell & Cervero, 1993; Unsworth, 2002). Little has been published as to other factors involved in occupational therapists' clinical decision-making regarding screening and assessment procedures, despite the identified need to improve therapists' recognition of cognitive deficits in elderly non-demented patients (Ruchinskias, 2002; Knight, 2000).

More significantly, there is a dearth of information as to the role of practice and personal contexts in the assessment process. Focusing on personal factors alone fails to account for the interaction between the therapist and the environment in which he or she practices. Therefore, conducting an inquiry into therapists' screening and assessment behavior required a theoretical framework that would take into account personal factors, as well as factors in the external environment that may have an effect on or contribute to their assessment behavior.

Need for the Study

Because older persons are at increased risk for falls, injuries, and adverse events, they are also more likely to experience higher rates of hospitalization, institutionalization (Tideiksaar, 1997), physical, and functional declines associated with these events. As a result, older persons are also likely to be referred to occupational therapy for rehabilitation to improve or regain their functional status.

Within the next six years, the elderly population in the United States is projected to again reach an unprecedented growth when baby boomers begin to reach age 65 (Hobbs & Stoops, 2002). This projected growth will bring increased health care and Medicare/Medicaid expenditures resulting from concomitant increases in utilization of medical and occupational therapy services, hospitalizations, and admissions to nursing homes. Adequate provision of services, patient education, and prevention of unintentional injuries and adverse events will require a clear picture of the patients' capacity for functional performance, including their cognitive status.

Under normal conditions, activities of daily living (ADLs) such as bathing, dressing, eating, walking, sitting and rising, are performed automatically, without conscious recall (C. Allen, personal communication, September, 1998). These skills are over-learned or crystallized and stored in procedural memory by virtue of the frequency with which they are performed and their longevity. However, when an individual experiences a new disability, or the exacerbation of a chronic condition, these daily activities may require the acquisition of new skills (new learning). In other words, the individual may have to learn new ways of performing ADLs, and may have to do so while integrating adaptive strategies and using adaptive equipment and/or assistive

devices. Additionally, individuals may have to learn to manage new medication regimens, observe dietary restrictions, and follow safety precautions.

New learning, a function of the brain's frontal lobe, requires that fluid abilities allow the individual to engage in tasks while managing a changing environment. New learning is dependent on the individual's ability to (Allen, Earhart, & Blue, 1992):

- attend to the task at hand
- process and catalogue new information
- store the information in long-term memory

When learning occurs, the individual is able to apply the newly acquired skills to other situations by first recalling the information from long-term memory and then planning a strategy to fit the new situation. This transfer of learning also requires that the individual be able to anticipate the consequences of his or her actions, problem-solve to achieve the anticipated results, and then evaluate the outcome for further adjustments (Allen et al. 1992).

While mild and moderate degrees of cognitive impairment interfere with new learning, individuals experiencing such impairment are still capable of acquiring new skills. Doing so, however, requires that sufficient time be allowed for situation-specific training, and that the physical environment and caregiving strategies be modified to support their functional performance and safety.

Failure to take cognitive status into account and continuing to endorse a strictly functional/biomedical approach in occupational therapy carry a number of risks. If, for instance, the patient's social and verbal skills mask deficits affecting performance and safety, his/her capacity may be overestimated. In this case, the individual may be unable

to attain treatment goals, frustrating both patient and therapist and increasing the risk that the patient's behavior will be interpreted as refusal to participate or cooperate.

Ultimately, the patient may be labeled unmotivated, manipulative, or non-compliant and may be prematurely discharged from rehabilitation.

There is also a risk that an individual whose history, behavior, or performance suggests cognitive impairment will be deemed as not having potential for rehabilitation (Barnes et al. 2004). In this case, patients may either not be referred to or may be discharged from rehabilitation services, increasing their risk for excess disability and institutionalization.

In either case, there are consequences in terms of the individual's quality of life and the fiscal burden on already limited resources. In the end, the individual's capacity for safe functional performance will not be taken into account and safety risks will neither be identified nor addressed, increasing the chances for non-compliance, adverse events, and repeated hospitalizations.

There are fiscal and policy risks as well. Questions should be asked about the efficiency and cost effectiveness of a strictly functional approach, which can place the individual at risk for costly hospital readmissions and institutionalization. Concerns should also be raised about the accuracy and validity of strictly functional outcomes that are used to guide reimbursement decisions and that play a role in the development of aging policies without taking into account an individual's cognitive capacity (Challiner, Carpenter, Potter, & Maxwell, 2003).

There are also other implications, as increasing concerns about medical errors raise new ethical and legal questions and signal a new kind of risk related to a functional

approach. Errors of omission (i.e. failing to identify risk factors such as a cognitive impairment or to provide needed services) and errors of commission (creating unrealistic expectations of treatment or an unrealistic prognosis) can result in adverse events in the course of rehabilitation and following discharge (B. Kornblau , personal communication, August 2004; L. Andersen personal communication, November 2004; Scheirton, Mu, & Lowman, 2003).

Just as there are risks associated with the failure to screen or assess the cognitive status of elderly rehabilitation patients, there may also be concerns about conducting such procedures. An area that appears unexplored in occupational therapy practice is that of the ethical issues associated with assessing the cognitive status of non-demented elders. While identification of cognitive impairment may lead to denials for reimbursement from third party payers, less is known about the ethical implications of identifying such declines in non-demented elderly and their capacity to consent to medical procedures.

This study explores the effect of practice and personal contexts on the use of cognitive assessments in geriatric occupational therapy. Understanding the impact of contexts may assist in determining the target and scope of interventions needed to support patient assessment and improve the care of older rehabilitation patients.

Theoretical Model

As a new occupation-based paradigm evolved over several years, a number of practice models closely related to General Systems Theory (GST) have been proposed. Known as ecological or contextual models, these practice models almost unanimously emphasize the role of personal and external environments or contexts on performance.

Although there are minor differences as to what exactly constitutes “the environment,” these models describe an external environment that includes physical, social, and cultural elements. As applied to the practice contexts of occupational therapists, these also include reimbursement policies and available equipment and resources. Values, knowledge, motivations, and repertoire of skills, constitute the individual’s personal internal environment or context (Schell & Cervero, 1993). While these practice models primarily evolved in an effort to improve patient treatment by understanding the patient within his/her internal and external contexts, they are particularly suited to study the impact of contexts on therapists’ performance.

A number of studies are found in the occupational therapy literature focusing on the interaction between therapists and their contexts and the influence of such interaction on the therapists’ clinical reasoning. Hooper (1997) provided evidence supporting the influence of personal contexts on clinical reasoning. Conversely, in their studies on clinical reasoning, Lyons and Crepeau (2001) and Unsworth (2005) reported evidence supporting stronger influence of practice rather than personal contexts on therapists’ and assistants’ clinical reasoning.

Implications for Public Health

The growth of the older population presents a special challenge to health care, rehabilitation, and public health. Failure to identify cognitive deficits will result in a number of missed opportunities for therapists working with elderly patients. As an example, conditions amenable to treatment and early stages of dementia may not be identified nor promptly treated. If cognitive deficits are not recognized, safety risks may not be identified or addressed, increasing the risks for non-compliance, adverse events,

and unintentional injuries. Ultimately, if opportunities to identify cognitive deficits are missed, the risk of institutionalization and over utilization of costly health and personal care services increases.

Interventions and education provided without a clear measure of the patient's cognitive capacity assume that the information will be assimilated, successfully processed, and properly utilized by the individual. To the extent that mild degrees of cognitive deficits in the elderly are not easily recognized by medical and rehabilitation personnel, health education messages, medical interventions, safety precautions and recommendations may be delivered ineffectively.

Research Questions

Four primary research questions guide this study:

1. What are the current practices of occupational therapists regarding screening/assessing the cognitive status of elderly patients referred for rehabilitation?
 - a. Do therapists, on initial evaluation, routinely screen or assess the cognitive status of non-demented elderly patients referred to rehabilitation?
 - b. How frequently do therapists use cognitive assessment instruments on initial evaluation of older rehabilitation patients?
 - c. Are therapists, in the course of treatment, likely to assess the cognitive status of patients who fail to improve as anticipated in the initial evaluation and treatment plan?
2. What is the relationship between context (practice and personal) and therapists' use of standardized instruments to assess the cognitive status of older, non-demented medical patients referred for rehabilitation?

- a. Is the type of practice setting (acute hospital, subacute inpatient rehabilitation unit, home health agency, free-standing rehabilitation unit, and home health) associated with therapists' use of cognitive screening/assessment instruments with non-demented elderly rehabilitation patients on initial evaluation?
- b. Is there an association between facility ownership (non-profit, for profit, VA/military, individual contractor) and therapists' use of cognitive screening/assessment instruments with elderly non-demented patients during initial evaluation?
- c. Is there an association between professional autonomy afforded therapists through the facilities' protocols and therapists' use of cognitive screening and assessment instruments?
- d. Is there an association between employer support, supervisor support and availability of resources, and therapists' use of cognitive screening/assessment instruments?
- e. Is there a relationship between knowledge of the effect of aging on cognition and therapists' use of screening/assessment instruments?
- f. Is there a relationship between therapists' knowledge of how to administer and score a variety of screening/assessment instruments and their use of these instruments?
- g. Are therapists' beliefs (about professional responsibility, aging, or use of cognitive assessment instruments) associated with their use of cognitive screening and assessment instruments in geriatric rehabilitation?

- h. Is there an association between temporal characteristics of the therapists (e.g. age, years in occupational therapy practice, years in geriatric rehabilitation, and length of time in employment at the time of the survey), and their use of cognitive screening/assessment instruments in geriatric rehabilitation?
- i. Is a therapist's level of education associated with use of cognitive screening/assessment instruments?

Delimitations

The following delimitations were imposed by the researcher:

- Only occupational therapists (OTs) members of the American Occupational Therapy Association (AOTA), licensed or similarly credentialed by their states, were invited to participate in this study.
- Individuals were invited to participate in this study, based on having designated their membership in either the Gerontologic (GSIS) or the Home and Community Health Special Interest Sections (HCHSIS) of AOTA.

Limitations of the Study

A number of limitations beyond the researcher's control may prevent generalization to all occupational therapists practicing geriatric rehabilitation in the United States.

- Therapists who are members of the American Occupational Therapy Association may differ from non-member therapists.
- Therapists who agree to participate in the study may differ from therapists who decline participation.

- Successful notification was dependent on whether or not therapists were listed, had enrolled in the special interest sections' listserves, read and responded to email postings.

Assumptions

Given that study participants were trained professionals, graduates of occupational therapy programs, the following assumptions were made:

- Study participants would have knowledge of the interaction between aging, cognition, and disease.
- Participants would have knowledge of a variety of theoretical perspectives applicable to occupational therapy practice, although they may choose to not guide their practice by a particular perspective.
- Participants would have knowledge of the administration and scoring of a number of assessment instruments, although they may choose to not use them in their clinical practice.
- Because direct observation of study participants in their practice environments was not feasible, it was further necessary to assume that participants provided honest responses in their self-reports.

Definitions

1. Activities of Daily Living (ADLs) – self care activities such as dressing, bathing, eating, ambulation, and toileting, which are part of an individual’s daily routine.
2. Assessment – in occupational therapy, the process of determining an individual’s remaining abilities and problem areas (e.g. muscle strength, range of motion, balance, coordination, cognitive abilities, etc.).
3. Assistive devices – devices and/or equipment utilized in therapy to improve problem areas such as balance and ambulation, or to compensate for loss in range of motion, strength, manual dexterity, vision, or memory (e.g. canes, walkers, reachers, long handled self care equipment, weighted utensils, etc.)
4. Biomedical model – a mechanistic model of care focusing on diagnosis and treatment of the presenting physical problem.
5. Cognition – mental processes that allow individuals to attend to a task, problem-solve, remember, learn, etc.
6. Comorbidity – the simultaneous presence of two or more physical illnesses. Generally refers to chronic conditions.
7. Crystallized abilities – an individual’s abilities based on attained knowledge.
8. Crystallized intelligence – intelligence measured by tests tapping into “stored” knowledge (e.g. the meaning of words or proverbs, simple mathematical operations, etc.,)
9. Evaluation – comprehensive process where patient data is gathered and interpreted to better understand the individual, his or her situation, and the ecology of his or her performance. Ongoing process utilized to determine treatment interventions, to

assess the treatment process, and to determine when interventions should be discontinued.

10. Executive function – abilities related to frontal lobe function that control and manage other cognitive processes involved in processes such as planning, cognitive flexibility, abstract thinking, rule acquisition, initiating appropriate actions and inhibiting inappropriate actions, and selecting relevant sensory information.
11. Fixed protocol – a set format for conducting assessment and treatment procedures. Generally dictated by the type of functional measure utilized by the facility for the purpose of assessing and reporting treatment outcomes. Fixed protocols may limit therapists' autonomy.
12. Flexible protocol – a format for conducting assessment and treatment procedures, which affords the therapist the freedom to determine which functional areas and components to assess and treat. Flexible protocols may allow therapists more autonomy.
13. Fluid abilities – an individual's ability to reason and to solve problems in unfamiliar situations. Abilities that allow an individual to form concepts, reason, and identify similarities.
14. Fluid intelligence – intelligence measured by mental tests requiring “on the spot” problem solving with unfamiliar materials and problems (e. g. determining what is missing from an unfamiliar drawing, etc.).

15. Frame of reference – Principles guiding the practice of occupational therapy determined by the areas and problems addressed by therapists and by the processes that therapists utilize to provide services to their patients.
16. Functional approach – approach in occupational therapy and rehabilitation that focuses on the restoration of physical function such as ambulation and ADLs.
17. Functional performance – an individual’s ability to engage in activities of daily living such as ambulation, dressing, bathing, etc.
18. Occupational Performance History – Client-centered measure developed by Kielhofner, Mallinson, Forsyth, and Lai that focuses on the individual’s occupational functioning, and his or her routines and habits (Elfant Asher, 1996).
19. Occupational Therapist (OT)– therapists specialized on the restoration of function or the use of assistive devices to compensate for functional loss following illness or injury. OTs are approved to practice after completing an accredited program (baccalaureate level or above) and satisfying internship requirements as well as successful completion of a national exam and state licensure or equivalent credentialing.
20. Occupational Therapy Assistant (OTA) – an individual trained at the associate degree level to implement treatment plans as determined by and under the supervision of an OT. OTAs are also required to successfully complete an internship and exam, and to obtain state licensure or equivalent credentialing.
21. Occupational Therapy – profession involved in the restoration of function or compensatory interventions for the purpose of allowing individuals of all ages to

- engage in age appropriate occupations (developmental, physical, and social skills in children; home, community, vocational, and avocational activities for adults, etc.)
22. Performance in areas of occupation (performance areas) – broad categories of activities including self care, instrumental activities of daily living (shopping, use of transportation, money management, etc.), employment, and avocational activities.
 23. Performance skills (components) – elements such as sensorimotor, cognitive, perceptual and psychosocial abilities that underlie performance in areas of occupation.
 24. Personal context – personal attributes including knowledge, values, beliefs, and attitudes, which according to ecological system models, determine the extent of an individual’s involvement with a number of potential tasks available in his/her environment.
 25. Polypharmacy – use of multiple medications generally as a result of the presence of comorbidity.
 26. Practice context – the environment surrounding practice that facilitates or limits an individual’s performance. Practice context includes the physical, social, and cultural environment; resources available to the individual; and social and cultural values.
 27. Pragmatic reasoning – mode of reasoning that takes into account both the personal and practice contexts.

28. Rehabilitation – interventions provided by trained therapists for the purpose of restoring function, or compensating for loss of function as a result of illness, injury, or disability.
29. Screening tests – brief procedures utilized in medicine, psychology, and rehabilitation to determine the need for more in depth probing (assessment) as to the presence and extent of impairment.
30. Situated cognition – mode of reasoning that takes into account the effect of the situation and its meaning to the individual on mental activity.

CHAPTER 2

Review of the Literature

This chapter guides the reader through a review of the literature pertinent to the study. The review is organized into four principal sections as follows: 1) an overview of cognition, factors affecting cognition (such as aging and disease), and a review of the literature regarding awareness among professionals of the role of cognition in functional performance; 2) a review of the geriatric rehabilitation and occupational therapy literature, including OT practice and clinical reasoning in occupational therapy; 3) a review of the effect of personal and work contexts on medical and nursing practice; and 4) a review of the literature on Ecological Systems Models of practice.

Overview of cognition

Cognition, a performance component, is one of several elements that play a fundamental role in an individual's ability to function. Cognition encompasses global abilities reflecting numerous and complex processes and involving different areas of the brain (Lamar, Zonderman, & Resnick, 2002). Cognitive processes organize and regulate human behavior and are essential to the performance of any task or activity by allowing the individual to experience awareness, attend and concentrate, recall, understand and learn, store information, make judgments and decisions, and problem-solve . Cognition delimits individual abilities by determining what a person can do; choice and preferences

influence what a person will do; and the social and physical environment delimit what a person may do (Allen, Earhart, & Blue, 1995).

While functional performance is the outcome of the intricate interaction between cognition, choice, and the social and physical environments, it is cognition that most significantly influences human functioning, because it provides the outermost boundaries of an individual's ability (Clark et al. 1991). Cognition allows the conscious mind to acquire and process information from the external environment so that the individual may engage in motor activity. Thus, safety during the performance of everyday activities is contingent on the individual's cognitive ability so that he or she may adequately process relevant sensory information (Allen et al. 1992).

Because humans rely on cognitive processes to guide their behavior (Clark et al. 1991), a decline in cognitive ability may so influence motivation and choice as to endanger the individual's safety, functional performance, and compliance. In essence, cognition has a direct bearing on the individual's ability to safely engage in age appropriate tasks and to acquire new skills throughout the life course.

In the presence of an injury, illness, or disability, cognitive processes permit the individual to learn adaptive strategies, to comply with health education information and medical treatment, and to observe safety precautions. If in fact there is a relationship between normal aging and cognitive decline, and if this relationship is further influenced by chronic illness, comorbid conditions, and other factors, then early identification of cognitive deficits in older rehabilitation patients is of critical importance.

Early screening of cognitive status is useful in identifying patients who can benefit from further neuropsychological or medical assessment to determine the cause and extent

of a cognitive decline. This would facilitate expeditious treatment of reversible conditions such as depression or delirium, which can adversely affect the individual's participation in rehabilitation, potentially influencing both outcome and discharge disposition (Lenze et al. 2004; Nedley, Kendrick, & Brown, 1995; Ruchinskas, 2002).

Knowledge of cognitive status allows the clinician to tailor patient education interventions and messages, thus improving treatment efficiency and outcomes by determining the individual's capacity to acquire and apply new health behaviors; rehabilitate following illness or injury; safely engage in basic and instrumental activities of daily living; use adaptive equipment post rehabilitation; and comply with medical regimens designed to manage chronic conditions and improve or maintain health.

By first identifying the individual's remaining abilities, therapists are able to engage their patients in interventions aimed at promoting the highest possible level of functional performance and safety. These interventions require patient training and modifications in the physical and social environments as well as appropriate caregiving strategies. According to Allen et al. (1992), responsible therapeutic interventions should include teaching others how to facilitate the patient's use of his or her remaining abilities, as well as increasing the caregiver's awareness of behaviors or events that put the patient at risk for injury or complications

Factors Affecting Cognition: Aging and Disease

Over the years, researchers have debated a number of fundamental questions regarding cognition and aging. Among these are questions as to whether or not there are cognitive changes associated with normal aging, and what cognitive functions these changes affect. While the discussion about cognitive aging has been considerable and

conclusions contradictory, recent studies propose hypotheses of age-related neurophysiologic changes that interfere with cognitive processes and fluid abilities, both of which are essential for new learning to occur (Grigsby, Kaye, & Robbins, 1995). The relationship between aging and cognition has been explored and demonstrated in studies utilizing data from community samples in the MacArthur studies on aging (Chodosh, Seeman, Keeler & Sewall et al. 2004).

In spite of contradictory findings by Boone, Miller, Lesser, Hill, and D'Elia in 1991, there is new evidence from neuropsychological research verifying age related physiologic changes in frontal lobe function. These changes are attributable to a loss of neurons in and decreased blood supply to the frontal cortex of the brain (Grigsby et al. 1995) and account for declines in executive function.

Results from a number of studies investigating frontal lobe function have explained this type of cognitive decline as resulting from deficits in fluid intelligence, while asserting that crystallized intelligence remains relatively unaffected as individuals age (Barberger-Gateau & Fabrigoule, 1997; Christensen, Jorm, Henderson, Mackinnon, & Korten, 1994; Kaufman, McMahon, & Becker, 1989). This being the case, one would expect that knowledge and ability to perform routine tasks (crystallized abilities) would remain intact, while new learning and ability to engage in unfamiliar tasks (fluid abilities) would be compromised.

This view was refuted by Tabbarah, Crimmins, and Seeman (2002) in their research based on data from the MacArthur Studies of Successful Aging. Tabbarah et al's. study investigated the association between cognition and physical performance, focusing on differences between performance of routine and unfamiliar tasks that impose

increased attentional demands on the individual. Tabbarah's study found an association between participants' cognitive abilities, and changes in performance for both routine tasks (crystallized abilities) and unfamiliar tasks (fluid abilities). As such, these findings contradicted those of Barberger-Gateau and Fabrigoule (1997), and indicated that cognitive processes are in effect central to the performance of a variety of both routine and novel physical tasks (Tabbarah et al. 2002).

Electrophysiological studies conducted by Chao and Knight in 1997 provide evidence of frontal lobe changes in normal aging, which specifically result in impaired executive function of the attentional system. This is a particularly important finding in terms of safety and learning given the role of the attentional system in managing sensory input during task performance to facilitate cognitive processing. In this capacity, the attentional system serves as a sort of filter, allowing the individual to focus on relevant characteristics of sensory stimuli in the environment, while inhibiting those which are not relevant to the task at hand (Chao & Knight, 1997). Improper functioning of this inhibitory mechanism manifests cognitively and behaviorally as increased distractibility and precludes the individual from experiencing awareness and attending to the task (McDowd, Oseas-Kreger, & Filion, 1995).

This ability to focus attention and suppress irrelevant stimulus is a necessary condition for humans to learn, because it permits the transfer information from short term (working) memory to long term memory for permanent storage. Information thus stored can be recalled later to solve problems that arise in an environment that is constantly changing. When learning is compromised as the result of impaired cognition, new skills

can be acquired, but require adjustments in the task, the physical and social environment, and/or the manner in which information is presented (Allen et al. 1992; 1995).

Although the literature is replete with conflicting information regarding the cognitive status of elderly persons hospitalized for acute medical events, several studies report an association between medical conditions and cognitive decline. For example, Garrett et al. (2004), in their study of vascular cognitive impairment identified cognitive problems associated with cardiac and mild cerebrovascular disease in the absence of dementia. These cognitive problems included “reduced information processing speed, reduced cognitive flexibility, and poor learning efficiency” (Garrett et al. 2004, p. 746; Kilander et al. 1998; Kirkpatrick & Jamieson, 1993; Waldstein et al. 1996).

These results support findings from neuroimaging studies (Garrett et al. 2004), indicating that, among individuals experiencing mild forms of cardiovascular disease, there is a significant association between the severity of their cognitive problems and neurologic changes resulting from vascular damage. Neuroimaging studies conducted by DeCarli et al. (2001) and Swan et al. (1998) revealed a strong relationship between blood pressure at mid-life, and subsequent development of white matter pathology in the brain.

In terms of the prevalence and implications of vascular cognitive impairment, a study conducted by Rockwood et al. (2000) utilizing data from the Canadian Study of Health and Aging revealed that the most prevalent form of vascular cognitive impairment (VCI) among their study subjects was VCI with no dementia (Vascular CIND). From their study, the authors concluded that VCI subjects were at higher risk than subjects without cognitive impairment for institutionalization and death, but experienced similar

risks when compared to subjects having Alzheimer's dementia (Rockwood et al. 2000). Rockwood et al. cautioned against using criteria for VCI that requires a diagnosis of dementia, as this tends to underestimate the prevalence of VCI, and minimizes the actual burden of cognitive impairment among individuals 65 years of age and older (Rockwood et al.).

Research conducted by Elias (1998) and Ruchinskas, Broshek, Barth, Francis, and Robbins (2000) found evidence of cognitive changes associated with systemic illness, chronic diseases of the lung, heart, liver, or kidney, and polypharmacy associated with the treatment of these conditions. Studies of older patients undergoing surgical procedures for hip fracture estimate a 30 – 40 % incidence of cognitive problems post surgery in this population (Herrick et al. 1996; Mast, MacNeill, & Lichtenberg, 1999). In research comparing healthy controls with patients diagnosed with peripheral vascular disease the estimated prevalence of frontal lobe dysfunction and attentional impairment was 25% (Rao, Jackson, & Howard, 1999).

Gregg and colleagues (2000) in their prospective cohort study of the effect of diabetes on the cognitive status of older women found that controlling for age, education, depression, and a number of comorbidities, diabetic women had lower MMSE scores at baseline than did women without diabetes. These researchers also found the risk of major cognitive decline was greater (57% to 114% greater) for women who had been diabetic for over 15 years. Additionally, in a recent study of the association between hemoglobin levels and anemia and cognitive function among older medical patients, Zamboni et al. (2006) concluded that both conditions were independently associated with the cognitive performance of older medical patients treated in acute medical wards.

Additionally, studies in the cardiovascular literature provide insights into cognitive decline associated with procedures such as cardiac bypass surgery (Seines, Goldsborough, Borowicz, & McKhann, 1999). Other studies point to the relationship between socioeconomic conditions, their impact on the development of cognitive reserve in children, the implications for the children's life course and for their risks of experiencing cognitive deficits in advanced age (Richards, Shipley, Fuhrer, & Wadsworth, 2004).

The majority of these studies conclude that because of the prevalence of cognitive deficits among older patients with medical conditions, there is a crucial need to assess the cognitive status of these individuals. These studies further advocate for the development and use of cost effective and easy to administer tools capable of assessing executive function and fluid abilities, and sensitive to mild forms of cognitive decline.

Cognition and Functional Status: Perceptions of Health Professionals

In an extensive examination of the literature on functional status, Knight (2000) reviewed publications from nursing, psychology, and medical databases from the 1960s through 1998 to explore how researchers and health professionals viewed the relationship between cognition and function. Her review, undertaken with the primary focus of "identifying cognition as an important variable related to functional status" revealed four primary categories of the relationship between the two (Knight, 2000, p. 1460). The categories, described below, were identified by the author as functional status as behavioral; cognitive function as a separate construct from functional status; cognitive function assumed via the measure chosen to measure functional status; and, cognitive function as one domain of overall functional status.

Functional status as behavioral or performance-based

Twenty four studies were identified by Knight (2000) viewing *functional status as behavioral or performance-based*, and although few in numbers, they were found across a number of professional disciplines and specialties. These studies utilized a variety of performance measures all based on ADL performance. Six of the twenty four studies, according to Knight, acknowledged that other (psychological) factors may influence functional performance although none of the studies took cognition into account.

Cognitive status as a separate construct from functional status

In terms of *cognitive status as a separate construct from functional status*, the author cited 23 studies of which some interpret cognition as underlying functional ability, while some conclude there is an association between the two constructs. Knight (2000) comments as to the limitations of the instruments used in these studies, and the lack of sensitivity in detecting cases other than those with diagnoses of dementia and other neurobehavioral conditions, which would be expected to interfere with the performance of ADLs. However, the author acknowledges the significance of this group of studies, as they represent the beginning of an inquiry as to the relationship between the two variables.

Cognitive function assumed through instrumental activities

The category of *cognitive function assumed through instrumental activities* is described in 21 studies in which, while not directly assessing cognitive status, the role of cognition is subsumed through the capacity to perform IADLs. Measures utilized in these studies included the Functional Activities Questionnaire, the Direct Assessment of Functional Status, Duke University's Older Americans Resources and Services

Multidimensional Functional Assessment (OARS), the Duke UNC Health Profile, and the Sickness Impact Profile. The author cautions against use of these instruments with certain populations, because while they measure whether or not functional tasks can be performed, they fail to identify other factors which may support or interfere with performance (Knight, 2000). One additional criticism the author did not include is that these measures rely on self report, which has been found to be inaccurate in many cases.

Cognition as a dimension of functional status

Knight's last category revealed an additional 42 studies which account for *cognition as a dimension of functional status*. As an example, in occupational therapy, Allen's work with cognitive levels (1985, 1992, 1995) and Fisher's Assessment of Motor and Processing Skills (AMPS) acknowledge the relationship between impaired cognition and functional performance at all levels, including the social and interpersonal levels. Studies in this category almost unanimously recommend the inclusion of assessments of memory, learning and problem-solving into functional assessments of elderly persons.

Knight concludes her review by supporting the recommendations that any measure of functional status should also address cognitive, behavioral, and psychological components of function. She further suggests closely looking at aspects of cognition such as attention, memory, and problem-solving with an understanding that interventions for individuals with cognitive impairment must determine which of these components should be targeted for remediation (Knight, 2000).

A review of the professional practice literature yielded a number of studies investigating awareness among health professionals, and indicated that physicians and nurses consistently underestimate the prevalence of cognitive impairment in elderly

patients (Pisani, Redlich, McNicoll, Ely, & Inouye, 2003). In a subsequent study of recoverable cognitive dysfunction in older acute care patients, Inouye and colleagues (2006) concluded that a type of cognitive decline, not characterized by dementia or delirium, is both prevalent in the target population and often undetected. These researchers proposed that older adults hospitalized for acute illness be considered at risk for recoverable cognitive decline and screened so that appropriate interventions can be developed and implemented to treat this reversible condition.

Only one study was found addressing occupational and physical therapists' failure to identify cognitive problems in their elderly patients (Ruchinskas, 2002). The dearth of information regarding identification of cognitive problems by rehabilitation therapists may well be a reflection of the therapists' beliefs as to what constitutes functional status.

Geriatric Rehabilitation

There is growing evidence in the literature of a higher rate of cognitive decline among geriatric rehabilitation patients as compared to the general population of the same age. According to Ruchinskas and Curyto (2003), geriatric rehabilitation patients are at risk of experiencing cognitive impairment as a result of a number of factors, including age associated changes in attention and cognitive processing. Other researchers have found associations between cognitive impairment and medical conditions including chronic hypertension (Elias, 1998); chronic systemic and major organ disease and the polypharmacy associated with their treatment (Clarnette & Patterson, 1993; Ruchinskas et al. 2000); and surgical replacement of knee and hip joints following traumatic fracture (Herrick et al. 1996; Mast et al. 1999).

Rao et al. (1999) reported that, contrary to earlier beliefs, as many as 25% of individuals having peripheral vascular disease demonstrate frontal lobe and attentional dysfunction. Similarly, research conducted by Mast et al. (1999), Ruchinskas, Singer, and Repetz (2000), and Tatemichi et al. (1994) indicated that one to two thirds of individuals with recent onset cerebrovascular accidents experienced cognitive dysfunction.

Cognitive impairment has been linked to a number of adverse outcomes. For instance, one such outcome is a limited or lack of functional improvement in rehabilitation, because cognitive tasks such as memory, visuo-spatial skills, cognitive processing, and motor speed play an important role in ADL performance (MacNeill & Lichtenberg, 1997). Additionally, because living alone requires successful performance of ADLs and the ability to engage in instrumental activities of daily living (IADLs, e.g. cooking, driving or using public transportation, shopping, finances, adhering to medication regimens, and handling schedules and appointments), impaired cognition is also associated with increased risk of institutionalization following rehabilitation.

In a study of 900 urban patients admitted to a geriatric rehabilitation unit between 1991 and 1994, MacNeill and Lichtenberg (1997) sought to identify predictors of return to independent living. Patients in this study ranged in age from 60 to 99 years of age, and had varied admitting diagnoses. Fifty three percent of these individuals had diagnoses of arthritis or peripheral-vascular disease; 33% had diagnoses of pelvic, hip, or leg fractures; and 13% had diagnoses of stroke. Results of the study indicated that motor performance was not related to cognitive status and that in fact, motor scores may lead providers to overestimate an individual's capability to return to independent living.

While medical severity and demographic variables did not contribute to predicting discharge disposition in MacNeill and Lichtenberg's study, the authors did find an association between higher cognitive function at admission and being discharged to independent living. Findings from this study verify the importance of assessing the cognitive status of geriatric patients and emphasize that physical abilities alone are not an adequate measure of ability to return to independent living.

Occupational Therapy Practice

According to the most recent information from the Bureau of Labor Statistics, 92,000 occupational therapists were employed in 2004, most working in hospitals, with 1 in 10 therapists holding more than one job. Therapists were employed in a variety of settings, including physicians' offices, home health care services, outpatient care centers, community care facilities for the elderly, government agencies, educational services, and nursing homes. A small number reported being in private practice, and providing services on referral from physicians or consultation to nursing homes, adult day care programs, and home health agencies (Bureau of Labor Statistics, 2006).

As of April 2006, there were 102,000 licensed therapists in the United States as reported to the American Occupational Therapy Association (AOTA) by the licensing boards of forty six states. Of this number, 24,000 were members of AOTA (Karen Bingham, Membership Director, AOTA, personal communication by phone, April 2006). Michigan, Indiana, and Hawaii do not currently require licensure as a condition of employment, but do have CE requirements in order to practice. Colorado is the only state that has no licensure or CE requirements (Karen Smith, Associate Director of Regulatory Affairs, AOTA, personal communication by phone, April 2006).

Occupational therapists are health professionals involved in the development and restoration of function in patients ranging from neonates to the aged and provide services on a continuum that includes acute and post-acute stages of an illness or injury. In their work with neonates and toddlers, occupational therapists engage in preventive interventions when physical problems threaten normal physical, cognitive, and/or psychosocial development. In their work with adults, occupational therapy interventions are designed to restore function and prevent the onset of disability resulting from a medical condition or injury and/or to reduce the effects of a disabling condition.

Within the domain of occupational therapy, the concept of occupation describes those developmental tasks that are age appropriate, essential for the individual's identity and ability to function and culturally meaningful for the patient and the profession (Kielhofner, 1997). *Occupation* is a core construct that addresses tasks throughout the life-span and has provided the foundation for the profession since its inception during the Moral Treatment movement in the late 1800's (Howard, 1991).

The practice of occupational therapy, as in other professions, has been defined by the paradigm within which it functions, i.e., its perspective, values, roles, and tasks. Through role definition, shared meanings are generated that characterize the practice domain of therapists. Shared meanings, in turn, clarify for therapists and others what the profession does, the population it serves, which problems therapists address, and how services are provided (Kielhofner, 1997). However, shared meanings are not static entities; they are in fact an expression of the profession's paradigm and, as paradigms change, so do shared meanings, values, roles, and tasks. Thus, for the purpose of survival, a profession that at its core believed in the holistic nature of the individual

responded to market pressures by adopting a reductionistic, biomedical framework. In so doing, it allowed the practice context (e.g., corporate culture and reimbursement issues) to influence its roles and tasks (Baum, 1985; Foto, 1988; Howard, 1991).

While national and state level leaders and some clinicians actively engaged these practice contexts (e.g. third party payers and policy makers) to ensure quality of services, individual therapists although frustrated adapted to external demands and, at least partially, redefined their personal contexts (e.g. values, beliefs, and attitudes) (Burke & Cassidy, 1991).

As Burke and Cassidy (1991) indicate, emphasis on productivity, efficiency, and cost-containment has altered both the frequency and the type of services provided by occupational therapists. These authors discuss how, in an effort to ensure reimbursement for services, therapists have had to provide diagnosis-based treatment protocols regardless of whether or not they addressed the patient's needs.

One qualitative study by Walker (2000) inquired into the effect of managed health care on the practice of occupational therapy and the ways in which occupational therapists adapted to the changing health care environment in the 1990's. One adaptive technique Walker described was to become more businesslike and mostly focused on the economic value of occupational therapy. She reports that therapists in this category adapted by changing their pace and focusing on efficiency. Therapists aligned with the culture of managed care by changing their assessment practices, the interventions in which they engaged, and their documentation in order to comply with changing rules and expectations (Walker, 2000).

How external contexts affect the practice of occupational therapy was discussed by Howard (1991), as she described the shift towards the biomedical model and the emphasis on research for what she believed to be the wrong causes:

Research, therefore, becomes not just a measure of efficacy, but a method to justify occupational therapy according to the dominant model in health care practice. Because reimbursement rewards the unifactorial medical model, it becomes difficult to survive economically while clinging to a philosophy based on multifactorial causes of disease. Compromise – by assimilating aspects of the medical model – allows for survival, but limits options for social effectiveness (p. 879).

The longevity of issues related to the evolution of occupational therapy in response to changes in the health care climate and reimbursement are chronicled by this literature review. The impact of cost-containment on the provision of services and the tension it created for therapists is evident as well.

Clinical Reasoning in Occupational Therapy

Initially described as fitting into one of two major categories, clinical reasoning in occupational therapy has undergone considerable scrutiny for over 20 years. One category has been described in a number of ways as technical rationality, scientific problem-solving, and instrumental reasoning, and refers to a methodical, instrumental, hypothesis-generating scientific approach. According to Rogers and Masagatani (1982) and Mattingly (1991), therapists engage in this type of reasoning when they use the

medical diagnosis to guide their assessments and frame their treatment decisions. As instrumental reasoning, it is congruent with the biomedical model and is mostly concerned with prediction and control (Mattingly, 1991). This assumes that knowing the medical diagnosis one can expect to find certain types of dysfunction, which respond to specific interventions.

The second major category, described by Fleming (1991) and Mattingly (1991) as narrative reasoning, refers to a mode of thinking in which therapists use narratives or stories when thinking about or discussing therapy with clients and caregivers or with other professionals. Narrative clinical reasoning promotes patient-centered interventions and is congruent with the models of occupation that have emerged in the last few years. Through narratives, the patient and therapist can create meaning from the illness or disabling event, and move on to “create new futures” incorporating the patient’s new situation (Mattingly, 1991; Schell and Cervero, 1993).

In their 1993 review of the literature, Schell and Cervero became aware of the emergence of a third category of clinical reasoning that had not been previously documented in occupational therapy research. This third category, identified as *pragmatic reasoning*, is analogous to the process identified in cognitive psychology as *situated cognition*, and serves to explain a more complex method of reasoning.

Pragmatic reasoning and situated cognition take into account the effect of the particular situation on mental activity (Schell & Cervero, 1993), and the meaning afforded to the situation by the individual(s). Pragmatic reasoning is concerned with personal context, which as described by the authors, include the therapist’s values, motivation, knowledge, and available repertoire of skills, and also with external contexts,

which are those factors external to the individual and include the physical, social, cultural, and economic factors that facilitate or hinder the individual's behavior.

Pragmatic reasoning is used by therapists when, in the process of treatment, they take their practice and personal contexts into account and consider the impact that these factors have on potential interventions (Unsworth, 2005).

It is possible that this latter form of reasoning had not been acknowledged in earlier research, because as Unsworth (2005), Schell and Cervero (1993) indicate, contextual factors were interpreted as barriers to clinical reasoning rather than being understood as part of the process in clinical decision-making. Pragmatic reasoning is congruent with the emerging paradigm in occupational therapy based on ecological models of practice.

Ecological Systems Model and Occupational Therapy

Ecological models have been proposed in occupational therapy literature since the 1970's. These models reflect the evolution of the profession, as it searched to develop a theoretical base that would assist in both defining its similarities with, and distinctiveness from other health professions and public health (Howe & Briggs, 1982). Perhaps more importantly, these models signaled the evolution of an emerging paradigm fashioned after General Systems Theory.

Ecological models provide a conceptual structure that views the individual as an open system, and explicate the reciprocal relationship of the individual with his or her environment, each contributing to and influencing the other (Howe & Briggs, 1982). Ecological models serve as a reminder to occupational therapists that the individual's performance cannot be considered without taking into account his or her environment,

which simultaneously affords opportunities for performance and constrains by pressing for particular behaviors.

Environment or context, as defined by a number of researchers, is a common thread connecting several contemporary models in occupational therapy. For instance, Kielhofner and Burke (1980) based the Model of Human Occupation (MOHO) on GST, expanding the original model by adding subsystems of volition, habituation, and performance. Schkade and Schultz (1992) promoted a holistic approach to occupational therapy in which therapists' assessments and interventions would take into account the role of the person, the environment, and the interaction of the two. Dunn, Brown, and McGuigan's (1994) Ecology of Human Performance (EHP) was developed as a way to both recognize the role of "context" in treatment and as a way to improve patient treatment by facilitating collaboration across disciplines (Dunn et al. 2003). Finally, and very closely related to the Ecology of Human Performance, Christiansen and Baum's (1997) Person-Environment Performance Model and Law's et al. (1996) Person-Environment Occupation Model focus on the relationship between performance and the interaction of the individual with his/her environment.

Several of the models have been cited in a number of articles in the medical and rehabilitation literature. Individually, however, the Ecology of Human Performance has been cited in 56 publications covering such diverse areas as assistive technology, disability and rehabilitation, occupational and physical therapy, nursing and public health nursing, stroke, geriatric medicine, psychology, psychiatry, science of human movement, and special education.

By way of explanation as to the critical need to consider the effect of environment in treatment, Dunn et al. (1994; 2003) propose the following two central assumptions of the EHP framework:

- the interaction between person and environment affects human behavior and performance
- performance cannot be understood outside of context

Dunn et al. (1994; 2003) further contend that while environment (external context) has been recognized as an important element of performance, occupational therapy practice has focused more on performance in areas of occupation (e.g. ADLs, IADLs) and performance skills (cognitive, perceptual, and sensory skills) that reside in the personal context. In their chapter on the Ecological Model of Occupation, these authors further indicate that this lack of attention to context is not limited to occupational therapy, but has been noted in other human service professions (Dunn et al. 2003).

Context, according to Dunn et al, (2003) refers to factors proximate to the individual and encompasses the physical, social and cultural environments, as well as temporal factors related to the individual (e.g. age, developmental stage, place in important life cycles). They further explain that each individual has a distinctive but not exclusive contextual experience, because while each experience may be personal, contextual factors are shared with other individuals in the same space and time.

Similarly, Howe and Briggs (1982) conceptualize a system as comprised of nested layers with the centermost layer representing the “inner life space” (personal context) of the individual, and encompassing the person’s psychological, cognitive, and physiological dimensions. The outer layers, according to Howe and Briggs, represent the

individual's "extended life space" (external context), which the authors describe as "the space in which the person functions within his or her life's roles, through the performance of life tasks" (Howe and Briggs 1982, p. 323). Howe and Briggs' (1982) "immediate setting," defines the first environmental layer, which includes home, neighborhood, family, and others who have regular contact with the individual. Within this layer, roles are principally related to family and community and activities mostly deal with personal care. Social networks comprise the second environmental layer, which includes peers, schools, social groups, transportation, and social institutions ranging from health care to government. Activities and roles in this layer cover a wide range and include the person's role as a worker. The third layer, defined by Howe and Briggs as the ideological layer, holds the societal and cultural values that instill meaning and motivation to the other layers.

For the purpose of treatment, therapists would likely be concerned with interactions between their patients and the patients' immediate setting and social networks (Howe and Briggs, 1982). This study, however, focused on the interaction between the therapist's personal factors within his or her inner life space (personal context) and the second (social) and third (ideological) layers as described in Ecological Systems Models.

This study is supported by concerns expressed by occupational therapy researchers such as Barris (1987), Fondiller et al. (1990), and Howard (1991) as to the effect of context on practice, as well as by others in the medical literature. As an example, Landon et al. (2000), in a study of market influences on physicians' practices surveyed 4,825 primary care physicians providing services to adult patients. These authors inquired as to the impact of physicians' characteristics, patient factors, and characteristics of the

practice setting and the organization on clinical decisions. Their study revealed that personal characteristics of the physician and characteristics of the practice setting (rather than organizational constraints) were more predictive of physicians' assessment and treatment behaviors (Landon et al. 2000).

In question is the impact that external contexts may have on therapists' beliefs, which ultimately determine how therapists conduct their practice. Such inquiry is the basis for the proposed study and for the selection of an Ecological Systems Models as its framework.

CHAPTER 3

Methods

This chapter describes the methods that were utilized in this study, and is organized into ten sections: 1) a description of the study, population, and sample selection; 2) research questions; 3) variables; 4) instrument development; 5) data collection; 6) response rates and representativeness of the sample; 7) effect of social desirability; 8) data management; 9) data analyses; 10) power analysis and sample size.

Type of Study, Population, and Sample Selection

The study used an exploratory, non-experimental design and the population of interest consisted of occupational therapists (OTs) providing physical rehabilitation services to patients >65 years of age in the United States.

The study used a purposive sample of occupational therapists (OTs) with primary enrollment in either the Gerontologic (GSIS) or the Home and Community Health Special Interest Sections (HCHSIS) of The American Occupational Therapy Association (AOTA). The two special interest sections were selected as they were more likely to include therapists who provided physical rehabilitation services to persons 65 years of age and older.

Names and addresses of 2000 occupational therapists with primary membership in the GSIS, and 1000 therapists with primary membership in the HCHSIS were obtained

from AOTA. Although therapists may enroll in several special interest sections, AOTA limits primary membership to a single section. Accordingly, the chairpersons of the GSIS and the HCHSIS were contacted to obtain their permission to post pre-notification announcements as well as subsequent reminders on their respective listserves. This contact was also important to garner the support of the chairpersons and enlist their assistance in the process of recruitment.

Variables

The outcome variable of interest in the study was *the routine use of cognitive screening and assessment instruments by occupational therapists on initial evaluation to assess the cognitive status of non-demented medical patients 65 years and older referred for rehabilitation*. These patients were selected based on findings from prior interviews conducted by this researcher with occupational therapists and by the research literature, which indicated that therapists, as do other health professionals, tend to underestimate the prevalence of cognitive deficits among non-demented elderly medical patients (Ruchinkas & Curyto, 2003; Ruchinkas, 2002; Ruchinkas et al. 2000; Whaley, 2000).

Thirty four predictor variables were initially identified based on constructs identified in the Ecological Systems Models and the research literature (Dunn et al. 2003; Howe and Briggs, 1982). Ecological Systems Models provide a conceptual structure that views the individual as an open system with personal attributes (personal contexts) in reciprocal interaction with his or her environment (external contexts). For the purpose of this study, the external contexts comprise the occupational therapy practice environment including the physical and social work environment, as well as patient factors.

Independent variables within the practice contexts, as described by Howe and Briggs (1982), inhabit the social networks and ideologic layer. While the social networks layer contains work, peers, social groups and social institutions, the social and cultural values that infuse meaning to these networks are inherent in the ideologic layer.

Although according to Howe and Briggs (1982), individuals participate in a number of activities and occupy a number of roles within their social networks, this study specifically focused on the therapists' role as workers. Thus, constructs of the theoretical framework were operationalized through predictor variables based on the existing literature on Ecological Systems Models, as well as the research literature in nursing, medicine, and rehabilitation (Christiansen and Baum, 1997; Dunn, Brown and McGuigan, 1994; Dunn et al. 2003; Law et al. 1996). Predictor variables associated with each context were operationalized as follows:

Personal context

1. Knowledge of the effect of aging on cognition (5 variables)
2. Knowledge gained from formal training in the administration and scoring of a variety of screening and assessment instrument
3. Beliefs regarding the use of cognitive screening and assessment instruments (6variables)
4. Beliefs regarding professional responsibility (2 variables)
5. Beliefs about aging (2 variables)
6. Age
7. Years in occupational therapy practice
8. Years in geriatric rehabilitation

9. Years in employment with company
10. Gender
11. Race/ethnicity
12. Education (2 variables)
13. Special interest section

Practice context - Social layer

1. Type of work site or setting
2. Facility ownership

Practice context – Ideologic layer

1. Resources available to therapists
2. Supervisor support
3. Employer support
4. Professional autonomy afforded therapists (3 variables)
5. Patient factors

A summary of the research questions, associated variables, and survey questions is provided in Appendix A.

Instrument Development

Questions utilized in the initial version of the survey were derived from information in the research literature (Dunn et al. 2003; Howe & Briggs, 1982) as well as from the focus groups and individual interviews conducted earlier with occupational therapists. The survey instrument was developed following recommendations from Dillman (2000), McDermott & Sarvela, (1999), and Thomas (2004).

Questions were designed according to Dillman's principles (2000) so that they would be applicable to each participant and worded in a manner that would clearly require a response. Additionally, as recommended by Dillman, questions were crafted so as to avoid excessive mental effort on the part of respondents; e.g., keeping recall simple and recent and providing response categories that were carefully ordered, clear, and mutually exclusive (Dillman, 2000).

There are a number of additional elements that contribute to creating a questionnaire that is respondent friendly, thereby improving the likelihood of a substantial response rate. Included in these elements are:

clear and easy to understand questions ordered to indicate high salience to the respondent; and a questionnaire layout in accordance with visual principles of design for comprehension and easy response (Dillman, 2000, p. 150).

As such, the first question in the survey inquired as to the most recent clinical experience of respondents, and was designed to have high salience, to be non-threatening, and easy to answer. A "skip pattern" was applied to this first question, to serve as a filter and ensure that only therapists carrying an active caseload at the time or having treated elderly patients within the previous 6 months would respond to the questionnaire.

Visual appearance and accessibility are also important concerns in designing web based surveys. Thus, as recommended by Dillman (2000) and Thomas (2004), graphics were avoided to prevent distractions, avoid lengthy download time, and ensure that the online questionnaire would display properly in different operating systems.

Question layout and background color were selected to present a crisp and professional appearance, and a matrix layout was adopted for six items to maintain a reasonable length and avoid redundancy. Open-ended responses were used sparingly as was use of a drop-down menu, which was limited to questions such as state of residence with many response options. Clear instructions were provided preceding a question or section when indicated, and a progress bar at the top of each page was utilized so that respondents would have an idea of how near completion they were.

Maintaining a sense of context can be more difficult for respondents of web based questionnaires than it is for those responding to printed surveys. Therefore, following Dillman's recommendations, respondents were permitted to navigate back to previous questions much as they would if completing a paper and pencil questionnaire (Dillman, 2000). Survey features were also activated to allow individuals to resume responding in the event that their connection to the internet was disrupted or if they found it necessary to stop prior to completion.

Several recommendations by McDermott and Sarvela (1999) were incorporated when assembling the questionnaire. Items that had similar content (e.g. choice of instrument, frequency of use) or response options (e.g. multiple choice, true/false, or yes/no) were grouped together. Demographic items were placed together at the end of the questionnaire.

Validity

Validity, the most important consideration in survey design, refers to whether or not an instrument measures what it purports to measure and whether appropriate, meaningful, and useful inferences can be made from the obtained results (Ary, Jacobs, &

Razavieh, 2002; McDermott & Sarvela, 1999; Thomas, 2004). Face validity substantiates the appropriateness of the instrument for the target audience and that it measures the constructs of interest (McDermott & Sarvela, 1999). Content validity is based on evidence obtained from a number of experts and attests to two important facts: 1) that each question addresses an objective of the study and 2) that questions provide sufficiently broad coverage to obtain meaningful information (Thomas, 2004).

McDermott & Sarvela (1999) recommend establishing content validity when developing an instrument for data collection, particularly when the instrument will be utilized to measure social behavior.

To verify face and content validity, a panel of experts was assembled and asked to review the survey instrument and all communications that would be provided to potential participants (McDermott & Sarvela, 1999). The panel consisted of a University of South Florida (USF) College of Public Health faculty member, a faculty member from the USF College of Nursing, a faculty member from the School of Occupational Therapy at the University of Florida, a master's prepared occupational therapist owner of a dementia specialty educational practice, two bachelor's level occupational therapists practicing in geriatric rehabilitation, two Ph.D prepared researchers from the Patient Safety Center at the James A. Haley V.A. Medical Center in Tampa, and a Master's prepared finance specialist not familiar with occupational therapy practice. Inclusion of a panel member who was unfamiliar with occupational therapy contributed to an unbiased analysis of the constructs and questions (Thomas, 2004). A more complete list of panel members and their credentials is included in Appendix B. A copy of the instructions provided the panel is provided in Appendix C.

These experts were instructed to review all documents for readability and clarity of instructions and to indicate if any items or wording might be offensive to potential participants. They were asked to review response options to ensure these were adequate for the questions and that the range of responses provided was sufficient. Panel members were also asked to indicate if, in their estimation, any questions should be eliminated or included in the survey.

In order to identify potential problems, panel members were provided the URL to the survey site and asked to comment on the appearance of the survey instrument, and on their experience navigating through the questions. They were also asked to indicate if they encountered any difficulties with accessibility or display. Based on suggestions from several panel members and as recommended by Dillman (2000), respondents were not required to provide an answer as a condition for being allowed to respond to subsequent questions.

Finally, using the classification approach to establish content validity, panel members were provided with a form listing all 63 survey questions, a description of the objectives of the study, and a description of the theoretical constructs. Panel members were then instructed to assign each survey question to a theoretical construct. Results obtained from the panel of experts were then reviewed to establish the representativeness and relevance of each item in order to determine what changes to the final instrument were indicated.

Reliability

Prior to conducting the pilot study and, as required by the University of South Florida for the protection of human subjects involved in social and behavioral research,

an Application for Initial Review was submitted to the Institutional Review Board (IRB). Because the involvement of human participants was restricted to the use of a survey questionnaire and subjects were not at risk of being identified nor subjected to any risk of liability or damage, an Exemption Certification Request was also submitted. On October 5, 2005, an Exemption Certification for IRB Protocol #IRB 104071G was issued by the Institutional Review Board. A copy of this certificate is included in Appendix D.

In order to pilot test an instrument, McDermott and Sarvela (1999) recommend identifying 20 to 50 subjects who are representative of the target population. Pilot tests are conducted in order to establish reliability, i.e., the degree of consistency with which the instrument measures whatever it intends to measure (Ari et al. 2002). The pilot test for this study was conducted to determine the test-retest stability of the instrument's items by having therapists answer the survey questionnaire at two points in time (McDermott & Sarvela).

Occupational therapists from the James A. Haley V. A. Medical Center in Tampa, Florida and Aegis Therapies in Florida, Alabama, and Arkansas were invited to participate in the pilot test of the instrument. As recommended by McDermott and Sarvela (1999), therapists were instructed to not take part in the research study if they agreed to participate in the pilot test. Potential participants were provided with information about the survey, a link to the instrument, and instructions as to how to access the survey site. An identical copy of the survey was created in a second Surveyor site, and the link to that site later provided to participants in a reminder message sent so as to allow at least 5 days to elapse between the first (T1) and second (T2) administration. Forty-four therapists responded to the survey at T1 and 22 responded at T2. A total of 18

matched surveys completed at both points were identified as viable for the test-retest reliability analysis.

Percent agreement and coefficient kappa between responses at each administration were calculated for all of the 21 dichotomous variables. Eighteen items with a kappa reliability coefficient of .50 or greater remained consistent 80% of the time or better and were retained for the final survey (Ari et al. 2002). Ten of those items, related to assessment instruments generally used in occupational therapy were changed from a matrix format to individual questions.

The stability of ranked variables was examined using the Spearman rho correlation coefficient. A correlation coefficient of .30 or above was used as the criteria for retention of any item in the final survey. The rationale for that decision was based on a number of factors. Reliability estimates may be affected by sample size and reliability coefficients decrease as the homogeneity of the sampled group increases (Ari et al. 2002). Furthermore, decisions to retain or purge items should not be entirely based on reliability estimates but should also take into account the value of the question.

Although items with a correlation coefficient below .30 could be interpreted as unstable, there are a number of plausible explanations that may account for such low correlations. It is possible that having responded to the survey once, therapists may have reconsidered their previous responses and replied differently during the second administration. It is also possible that by responding once they may have been cued to the purpose of the inquiry, and subsequent responses may be reflective of the social desirability associated with the response.

Another possibility is that response options based on a four point scale may have offered limited choices and resulted in inflated differences. One last consideration is that despite the short period between administrations, therapists may have gained some awareness or knowledge or had some exposure, which could account for the variability in their responses. Results of the reliability analysis appear in a detailed report presented in Appendix E.

Data Collection

The survey instrument was uploaded to a University of South Florida secure site using Ultimate Surveyor software. Ultimate Surveyor is an IIS Microsoft ASP based software, written in Visual Basic using secure socket layers for translation, and storing the information behind firewalls. The information between the participant's computer and the server is encrypted so that it cannot be intercepted.

To further ensure easy access to the survey, several individuals were asked to access the site and test the questionnaire. This final step revealed that manually entering the long and complex URL to the survey site was problematic and made access to the survey inconsistent, increasing the threat of non-response. Although the URL was provided in both the letter of invitation and the electronic message posted to the special interest sections' listserves, there was a risk that only those therapists receiving and reading the electronic notification would be able to access the questionnaire directly. Thus, as recommended by an expert panel member and to facilitate access and increase participation, a separate web page was created through the University of South Florida's Health Information Technology Department, to serve as a portal to the survey site. The letter of invitation and the electronic pre-notification message were amended to include

the URL to the web site (<http://www.hsc.usf.edu/~mwhaley>), and approval to modify the study was obtained from IRB. A copy of the approval letter is included in Appendix F.

Survey implementation followed Dillman's Tailored Design Method (2000), making several contacts with potential participants, utilizing first class mail for the pre-notification letter and post-card reminder, and offering an incentive. A total of 6 postal and electronic contacts were made over a period of 6 weeks, beginning with the electronic pre-notification message posted on both AOTA's Gerontological and Home and Community Health Special Interest Sections' listserves, advising therapists that they would be receiving letters of invitation to participate in the study.

The electronic pre-notification message was posted to the GSIS and HCHSIS listserves on April 17, 2006, and sent to member therapists via the respective listserves on April 18, 2006 (Appendix G). The electronic message was followed on April 25 by 3000 mailed letters of invitation. Table 1 shows a geographic distribution by region, of the therapists invited to participate in the study.

The letters of invitation included a description of the study, an informed consent as required by the Institutional Review Board at the University of South Florida (USF), and the link to the web page where the survey questionnaire could easily be accessed. A signed informed consent was not required. By responding to the survey, therapists were giving their consent to participate.

On April 28, follow-up email thank you notes and reminders were posted to the GSIS and HCHSIS listserves, and on May 4, post card reminders were sent by mail, excluding 12 therapists whose letters of invitation had been returned undeliverable as of that date. A second thank you note and email reminder was posted to the listserves on

May 16 and a final email reminder posted on May 21 advising therapists that the data collection period had been extended through May 26.

Table 1. Geographic Distribution of Sampling Frame		
Geographic Location	Letters of invitation Sent	Invitations by Region as % of Sampling Frame
Region 1 - Northeast	788	26.2
Region 2 - Midwest	845	28.2
Region 3 - South	753	25.1
Region 4 - West	611	20.4
Puerto Rico	3	0.1
Total	3000	100.0

Other than multiple contacts with potential participants, one other factor associated with an increased response rate in survey research is the use of some form of incentive. Miller & Salkind (2002) discuss how the use of incentives has been well researched in the response rate literature on mailed questionnaires and, although there is inconclusive evidence as to how the value of the incentive impacts response rate, there appears to be agreement on two issues. One is that incentives are effective in raising response rate in mailed survey research. The second issue is that incentives which are enclosed with a mailed survey are more effective than those that are promised contingent on participation. The latter finding is congruent with Social Exchange Theory, which suggests that people are likely to engage in an action to reduce what they perceive as an obligation.

Therefore, even a small incentive included with a mailed survey will likely persuade individuals to respond (Miller & Salkind, 2002). A promised incentive, according to Dillman (2000), becomes an economic rather than a social exchange and makes participation contingent on the perceived value of the incentive. Declining to participate in the latter type of exchange is also more culturally acceptable.

Use of incentives with Web and Internet-based questionnaires poses special logistic problems. As an example, determining how the incentive will be offered and delivered, especially if maintaining the confidentiality and anonymity of respondents is a concern. Thomas (2004) suggests offering a redeemable printable “coupon” which becomes visible at the time respondents submit the completed questionnaire. However, as Thomas indicates, the determination of whether to use an incentive with an electronic survey depends to some extent on the degree of motivation of potential participants. Thomas suggests that “surveys addressing a subject that is meaningful and interesting to potential respondents may not require an incentive. Offering to share the results with respondents, as well as appealing to potential respondents’ altruism, may be sufficient motivation to promote participation” (Thomas, 2004, p.123).

The decision to use an incentive in this study, the manner in which potential respondents were notified of the incentive, and the means utilized to deliver the incentive were borrowed from the literature of both mailed and electronic survey research. As an example, the letter and electronic postings appealed to the therapists’ sense of professional involvement and professional responsibility. Potential participants were advised that survey results would be shared with them through the USF website and that they would be notified through the SIS listserves when results were available.

To protect the anonymity and confidentiality of participants, a Yahoo email account was established where participants could provide their contact information to participate in the random drawing. Instructions as to how to access the Yahoo site and submit the information for the drawing was included on the last page of the questionnaire. As this represented a change to the original research plan, a modification to include an incentive was submitted to the IRB and approval obtained to proceed with the study. A copy of the approval letter is included in Appendix H.

The incentives offered participants consisted of two, \$ 50 winner's choice gift certificates. Two College of Public Health staff members who were not familiar with the study or with the roster of participating therapists, were recruited to assist with this last phase. One individual was asked to create and maintain the Yahoo email account used for the drawing, while the second individual conducted the blind, random drawing at the conclusion of the data collection on May 26, 2006. A total of 248 of the 349 respondents participated in the random drawing.

Response Rates

As indicated in the literature, response rates for online surveys vary widely and are often lower than those for mailed questionnaires. Rates for 12 online surveys of health professionals conducted between 1999 and 2002 ranged from 9% to 94% (Braithwaite, Emery, de Lusignan & Sutton, 2003). Response rates often depend on factors such as how the survey was deployed and the method for obtaining the sampling frame.

Cook, Heath & Thompson (2000) caution against accepting response rates of published web based studies as the standard because studies with small response rates may not be submitted for publication, or may not be published if submitted. These

authors further assert that basing the adequacy of response rates solely on published studies may lead to an overestimation of response rates.

The literature also indicates that external validity, i.e. the representativeness of the sample, rather than sample size is often more important to web based and online survey research. And, in cases where the response rate is small (<40%) every effort should be made to use other sources of data to compare demographics of the survey respondents to those of the target population (Thomas, 2004).

Our study followed Dillman's Total Design Method to maximize response rate, and yielded a response rate of 12%. In survey research, homogeneous samples (such as members of professional groups responding about issues that are salient to their practice) are less likely to present a source of bias with low response rates, such as the rate obtained in this study (Braithwaite et al. 2003; Cook et al. 2000; Tracy, Dantas, Moineddin & Upshur, 2005).

Data Management

The software package utilized for data management and analyses was SPSS version 15.0. Data were analyzed using logistic regression with a dichotomous outcome variable coded so that a value of 1 identified therapists in the response category (therapists *who almost always use any of the standardized instruments to assess cognition on initial evaluation*), and 0 would identify those in the reference category (*therapists who utilize an instrument frequently, sometimes, or almost never*). The *almost always* category was selected to ensure that the frequency of utilization of assessment instruments approximated routine use of an instrument in the process of initial evaluation.

Although levels of measurement for predictor variables in a logistic regression may vary from nominal to ratio, nominal (classification) level predictor variables must first be transformed using dummy-coding or effect-coding (Munro, 2001). Thus, nominal variables were transformed into dichotomous variables assigning a value of 1 to the response category (*presence of the attribute or category of interest*) and 0 to the reference category (*absence of the attribute or category of interest*).

Knowledge of assessment instruments was measured by therapists' scores on a scale based on a selection of assessment instruments. The score for knowledge increased by one point for every instrument the therapist was trained to use.

Data Analyses

Prior to any analyses, the data were reviewed to ensure there were no duplicate cases. Univariate descriptive analyses were then conducted to screen the data for errors and to ensure that the data was read correctly by the computer program. Descriptive analyses are helpful to understand the shape of the data and determine appropriate measures of central tendency, to detect marked departures from normality, to determine suitable statistical tests, and to answer research questions (Hatcher & Stepanski, 1997). Statistics obtained with this procedure were the mean (for age only), median, mode, standard deviation, skewness, and kurtosis. Based on results of the univariate analysis, two variables, *race/ethnicity and location of training*, were dropped from further analyses because their distributions were highly skewed and variable transformations to achieve normality were impractical (Munro, 2001).

Missing Data

An exploration of the data revealed that missing responses for key variables ranged from .3 to 3% and only 1 predictor variable, *frequency of use of the Cognitive Performance Test*, had 4% missing data. Because the percentage of missing data was small (<5%) and the pattern of missing data appeared random, all variables were retained. Additionally, since cases containing missing data would be excluded from pairwise comparisons in the analyses, all 303 cases were retained.

Testing Data for Normality

Tests of normality were conducted in order to determine suitable statistics to be used in subsequent analyses. Continuous variables (e.g. *age, years in employment with company or agency, years in occupational therapy practice, years in geriatric rehabilitation*) were tested to determine if their distribution was significantly different from that which is found in a normally distributed population. Distribution of the data was tested using the Kolmogorov-Smirnov test of normality, which compared a set of scores in the sample to a normally distributed set of scores having the same mean and standard deviation (Field, 2001). The test, considered significant with a p value < 0.05, yielded a p value of .003 for age, and .000 for the other temporal variables. This value verified that the distribution in question did demonstrate a significant departure from normality; therefore, the null hypothesis that the data was drawn from a normally distributed sample was rejected (Field, 2001; Hatcher & Stepanski, 1997). Table 2 summarizes the results of the normality test.

Table 2. Summary of Test of Normality for Continuous Variables.	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Age	.067	295	.003*
Years with company	.278	295	.000**
Years in OT practice	.296	295	.000**
Years in geriatric rehabilitation	.190	295	.000**

*Significant at $p < .05$, ** Significant at $p < .001$

Reliability analyses were undertaken in order to determine if variables could be combined in multiple-item additive scales to reduce the number of variables. Cronbach's alpha coefficient was selected for this procedure and a criterion of $>.70$ established to identify items that belonged together (Munro, 2001). Two items (*how therapists determine areas of performance to assess, and how therapists determine performance skills to assess*) with a Cronbach's alpha of $.728$ were found to be component measures of the scale "Autonomy". All other items remained as individual variables for further analyses.

Bivariate Analyses

Potential confounders were identified through bivariate analyses. All significance tests were two-tailed and based on a 0.05 level of significance. Chi-square (χ^2) tests of independence were conducted to estimate associations between the outcome variable and ten categorical predictor variables (*gender, education, setting, ownership, special interest*

section, responders, percentage of caseload >65, years in OT practice, years in geriatric rehabilitation, years in employment).

The Chi-square, significant at $p < .05$, tested the null hypothesis of no significant association between two categorical variables. Strength of the association between variables was indicated by the value of the Chi square, with larger values denoting stronger associations between the variables in the sample. For each of the bivariate associations the Chi square analyses provided frequencies, sample size, missing data, p-value, and level of significance.

Spearman correlations were obtained between age and other temporal variables of the therapists (*years in practice, years in geriatric rehabilitation, years with company*) to explore the associations between these variables. Spearman correlation was selected, because it is a non-parametric statistic suitable for data that did not meet the assumption of normality.

The effects of twenty three variables addressing knowledge, beliefs and support on the outcome variable were explored through logistic regressions controlling for age, gender and education. Based on these analyses, thirteen predictor variables displaying significant ($p < .05$) associations with the outcome variable were retained for the larger multivariate analysis.

Non-responders

Non-response poses a threat to the validity of a study (non-response bias), because of the risk that there may be important differences between responders and non-responders on crucial aspects of the study. For that reason, it is recommended that all feasible measures be taken to reduce non-response rates and that information about non-

responders be obtained in order to discern significant differences between the two groups. When information about non-responders is not available, as was the case in this study, it is possible to make inferences about this group through extrapolation. This method is utilized by researchers who conceptualize non-response as part of a continuum ranging from early responders through non-responders (Center for Survey Research, 2004; Walonick, 2004).

Extrapolation is based on the assumption that non-responders have more in common with late responders than with those who participate earlier in the process, and that late and non-responders would perform similarly with regards to the outcome of interest. Thus, a dichotomous variable (*Responders*) was created and therapists assigned to one of two groups based on their date of participation. Therapists who participated in the study through May 18 were classified as *early responders* (coded 1) and those responding between May 19 and May 26 were classified as *late responders* (coded 0). This cutoff date was designated because it marked the beginning of a one-week extension for data collection, and followed one last electronic reminder in an effort to recruit more participants.

External validity of the sample

The external validity of any study is enhanced by the degree to which the sample is representative of the population of interest. Additionally, in studies with low response rates, response bias can be minimized if the study sample is representative of the population of interest. To determine the representativeness of the study sample, demographic data from the current study was compared with data from the 2006 AOTA Workforce and Compensation Survey. The cross-sectional study conducted by AOTA

had a sample size of 3003 respondents. Participants included members and non-members of AOTA, practicing in a variety of settings with all age groups and disabilities. This provided a comprehensive view of the profession (AOTA, 2006).

Effect of social desirability

Five items from the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) were incorporated in the survey to discern if social desirability had an effect on therapists' responses. To obtain a social desirability score according to the scale instructions, three items (*I have given up doing something because I doubted my ability; I have felt like rebelling against people in authority; it is sometimes hard to go on with my work if I'm not encouraged*) were reversed scaled and the sum of the five items obtained. This summated scale had values ranging from 0 to 5, with higher values indicating increasingly higher socially desirable responses.

Multivariate Analysis

Logistic regression predicts the probability of an outcome occurring, given known values of one or more predictor variables. This procedure is flexible, does not assume that predictor variables are normally distributed, and is easy to interpret (Moss, Wellman, & Cotsonis, 2003). Logistic regression does require a dichotomous outcome variable, and assumes that observations are independent of each other (Tabachnick & Fidell, 2001).

Predictor variables were selected for the logistic regression based on results obtained in the bivariate analyses. The outcome variable was coded so that success, i.e. *almost always using an assessment instrument*, would be coded 1, and *not almost always using an assessment instrument* coded 0. Categorical predictors, with the exception of gender, were coded for the logistic regression analysis assigning 1 to positive attributes

such as more knowledge, more experience, and more positive beliefs, and 0 otherwise. Gender was coded 0 for females and 1 for males.

A thirteen predictor logistic model was then fitted to the data to answer research questions regarding the relationship between therapists' use of assessment instruments and his or her practice and personal contexts. The backward elimination method was selected as this was an exploratory procedure seeking the best fitting model for the data. Backward elimination is useful in the absence of theoretical research and for exploratory model building (Field, 2001).

In the backward method, the model begins with all predictor variables included, and the software program then assesses the contribution of each predictor against the criterion value for removal. If a variable is not making a significant contribution to the model's ability to predict the outcome, that variable is removed, and both the model and the remaining variables reassessed (Moss, Wellman, & Cotsonis, 2003; Field, 2001). This process is repeated until the most parsimonious array of relevant predictors for the full regression model is obtained.

Eight models were tested by SPSS to determine the best fitting model for the data. The final model consisted of six predictor variables, two from the practice context, and four from the personal context. The logistic model was assessed by examining tests results of the logistic regression, statistical significance of predictor variables in the model and results of the Homer and Lemeshow goodness-of-fit test

Regression diagnostics including Cook's Statistic, leverage, studentized and standardized residuals, deviance, and DFBetas were conducted to determine whether the model fit the data well or was influenced by a small number of cases, and to ascertain if

the model could generalize to other samples. In an average sample with a normal distribution, 95% of the standardized residuals should lie between -2 and +2 and 99% should lie between -2.5 and 2.5. Therefore, standardized residuals greater than 2.5 in more than 1% of the sample should be examined to determine the level of error in the sample. Residual statistics were thus examined to determine if extreme cases were exerting undue influence on the model.

Multicollinearity in the model was assessed with a preliminary review of the correlation matrix, followed by a linear regression producing VIF and tolerance values. Collinearity in the data would be detected if correlation coefficients were $>.60$, VIF values >10 , an average VIF considerably greater than 1, and tolerance values < 0.2 .

Tabachnick and Fidell (2001) recommend a minimum case-to-predictor ratio of 10 to 1, with a minimum sample size of 100 cases in order to ensure an adequate sample size for the data analysis. In this study, after cases with missing data were eliminated listwise, the sample size for the logistic regression was 271, the number of predictors 13, and the case-to-predictor ratio 20.8 to 1.

Power Analysis and Sample Size

Cohen's power analysis formula was applied to determine the sample size needed to detect an effect in this study. The formula used Cohen's effect size (R^2), an effect size index ($L= 17.8$) based on 13 predictor variables (u), an alpha (significance) level = .05 and power = .80 (Cohen, 1988; Munro, 1997).

$$N = \frac{L(1 - R^2) + u + 1}{R^2}$$

Based on Cohen's formula, a sample size (N) of 1572 would detect a small effect in this study ($R^2 = 0.02$); $N=226$ would be sufficient to detect a moderate effect ($R^2 = 0.13$); and $N=88$ would detect a large effect ($R^2 = 0.30$). The study sample was deemed to provide sufficient power to detect a medium size effect, i.e. to reject a false null hypothesis.

CHAPTER 4

Results

This chapter discusses the results of the data analyses and is divided into six sections: 1) overview of the study; 2) description of non-responders; 3) description of the study sample; 4) external validity of the sample; 5) effect of social desirability; 6) results for each research question.

Overview of the Study

The study was designed to explore the assessment practices of occupational therapists engaged in the physical rehabilitation of patients 65 years of age and older. Specifically, the study inquired as to the association of the therapists' personal and practice contexts with their use of cognitive screening and assessment instruments with older non-demented medical patients. The theoretical framework utilized for this study was the Ecological Systems Model.

The study sample was obtained from the membership rosters of two special interest sections of AOTA. Three thousand occupational therapists throughout the United States were invited to participate in the study. Data were collected by means of a web based survey questionnaire and analyzed utilizing SPSS version 15.0 for Windows.

Therapists were instructed to exclude from consideration patients with diagnoses of stroke, Alzheimer's disease, and head injury in their responses. These conditions were

omitted because they are diagnostically associated with significant impairment in cognitive function, and therefore more likely to prompt therapists to screen for cognitive deficits or to assess the patients' cognitive status. Conversely, cognitive decline in non-demented medical patients is often not identified and can result in less than optimal rehabilitation outcomes and missed opportunities to address reversible conditions. If cognitive impairment is identified, it could be used to provide early intervention to patients who may be at risk for developing dementia. The study sought to answer three research questions.

1. What are the current practices of occupational therapists regarding assessment of the cognitive status of older, non-demented medical patients referred for physical rehabilitation?
2. What effect do the therapists' contexts (practice and personal) have on therapists' utilization of standardized screening and assessment instruments?
3. Which factors of the therapists' contexts (practice and/or personal) are predictive of their utilization of standardized assessment instruments?

Description of the Case Selection Process

Of three hundred forty nine therapists who participated in the study, 27 were excluded because they were in academic or managerial positions and had not been involved in clinical practice for 6 months or longer prior to the survey. Nineteen additional respondents also failed to meet the inclusion criteria as they either did not identify their special interest section (SIS), or they indicated their primary membership was in other than the Gerontological (GSIS) or the Home and Community Health SIS (HCHSIS). The remaining study sample of 303 therapists resulted in a response rate of

12% and included 208 therapists (68.6%) with primary membership in the GSIS and 95 therapists (31.4%) with primary membership in the HCHSIS. A summary of all respondents by SIS membership is presented in Appendix I

Description of Non-Responders

Six therapists contacted the principal investigator during the data collection and cited reasons for not participating in the study, including being retired (N=1), involvement in other than clinical practice for over a year (N=2), survey questions not applicable to a non-traditional practice (N=1), therapist in a variety of settings abroad (N=1), and forgetting to reply prior to closing of the survey site (N=1). Three other potential responders requested assistance accessing the survey site, but only one acknowledged having successfully completed the questionnaire.

Because a follow-up study of non-responders was not feasible, characteristics of non-responders were estimated by extrapolation as described in chapter 3. *Early responders* (N=255) participated in the study through May 18, and *late responders* participated between May 19 and May 26. This cutoff date was designated because it followed the last electronic reminder and allowed for a one week extension for data collection.

As illustrated in Table 3, late responders tended to be older, with a mean age of 46.2 years compared to 42 years for early responders. As with early responders, a higher proportion of late responders had primary memberships in the Gerontological SIS (64.6%) compared to membership in the Home and Community Health SIS (35.4%). A higher percentage of males were in the late responder group (12.5%) compared to early male responders (7.9%). In terms of education, baccalaureate and master level therapists

showed similar early and late responder distributions. All Ph.D prepared therapists were in the early responder group.

Variable	Total Sample	Early Responders (84.2%)	Late Responders (15.8%)
Age			
Range		24-75	25-76
Mean		42	46.2
Median		42	46
Mode		45	52
SIS			
Gerontological	208 (68.6%)	177 (69.4%)	31 (64.6%)
Home /Community	95 (31.4%)	78 (30.5%)	17 (35.4%)
Missing	0		
Education			
Baccalaureate	170 (56.1%)	143 (56.0%)	27 (56.3%)
Master's	119 (39.3%)	98 (38.4%)	21 (43.8%)
Doctoral	12 (4.0%)	12 (4.7%)	0
Missing	2 (0.6%)		
Gender			
Male	26 (8.6%)	20 (7.9%)	6 (12.5%)
Female	275 (90.8%)	233 (92.1%)	42 (87.5%)
Missing	2 (0.6%)		

A *t* test conducted to compare the age means of early and late responders indicated that late responders were significantly older than early responders. A summary of the *t* test is provided in Table 4.

A Chi square test of independence was conducted to determine if there were significant differences between early and late responders on the outcome variable, in order to make further inferences about non-responders. A $p > .05$ revealed there were no significant differences on the outcome variable between the two groups. By extrapolation, this would indicate that non-responders would likely have performed similarly with regards to the outcome of interest.

Table 4 Summary of <i>t</i> Test of Predictor Variable Age for Early and Late Responders	
Responders	Age (24-76) <i>M</i> (<i>SD</i>)
Early (n=250)	41.98 (11.149)
Late (n=48)	46.19 (10.346)
	<i>t</i> = -2.419*

* $p < .05$

Description of the Study Sample

Demographic Characteristics of Participants

Participating therapists ranged in age from 24 to 76 years with a mean age of 42.7, a median age of 42.5 years, a mode of 45 years, a standard deviation of 11.1, skewness of 0.163, and kurtosis of -0.731. Approximately 91% of the sample was female, and 56.5% of the sample had a bachelor's degree; 1.3% percent had obtained Board Certification in Gerontology, 2.6% held a Certificate in Gerontology from a university OT program, and 94.3% did not have any special certification. Table 5 provides a detailed summary of the demographic characteristics of the sample.

Table 5 Summary of Sample Demographics (N = 303)		
Characteristic	Frequency	Percent
Gender	301	
Female	275	91.4
Male	26	8.6
Race and ethnicity	295	
Caucasian	276	93.6
African American	6	2.0
Hispanic	6	2.0
Alaskan-Pacific Islander	7	2.4
Highest level of education attained	301	
Bachelor	170	56.5
Master	119	39.5
Doctoral	12	4.0
Location of professional training	303	
Trained in U.S.	294	97.0
Foreign Trained	9	3.0
Special certification	298	
Board Certification in Gerontology	4	1.3
Board Certification in Neurology	4	1.3
Board Certification in Pediatrics	1	0.3
University OT Certificate in Gerontology	8	2.6
None	281	94.3

Description of the Clinical Practice

Almost half of the therapists in the sample (47.4%) had been in occupational therapy practice over 15 years and 1% had practiced one year or less. Approximately one third (30.6%) reported having 15 years or more of geriatric experience, while slightly more than 50% had 10 years or less of geriatric experience. Table 6 summarizes the descriptive statistics for the temporal variables of the clinical practice.

Table 6					
Years in Clinical Practice					
Variable	Range*	Median	Mode	Skewness	Kurtosis
Years with company	<1 to >10	2-5 years	2-5 years	0.307	-0.933
Years in Occupational Therapy practice	<1 to >15	11-15 years	>15 years	-0.423	-1.393
Years in geriatric rehabilitation	<1 to >15	6-10 years	>15 years	-0.106	-1.335

*Mean scores not obtained as they were not suitable for ranges

Geographic distribution of participants was fairly consistent with that of the letters of invitation. Table 7 compares the geographic distribution of the sampling frame with the responders.

Table 7			
Distribution for Sampling Frame and Responders by Geographic Region			
Geographic Location	Letters of invitation Sent	Number of Letters Returned as Undeliverable	Study Sample Responses
Region 1 - Northeast	788 (26/2%)	12	85 (28.1%)
Region 2 - Midwest	845 (28.2%)	11	91 (30.0%)
Region 3 - South	753 (25.1%)	13	63 (20.8%)
Region 4 - West	611 (20.4%)	7	61 (20.1%)
Puerto Rico	3 (0.1%)	0	0
Missing			3 (1.0%)
Total	3000 (100%)	43	303 (100%)

Therapists were asked whether they were solely engaged in clinical practice or held positions which, while primarily non-clinical, also carried a patient caseload. Two hundred forty-seven participants (81.5%) reported being predominantly engaged in clinical practice. Almost 80% of the study sample indicated that over 75% of their caseload consisted of patients 65 years of age and older. Seventy seven percent of participants reported a treatment caseload of twelve patients or less. Only twenty six therapists (8.6%) reported utilizing one particular theoretical perspective to guide their clinical practice. A description of the clinical practice has been summarized in Table 8.

Characteristic	Frequency	Percent
Percent of patients >65 years of age in caseload		
0 - 25%	3	1.0
26 - 50%	11	3.6
51 – 75%	48	15.8
> 76%	241	79.5
Number of patients in caseload		
<9	126	42.0
10-12	106	35.3
13-15	33	11.0
>15	35	11.7
Use theoretical perspective to guide practice		
Yes	26	8.6
No	277	92.4

Over half of the sample (51.5%) was employed by for profit companies; 35.3% was employed by non-profit companies. Forty three percent of respondents were based in skilled nursing facilities, while 29.7% reported working in home health. A full summary of the practice setting is included in Table 9.

Table 9		
Practice Context by Type of Setting and Ownership (N=303)	Frequency	Percent
Setting		
Acute hospital	25	8.2
Subacute Inpatient Rehabilitation	18	5.9
Skilled Nursing Facility	130	42.9
Outpatient Rehabilitation	10	3.3
Assisted Living Facility	6	2.0
Home Health	90	29.7
Other	23	7.6
Missing	1	0.4
Ownership		
For profit	156	51.5
Non-profit	107	35.3
VA or military	7	2.3
Independent contractor	18	5.9
Other	11	3.6
Missing	4	1.3

External Validity of the Sample

To determine whether the study sample was representative of the population, data from the current study was compared to results obtained from the 2006 American Occupational Therapy Association (AOTA) Workforce and Compensation Survey. The AOTA national survey was mailed to 8998 member and non-member therapists, practicing in a variety of settings with all age groups and disabilities, which provided a comprehensive view of the profession.

Demographic data from the current study on the effect of context on therapists' assessments practices revealed similar trends to the AOTA survey. Results of both studies are compared in Table 10, showing similar distributions for median age, gender, and education.

Table 10				
Comparison of Demographic Characteristics: AOTA 2006 Workforce Survey and Current Study on Effect of Personal and Practice Contexts				
AOTA Survey 2006 (N=3003)				Current Study (N=303)
	Overall Sample	AOTA Members	Non-members	AOTA Members
Gender - Female	95%	96%	94%	91.40%
Male	5%	4%	6%	8.60%
Median Age	42	44	36	42.5
Education - Baccalaureate	63.80%	N/A	N/A	56.50%
Master's Degree	31.90%	N/A	N/A	39.50%
Doctoral Degree	2.40%	N/A	N/A	4%
Median Years Experience	13	15	9.5	11-15 (range)
Race/ethnicity *				
African American	*	1.4%	2%	2%
American-Indian, Alaska Native, Asian-Pacific Islander	*	7.9%	7.2%	2.4%
Caucasian	*	88.3%	81.4%	93.6%
Hispanic	*	1.5%	2.4%	2.0%
Multi-ethnic	*	1.1%	1.7%	N/A
No response	*	3.8%	5.3%	2.6%

* Data unavailable

Effect of Social Desirability

In order to ascertain if social desirability had an effect on therapists' reported use of assessment instruments, the summated social desirability scale was regressed on the outcome variable (*almost always use an instrument to assess cognition*). Results

indicated that, for therapists who reported almost always using an instrument on initial evaluation to assess cognition, social desirability did not have a significant effect.

Results of Research Questions

Research Question 1

What are the current practices of occupational therapists regarding screening or assessing the cognitive status of non-demented elderly patients referred for rehabilitation?

1. a. *Do therapists, on initial evaluation, routinely screen or assess the cognitive status of non-demented elderly patients referred to rehabilitation?*

Therapists were asked to indicate how frequently they assessed specific performance areas and skills during their initial evaluation (balance and mobility, coordination, cognition, and sensation). Two hundred thirty one therapists (76.2% of the sample) indicated they *almost always assessed cognition on initial evaluation*; 57 (18.8%) reported assessing cognition very frequently; 12 (4%) sometimes; and 2 (0.7%) almost never.

Next, a Chi square test of independence was conducted to explore the proportion of therapists who reported using standardized instruments among the 231 therapists who indicated *almost always* assessing cognition on initial evaluation. Results are summarized in Table 11 and revealed that 214 of the 231 respondents who *almost always assess cognition on initial evaluation*, used a brief informal assessment of orientation and 73 used a standardized assessment instrument.

Table 11			
Distribution of Therapists Who Almost Always Assess Cognition on Initial Evaluation by Choice of Method (231)			
	Almost Always Assess Cognition on Initial Evaluation	χ^2	Sig
Almost Always Use Informal Assessment		1.093	.296
Yes	214		
No	17		
Total	231		
Almost Always Use Standardized Assessment Instrument		8.362	.004*
Yes	73		
No	158		
Total	231		

*Significant at $p < .05$

1. b. *How frequently do therapists utilize specific cognitive assessment instruments on initial evaluation of elderly rehabilitation patients?*

This question included an informal assessment of orientation, nine standardized screening or assessments instruments, and one fictitious assessment. Respondents were asked to indicate the frequency with which they used any of the listed assessments. Response options to this question were on a four point Likert scale and items were not mutually exclusive.

Three standardized instruments topped the list as the most widely used among respondents using an instrument *almost always*, *very frequently*, or *sometimes*. One hundred ninety nine therapists (65.7%) reported using the MMSE with any frequency, and of those, 34 reported using that instrument *almost always* (11.2 %). The Allen Cognitive Level Screen (ACL) was the second most frequently selected, with 127

therapists (41.9%) using this instrument with any frequency, and 23 therapists using the instrument *almost always* (7.6%). Third on the list, The Assessment of Motor and Processing Skills, was used with any frequency by 91 therapists (30%) therapists and of those, 35 (11.6%) reported *almost always* using this instrument. In comparison, 302 respondents (99.7%) reported using an informal assessment of orientation with any frequency, while 278 (91.7%) reported *almost always* using that method of assessment.

Conversely, 271 therapists reported *almost never* using the Short Portable Mental Status Questionnaire (89.4%); 266 therapists reported almost never using the Lowenstein Occupational Therapy Assessment (87.8%); and 213 reported almost never using the Cognitive Performance Test (70.3%). A summary of the frequency of use of cognitive screens and assessments is provided in Table 12.

Assessment Instrument	Almost Always	Very Frequently	Sometimes	Almost never
Informal assessment	278 (91.7%)	22 (7.3%)	2 (0.7%)	1 (0.3%)
**Canadian Occupational Performance Measure	4 (1.3%)	4 (1.3)	34 (11.2%)	255 (84.2%)
Clock Drawing Test	3 (1.0%)	17 (5.6%)	125 (41.3%)	151 (49.8%)
Cognitive Performance Test	11 (3.6%)	15 (5.0%)	52 (17.2%)	213 (70.3%)
**Nutritional Assessment of Elderly	3 (1.0%)	10 (3.3%)	20 (6.6%)	259 (85.5%)
Assessment of Motor and Processing Skills	35 (11.6%)	29 (9.6%)	27 (8.9%)	207 (68.3%)
Routine Task Inventory	17 (5.6%)	21 (6.9%)	45 (14.9%)	211 (69.6%)
Allen Cognitive Level Screen	23 (7.6%)	34 (11.2%)	70 (23.1%)	172 (56.8%)
Mini Mental Status Exam	34 (11.2%)	51 (16.8%)	114 (37.6%)	97 (32.0%)
Lowenstein Occupational Therapy Assessment	0 (0%)	4 (1.3%)	28 (9.2%)	266 (87.8%)
Short Portable Mental Status Questionnaire	7 (2.3%)	6 (2.0%)	11 (3.6%)	271 (89.4%)

**Fictitious, not a cognitive assessment instrument

Insight into therapists' utilization of assessment instruments would be incomplete, without also inquiring about the extent to which they believed certain characteristics of the instruments to be important in their selection. This inquiry is particularly valuable given the emphasis on engaging in evidence-based practice, and the increasing demands for productivity. Based on responses as to which characteristics were *very important*, therapists selected *having the knowledge and skills to administer and score an instrument* (88.7%) and instruments that *can be administered quickly* (73.1%) as the top two characteristics, followed by *supported by research* (66.4%). Standardization (34.1%), on the other hand, ranked below is *accepted by the team* (57.9%) and *complies with evaluation form* (51.0%). A summary of therapists' responses is provided in Table 13.

Characteristic	Frequency	Very Important	Somewhat Important	Not Important at All
Having knowledge and skills in administering and scoring instrument	302	268 (88.7%)	30 (9.9%)	4 (1.3%)
Instrument is standardized	302	103 (34.1%)	173 (57.3%)	26 (8.6%)
Is supported by research	298	198 (66.4%)	95 (31.9%)	5 (1.7%)
Complies with evaluation form	300	153 (51.0%)	115 (38.3%)	32 (10.7%)
Can be administered quickly	301	220 (73.1%)	77 (25.6%)	4 (1.3%)
Is accepted by the team	299	173 (57.9%)	114 (38.1%)	12 (4.0%)

1. c. Are therapists, in the course of treatment, likely to assess the cognitive status of patients who fail to improve as anticipated in the initial evaluation and treatment plan?

A frequency analysis revealed that therapists in this sample were more likely to assess a patient's cognitive status than to discharge a patient who was not improving as

anticipated in the initial evaluation. Of 286 therapists responding to this case scenario, 258 (85.1%) indicated they would assess the patient's cognitive status. However, the sample was divided as to how they would code the assessment for the purpose of reimbursement. Slightly more than half of those respondents (51.4%) indicated they would assess cognition and code it as such; 38.8% replied that they would assess cognition, but code it as a treatment to avoid hassles. Only 11 participants (3.8%) responded they would discharge the patient as having received maximum benefit from therapy and 17 (5.9%) indicated they would discharge the patient because of poor potential for rehabilitation.

Research Question 2

What is the relationship between personal and practice context and therapists' frequency of use of standardized cognitive assessment instruments?

Associations between covariates and the outcome variable were tested through Chi square tests and logistic regressions, controlling for age, education, and gender. Predictors exhibiting significant associations ($p < .05$) with the outcome variable were retained for the multivariate analysis. Results of the Chi square tests are summarized in Appendix J. A summary of results of the logistic regressions is included in Appendix K.

2. a. Is the type of setting (inpatient settings, home-based settings, or other) associated with frequency of use of cognitive assessment instruments?

The type of setting was not significantly associated with the outcome variable, *frequency of use of assessment instruments* ($\chi^2=2.995$, $p=0.224$).

2. b. Is facility ownership associated with frequency of use of cognitive assessment instruments?

Ownership was not significantly associated with the outcome variable, frequency of use of assessment instruments ($\chi^2=1.891$, $p=0.388$).

2. c. *Is there an association between professional autonomy afforded therapists through the facilities' protocols, and frequency of use of cognitive and assessment instruments?*

Professional autonomy addressed whether therapists were able to determine areas of performance and performance skills to assess on initial evaluation or if they had to adhere to fixed evaluation protocols, or had restrictions imposed by third party payers. To assess the association between predictor and outcome, predictor variable *Autonomy* was regressed on the outcome variable controlling for age, gender and education. A Wald χ^2 of 1.855 (CI .845, 2.542) and $p > .05$ verified that *Autonomy* was not significantly associated with the outcome variable.

2. d. *Is there an association between employer support, supervisor support, or facility having sufficient resources and therapist's use of assessment instruments?*

Individual logistic regressions controlling for age, education, and gender were conducted to determine the association of each of these predictors with the outcome variable. Based on the Wald $\chi^2 = .841$ (CI .348, 1.467) $p > .05$, for *supervisor support*, it was determined that this predictor was not significantly associated with the outcome variable. *Employer requires assessment*, on the other hand, was significantly associated with use of assessment instruments based on the Wald $\chi^2 = 17.192$ (CI 1.947, 6.426) $p < .05$, and was thus retained for the multivariate analysis.

Results of the logistic regression between predictor variable *facility has sufficient resources* and the outcome variable, controlling for age, education, and gender, yielded a

Wald $\chi^2 = 12.873$ (CI 1.579, 4.738), $p < .05$. This predictor was significantly associated with the outcome variable and was also retained for the multivariate analysis.

2. e. *Is there a relationship between knowledge of the effect of aging on cognition and therapists' use of cognitive assessment instruments in their practice?*

Only one predictor variable associated with knowledge of the effect of aging on cognition (*fluid intelligence declines with age*) was retained for the multivariate analysis with a Wald $\chi^2 = 3.619$ (CI .984, 3.006), despite a borderline level of significance ($p = .057$).

2. f. *Is there a relationship between therapists' knowledge of how to administer and score a variety of screening/assessment instruments and their use of these instruments?*

Having knowledge of how to administer and score standardized assessment instruments significantly increased ($p < .05$) the probability that a therapist would use such instruments. This variable was retained for the logistic regression.

2.g. *Are therapists' beliefs regarding aging, professional responsibility, or use of screening and assessment instruments associated with use of standardized instruments in their initial evaluations of elderly rehabilitation patients?*

The association between beliefs and use of assessment instruments was tested by regressing each of the three individual predictors on the outcome variable, controlling for age, education, and gender. Although in general, therapists in this sample held positive beliefs regarding aging and cognition, professional responsibility, and use of cognitive screening and assessment instruments, these predictor variables were not significantly

associated with the outcome variable at $p < .05$. A summary of participants' responses to belief questions is presented in Appendix L.

2.h.. Is there an association between temporal factors of the therapists (e.g. age, years in occupational therapy practice, years in geriatric rehabilitation, length of time in employment at the time of the survey), and their use of cognitive screening/assessment instruments in geriatric rehabilitation?

Results of Chi square tests indicated that *years in occupational therapy practice* and *years in geriatric rehabilitation* were significantly associated at $p < .01$ level with the outcome variable. Both predictor variables were retained for the logistic regression. A frequency distribution of therapists' temporal variables is included in Appendix M.

2.i. Is level of education associated with use of assessment instruments?

A Chi square test of independence conducted to test the association between this dichotomous predictor (baccalaureate=0, post-baccalaureate=1) and the outcome variable was not significant at $p < .05$ (2-tailed), indicating that education was not predictive of use of standardized assessment instruments.

Research Question 3

What is the effect of context (practice and/or personal) in predicting therapists' utilization of standardized assessment instruments?

A multivariate logistic regression was used to explore the effect of context on predicting therapists' utilization of standardized assessment instruments. Based on results of bivariate analyses, thirteen predictor variables were entered into the logistic regression to obtain the best fitting model for the data. The analysis was carried out using the logistic procedure in SPSS ® version 15.0 in the Windows XP environment.

A backward elimination method was selected with $p = .05$ for entry into the regression, $p = .10$ for removal, $p = .50$ for cut-off, and a maximum of 20 iterations. Eight models were tested by SPSS to determine the best fitting model for the data. Summaries of the models are provided in Appendix N. The final model consisting of six predictor variables (two from the practice context, and four from the personal context), is summarized in Table 14.

The β coefficient represents the change in the logit of the outcome, per unit change in the corresponding predictor variable. Significance values of the Wald statistic ($p < .05$ and $p < .01$) indicate that the β coefficient for each predictor is significantly different from zero in this model, i.e. all predictors (*assess and charge for treatment, knowledge of assessment instruments, employer requires assessments, knowledge of fluid intelligence, sufficient resources, and years in geriatric rehabilitation experience*) are making significant contributions toward predicting the outcome (Field, 2001).

The odds ratio in the model gives an indication of the change in odds per unit change in each predictor. Results of the logistic regression identified *Employer requires assessment* as the strongest predictor of use of assessment instruments. An odds ratio of 3.39 indicated that therapists whose employers required them to use cognitive assessment instruments were 3.4 times more likely to utilize them such instruments than were therapists who did not have that type of support in their practice.

Predictor variable, *facility has sufficient resources*, was found to be the second strongest predictor of use of standardized instruments. With an odds ratio of 2.62, therapists whose facilities had sufficient available resources were slightly better than 2.5

times as likely to use standardized assessment instruments as their counterparts in facilities lacking sufficient resources.

The likelihood of a therapist almost always using an assessment instruments on initial evaluation increased by 1.19 times for every unit change in knowledge of assessment instruments (i.e. every additional assessment instrument he or she was trained to administer and score). Similarly, therapists who had knowledge of changes in fluid intelligence as a result of normal aging were twice as likely to use standardized cognitive assessment instruments as therapists who lacked this knowledge.

The association between years in geriatric practice and use of assessment instruments had an odds ratio of 1.51. As this variable had 4 categories (<1 to 5 years; 6-10 years; 11-15 years; and >15 years), this odd ratio increases with each ascending category of years in geriatric practice. In other words, therapists who had 6-10 years of geriatric experience were 1.5 times as likely to use cognitive assessment instruments as therapists with 5 years or less of geriatric experience. Therapists with >15 of geriatric experience were 1.5 times as likely to use assessment instruments as therapists with 11-15 years experience, but 2.25 times as likely as therapists with 6-10 years geriatric experience, and 3.38 times as likely as therapists with 5 years or less of experience.

As for responses to the case example, a significant Wald statistic (2.38*), associated with a negative B coefficient (- .696) and an odds ratio of .50, reveals that therapists who replied they would *assess cognition and charge for a treatment to avoid hassles* are half as likely to use a standardized instrument as are therapists who would charge for the procedure as a cognitive assessment. Confidence intervals identify the boundaries within which 95% of samples measuring the same variables as the present study would fall.

Table 14 Summary of Logistic Regression Analyses Predicting Use of Standardized Cognitive Assessment Instruments				
			95% Confidence Interval	
Variable	Odds Ratio	P value	Lower	Upper
Assess and charge for treatment	.50	.036*	.260	.96
Has knowledge of instruments	1.19	.041*	1.00	1.40
Employer requires assessments	3.39	.000**	1.71	6.73
Knowledge fluid intelligence	2.00	.034*	1.05	3.78
Sufficient resources	2.62	.004**	1.37	5.00
Geriatric rehabilitation experience	1.51	.003**	1.15	1.98

*p<.05, ** p<.01

Assessing the Logistic Model

The model was assessed by examining tests results of the logistic regression, statistical significance of predictor variables in the model, and results of the Homer and Lemeshow goodness-of-fit test.

Goodness-of-fit statistics in Table 15 assess the fit of the logistic model against observed outcomes. The insignificant results of the Hosmer & Lemeshow statistic are desirable, as they suggest that the model was fit to the data. Cox & Snell and Nagelkerke provide R² values that represent the proportion of the variance in the outcome variable explained by the model, 16.6% and 24.3% respectively.

Table 15 Assessment of Logistic Model			
Test	χ^2	df	<i>p</i>
Goodness-of-fit test			
Homer & Lemeshow	14.634	8	.067
Cox & Snell R ²	.166		
Nagelkerke R ²	.243		

Multicollinearity was assessed with a preliminary review of the correlation matrix (Table 16). Correlation coefficients < .60, indicated there was no collinearity among the predictor variables in the model. VIF values were well under 10, the average VIF (1.016) was not considerably greater than 1, and tolerance values were well above 0.2 indicating there was no collinearity in the model.

Assessing the Logistic Regression

Regression diagnostics were conducted to determine whether the model fit the data well or was influenced by a small number of cases, and to ascertain if the model could generalize to other samples. Residual statistics were first examined to determine if extreme cases were exerting undue influence on the model. Seven cases (3%) in the sample had standardized residuals >2.0, and one had a standardized residual >3.0. All cases had studentized residuals ranging from 2.05 to 2.28, and deviance ranging from 2.03 to 2.26, so they were all below 2.5 and were not cause for concern. All of the cases had a Cook's statistic and DFBetas <1, indicating there are no influential cases having an effect on the model (Field, 2001).

Expected value of leverage was computed using the formula $k+1/N$, where k =number of predictors, and N =sample size. For this analysis, the expected value of

leverage was $(6+1/271) 0.026$, and the range of leverage values for these cases was from .009 to .02. Leverage close to 0 indicates no undue influence by any case (Field, 2001).

Appendix O summarizes the regression diagnostics.

	Constant	Case Example (assess and charge treatment)	Score for knowledge of assessment instruments	Employer requires assessment	Knows fluid intelligence declines with age	Facility has sufficient resources	Yrs geriatric rehabilitation
Constant	1.00						
Would assess and charge as treatment	-.203	1.00					
Score for knowledge of assessment instruments	-.653	.096	1.00				
Employer requires assessment	-.227	-.019	.000	1.00			
Knows fluid intelligence declines with age	-.296	-.008	.030	.027	1.00		
Facility has sufficient resources	-.084	-.053	-.202	-.060	.218	1.00	
Yrs experience in geriatric rehabilitation	-.767	.007	.258	.164	.131	.051	1.00

CHAPTER 5

Discussion

Effect of Context on Therapists' Assessment Practices

The purpose of this study was to determine personal and practice contexts of occupational therapy associated with the use of cognitive screening and assessment tools. The study specifically focused on the use of such instruments by occupational therapists with non-demented medical patients 65 years of age and older referred for physical rehabilitation. Data were collected through a web-based survey questionnaire constructed using findings from the research literature, individual and focus group interviews of occupational therapists conducted by this researcher, and by the researcher's own clinical experience in geriatric rehabilitation.

Themes that evolved from the therapists' interviews were used to select the theoretical framework and the constructs of interest for this study. Survey questions were utilized to explore personal and practice factors and their association with therapists' use of screening and assessment instruments.

Determining whether therapists assess the cognitive status of their elderly medical patients is important, given the evidence in the literature regarding age associated frontal lobe changes which affect executive functions (Chao & Knight, 1997; Grigsby, Kaye & Robbins, 1995; Herrick et al. 1996; Mast et al. 1999). As important, is determining what

tools therapists use and the frequency of use, to ensure that selected instruments are sensitive to mild forms of impairment and provide information which can be translated into functional treatment goals.

Furthermore, concerns regarding the selection and proper use of assessment instruments by occupational therapists are neither new nor insignificant. This issue became a priority for AOTA in 1984, when its Representative Assembly released a statement identifying as a top priority for the association the development of standardized assessment instruments for occupational therapy and the utilization of such instruments by occupational therapists (Elfant-Asher, 1996).

Three questions were designed to obtain information about participants' assessment practices. Therapists were asked: 1) how frequently they screened or assessed cognition on initial evaluation; 2) what instruments or processes they utilized to conduct the screens and assessments; and 3) how they would likely proceed if a patient failed to progress as anticipated in the initial treatment plan.

In response to the question, *how frequently therapists screened or assessed cognition on initial evaluation*, 231 therapists (76.5% of the sample) reported they almost always assessed cognition. As to specific *instruments or processes utilized to conduct the screens and assessments*, 214 participants reported using an informal assessment of orientation and only 73 reported using a standardized assessment.

Among therapists indicating *almost always* utilizing any of the three most frequently utilized tools on initial evaluation, 35 respondents (11.6%) reported utilizing the AMPS; 34 (11.2%) the MMSE; and 23 (7.6%) the ACL. Conversely, among therapists reporting *almost never* using a standardized assessment, 266 therapists reported

almost never using the Lowenstein Occupational Therapy Assessment (87.8%); 213 (70.3%) *almost never* used the Cognitive Performance Test; and 211 (69.6%) *almost never* used the Routine Task Inventory.

With the exception of the Nutritional Assessment of the Elderly and the Canadian Occupational Performance Measure, all the standardized instruments listed in the survey questionnaire were cognitive screens or assessments. Five of these instruments (Cognitive Performance Test, ACL, Lowenstein Occupational Therapy Assessment, Routine Task Inventory, and AMPS) were developed by and for occupational therapists (Elfant-Asher, 1996), yet only the ACL and the AMPS were frequently used by therapists in the study sample. These findings, combined with the prevalence of use of the MMSE, indicate that while AOTA's goals of increasing therapists' use of instruments have been somewhat met, therapists' preferences of assessments are limited and heavily influenced by instruments used by other professions, such as the MMSE.

Therapists were asked questions as to whether they had received training in the administration and scoring of a number of instruments. Of the top three instruments which therapists reported having been trained to administer and score (MMSE 82.2%, ACL 78.5%, and Clock Drawing Test 62.4%), the ACL is the only occupational therapy assessment developed for the purpose of assessing a patients' cognitive capacity for functional performance. The ACL screen provides information about the individual's level of cognitive function at the time of the assessment, is sensitive to mild forms of cognitive impairment, economical, and quick to administer. Additionally, the ACL highlights approaches to maximize performance and safety and is easy to incorporate into the treatment plan. The MMSE, on the other hand, was developed as a quick screen to

detect moderate to severe cognitive decline and is not sensitive to mild forms of impairment (Mitrushina & Satz, 1994; Teng-Wai, Knopman, Geda, Edland et al. 2003; Tombaugh & McIntyre, 1992). The Clock Drawing Test, while a good indicator of cognitive impairment, does not provide clear guidelines specific to functional performance.

In order to explore factors which may influence choice of instruments, therapists were also asked to indicate the degree to which certain characteristics were important in their selection of assessment instruments. Therapists' responses, summarized below, point to the need to emphasize the selection and use of standardized instruments that are congruent with evidence-based practice rather than driven by external influences.

- *having the knowledge and skills to administer and score the instrument (88.7%)*
- *assessment can be administered quickly (73.1%)*
- *assessment is supported by research (66.4%)*
- *assessment is accepted by team (57.9%);*
- *assessment complies with evaluation form (51.0%)*
- *assessment is standardized (34.1%).*

It is possible, given the high percentage of therapists who were trained to use the MMSE and the prevalence of use of this instrument, that therapists' practices are highly influenced by their professional preparation. It is also possible that therapists, based on participants' choices of important characteristics, tended to use the MMSE because it could be administered in a brief amount of time.

Although a number of occupational therapy assessment instruments have been developed since 1984, findings from this study raise questions regarding how much progress has been made in promoting therapists' knowledge and use of standardized cognitive assessment instruments. This is especially true regarding mild deficits associated with aging.

Participants in this study were given a case scenario and asked to indicate how they would proceed if a patient, during the course of treatment, failed to improve as anticipated. Overwhelmingly, therapists responded they would assess the patient's cognitive status. Only 9.7% of respondents indicated they would discharge the patient; 51.4% reported they would assess cognition and charge as such, and 38.8% indicated they would assess cognition but "code it as a treatment to avoid hassles." While it is encouraging that 90.2% of respondents would choose to assess the patient's cognitive status, the fact that almost 39% would choose to code the procedure as a treatment to "avoid hassles" raises questions regarding the therapists' actual or perceived degree of autonomy to make clinical decisions.

Knowledge of Aging and Cognition

A number of survey questions addressed therapists' knowledge about the effects of aging on cognition, yielding the following results:

- less than one-third of respondents agreed that impairment in cognitive function is part of normal aging
- slightly more than half of the sample agreed that a knowledgeable therapist can effectively assess cognitive status by conversing with the patient

- two-thirds of the sample agreed that ability to perform ADLs is a good measure of a person's cognitive status
- only one-third agreed that fluid intelligence deteriorates with age
- three-quarters of the sample agreed that fluid intelligence affects the ability to learn in rehabilitation

Responses to these questions indicate that, although 75% of the study sample were aware of the role of fluid intelligence on learning and rehabilitation, two-thirds of the sample or more were not aware that cognitive function and fluid intelligence decline with normal aging. Therapists' responses regarding aging and cognition were unexpected given the extensive literature and evidence of age-related neurophysiologic changes affecting cognitive processes and fluid abilities (Chao & Knight, 1997; Chodosh et al. 2004; Grigsby et al. 1995), and the impact of illness, chronic conditions and polypharmacy on fluid and executive abilities (Elias, 1998; Ruchinskas et al, 2000). For example, studies of older patients undergoing surgical procedures for hip fracture estimated a 30 – 40 % incidence of cognitive problems post surgery in this population (Herrick et al. 1996; Mast et al. 1999). Additionally, research comparing healthy controls with patients diagnosed with peripheral vascular disease reported the latter group had an estimated prevalence of 25% of frontal lobe dysfunction and attentional impairment (Rao et al. 1999).

Published studies support assessing the cognitive status of older medical patients due to the prevalence of cognitive deficits in this group (Garrett et al. 2004; Kilander et al. 1998; Kirkpatrick & Jamieson, 1993; Waldstein et al. 1996). These studies advocate

for the development and utilization of instruments sensitive to mild forms of cognitive decline for assessing executive function and fluid abilities in older medical patients.

Therapists' responses regarding their use of ADL performance as a proxy for cognitive status were also unexpected, as ADLs are crystallized abilities stored in procedural memory (C. Allen, personal communication, September 1998; Ruchinskas, Singer, & Repetz, 2000) and therefore not a good measure of mild to moderate cognitive impairment. This is supported by evidence from several studies of frontal lobe function indicating that, while fluid abilities are affected by age-related changes, crystallized abilities remain unaffected (Barberger-Gateau & Fabrigoule, 1997; Christensen et al. 1994; Kaufman et al. 1989). Similarly, in a study of cognitive impairment and functional performance, Galanos et al. (1994) concluded that despite a 50% prevalence of cognitive impairment, health problems, and depression, participants were still able to perform activities of daily living.

Evidence-based practice is not limited to the selection of appropriate therapeutic techniques and interventions, but should also be informed by sound research on issues regarding the medical, psychological, and developmental status of patients. Therapists' misconceptions of aging and cognition have implications for the professional preparation of occupational therapists, for continuing professional education, and for evidence-based practice because they are likely to affect therapists' assessment and treatment practices.

Beliefs

In general, therapists in this sample held positive beliefs about the use of cognitive screenings and assessment instruments, aging, and professional responsibility. Of 302 therapists who responded to why assessing cognition was problematic, only 4.6%

strongly or moderately agreed that it may lead to costly referrals for further evaluation while 20.5% strongly or moderately agreed that it is difficult to translate that information into the treatment plan. The latter is particularly true of assessments such as the MMSE, which was the most widely use instrument, and the Short Portable Mental Status Questionnaire. A number of occupational therapy assessments such as the ACL and other instruments reported as being used less frequently (the CPT, RTI, etc.) are linked to functional performance and provide guidelines so that a patient's score and his or her approach to the task(s) required by the instrument can be easily translated into functional treatment goals.

Most therapists indicated that initial evaluations should not be limited to physical function and assessment of cognitive status should not be restricted to diagnoses of stroke, head injury, or Alzheimer's disease. Most also agreed that occupational therapy education should include extensive training in assessing the cognitive status of older patients. This further supports the issue of up-to-date evidence-based professional preparation that incorporates the physical, cognitive and psychosocial aspects of the patient.

As to responses to questions regarding therapists' beliefs about professional responsibility, 87% of respondents agreed that assessing cognitive status is the responsibility of the occupational therapist. When asked if only a psychologist or other licensed mental health professional should assess cognitive status, only 20.8% of participants responded in agreement.

Practice Setting

Results indicated that neither *ownership* nor *type of setting* were associated with the outcome variable (*frequency of use of assessment instruments*). There was also a lack of association between *autonomy afforded therapists by the practice setting* and the outcome variable. One plausible explanation for this is that the effect of autonomy may be diminished since the strongest predictor of use of standardized assessment instruments was employers' requiring therapists to assess cognition (odds ratio 3.5). Another, although perhaps less likely explanation, is that any restrictions imposed by the type of ownership or by fixed facility protocols may be circumvented by coding services in such a manner as to avoid denial of reimbursement, (i.e. *assess cognition and code it as a treatment to avoid hassles*). If the latter is the case, this would contradict Burke and Cassidy's (1991) conclusions that emphasis on productivity, efficiency, and cost-containment were altering both the frequency and type of services provided by occupational therapists.

Implications for Occupational Therapy Practice

Results of this study are congruent with the tenets of the selected theoretical framework, which posits that: 1) human behavior is best understood as the product of the interaction between the individual's personal attributes and the physical and social environment in which the individual functions; and 2) performance cannot be considered without taking into account the individual's environment (Howe & Briggs, 1982).

Research question three explored the effect of context on predicting therapists' utilization of assessment instruments. Results of the multivariate analysis showed that four predictor variables from the personal context (*knowledge of assessment instruments*;

knowledge of aging and cognition; years in geriatric practice; and assess cognition and charge as treatment), and two from the ideologic layer of the practice context (*employer requires assessment and facility has sufficient resources*) were found to contribute significantly to therapists' use of standardized assessment instrument. Although the odds of utilizing standardized assessment instruments were highly associated with the practice context neither the personal nor the practice context alone accounted for therapists' assessment practices. While therapists' knowledge of a number of instruments and of the effect of aging on cognition ensures that he or she has the skills to conduct appropriate assessments, employer requirements and availability of sufficient resources appear to be necessary for therapists to both utilize and improve their assessment skills.

There are also implications for promoting the use of standardized assessment instruments among therapists in order to attain AOTA's goals. Establishing a task force to investigate therapists' assessment practices in geriatric rehabilitation would be a good starting point. Developing a series of white papers addressing the educational preparation of occupational therapists would be a reasonable progression. Additionally, AOTA should engage in conversations with educational programs to ensure that new practitioners enter the field with sufficient knowledge of aging and cognition and with skills to appropriately utilize a variety of instruments. Similarly, AOTA could promote evidence-based continuing education opportunities for clinicians to enhance their knowledge of aging and cognition and to acquire or refine their assessment skills. As it did in 1984 to promote development and utilization of appropriate assessment instruments, AOTA could make identification of cognitive deficits through appropriate selection and utilization of standardized instruments a priority.

AOTA has been successfully involved with a number of policy issues, including their recent efforts to ensure that Medicare's current procedural terminology (CPT coding) would not preclude therapists from utilizing cognitive screening and assessing instruments (J. Thomas, AOTA, personal communication, May 2006). Changes to CPT coding proposed in 2006 would have made it more difficult for therapists to get reimbursed for the administration and interpretation of assessments that could be construed as neurobehavioral testing, therefore therapists would be less likely to engage in the utilization of these types of assessments.

Medicare's attempted changes to CPT terminology should provide a compelling reason for AOTA, schools of occupational therapy, and individual therapists to promote training in and utilizing appropriate cognitive screening and assessment instruments. Otherwise, the scope of practice and domains of occupational therapy risk being redefined by third party payers and other disciplines. AOTA's continued efforts with this issue should promote policy changes to reimbursement so that occupational therapists in geriatric rehabilitation can routinely use standardized cognitive screening and assessment tools as part of their evaluations and treatment planning.

As indicated by the results of the logistic regression, therapists in facilities with limited resources or lack of employer requirements were less likely to engage in cognitive assessments of their elderly patients than were therapists who had support from their employers. Therefore, promoting utilization of standardized cognitive assessments at the practice context level will require increased advocacy efforts and education by individual therapists and AOTA of agencies, rehabilitation companies, and third party payers.

Public Health Implications

Within the next four years, the elderly population in the United States is projected to reach an unprecedented growth when the baby-boom generation begins to reach age 65 (Hobbs & Stoops, 2002). This projected growth will inevitably result in additional health care, Medicare and Medicaid expenditures as a result of increased hospitalizations, utilization of health services, and admissions to nursing homes. As such, the growth of the older population will present a special challenge to rehabilitation and public health. Adequate provision of services, patient education, and prevention of unintentional injuries and adverse events will require a clear picture of patients' capacity for functional performance, including their cognitive abilities.

From the standpoint of treatment outcomes, identification of patients experiencing mild cognitive deficits can assist therapists to design realistic treatment plans and engage in interventions that will enhance their patients' safety and functional performance. From the perspective of public health, conditions amenable to treatment and early stages of dementia can be identified and treated promptly and safety risks identified and addressed. In this way, risks for non-compliance, adverse events, unintentional injuries and over utilization of costly health and personal care services may be minimized.

Interventions and education provided without a clear measure of the patient's cognitive capacity place the burden of assimilation on the individual and assume that the information will be successfully processed and properly utilized. To the extent that mild degrees of cognitive deficits in the elderly are undetected by medical and rehabilitation personnel, then health education messages, medical and rehabilitation interventions, and safety precautions and recommendations may be ineffectively delivered.

Efforts should be made to educate therapists across disciplines and clinicians in general, as to the public health implications of their practice. The clinical perspective of treating each patient as an isolated entity within a medical context driven by cost-containment and market pressure must be replaced by a new paradigm. Practitioners must understand that each individual intervention ultimately affects the health and function of a community and a nation, especially when procedures are bypassed or abridged to satisfy third-party payers.

Assessing cognitive status must be seen as a preventive strategy, similar to interventions in which therapists engage to prevent joint damage to arthritic joints, or prevent development of pressure sores in non-ambulatory patients. Continued emphasis on a practice driven solely by economics, while cost effective in the short term, can result in increased costs and higher degrees of excess physical and cognitive disabilities in the long term.

Limitations of the Study

A response rate of 12% may be considered a limitation by mailed questionnaire standards. However, there is evidence in the literature of similar response rates for online surveys of health professionals (Braithwaite et al. 2003).

Use of the online survey limited participation in the study to AOTA members who had opted for primary membership in one of two special interest sections, and activated their membership in the section's listserv. It is possible that, although the rosters obtained from AOTA indicated there were 3000 members in the two SIS, not all of those therapists had enrolled in the email listserv and therefore did not have access to the section's electronic messages. Participation was thus contingent on therapists' receiving

and reviewing the special interest section's email messages and having sufficient knowledge of the Internet to successfully access and manage the survey questionnaire.

While practice guidelines preclude occupational therapy assistants from engaging in patient assessment and treatment planning, assistants are allowed to utilize some instruments to collect patient data to assist the occupational therapist in formulating a treatment plan. It is therefore possible that, in practice, the use of standardized cognitive assessment instruments is higher than was reflected in this study, because none of the survey questions addressed this possibility.

Although demographic characteristics of participants in this study compare favorably with results from the AOTA (2006) study on practice, it is possible that therapists who are members of AOTA may differ from non-member therapists in terms of their knowledge, beliefs, and assessment practices. Thus, therapists who agreed to participate in the current study also may have differed along these dimensions, from therapists who declined participation.

One last limitation of the study was related to the survey questionnaire. Providing response options to the question regarding frequency of use of specific instruments or processes to assess cognition that were not mutually exclusive made it more difficult to draw comparisons between individual assessments.

Strengths of the Study

The study reflects findings of a previous qualitative study of occupational therapists practicing in home health (Whaley, 2000). The current study verified constraints regarding productivity requirements and limits imposed by the practice context and third party payers on how therapists practice, which were identified by participants in an

earlier focus group and two individual interviews. As in the current study where 80% of participants reported that over three fourths of their caseload or more consisted of patients 65 years and older, therapists interviewed reported 80 to 100% of their caseloads were of that age group.

All 10 participants in the focus group and interviews identified external factors (i.e. demands for productivity, limited treatment time, limited resources, and a focus on function), which they felt discouraged their use of standardized instruments to assess cognitive status. Thirty percent of participants in the focus group and interviews expressed concern that using a standardized assessment instrument (vs. observing functional performance) would affect their productivity. One focus group participant reported not assessing cognition to avoid denials by Medicare. Information obtained from the focus groups and interviews support findings from the current study, which indicated that therapists whose employers required them to assess the cognitive status of their older patients, and therapists whose practice environments had sufficient resources were significantly more likely to use standardized cognitive screening and assessment instruments than were their counterparts.

Therapists in the focus groups shared similar beliefs with participants in the current study regarding cognition and aging. Fifty percent of focus group participants reported their home health patients were not able to transfer skills learned in inpatient rehabilitation and all ten focus group participants described problems their patients experienced with judgment, recall, non-compliance and poor safety awareness. In spite of that, focus group participants linked those deficits with patient characteristics such as stubbornness or lack of motivation, rather than with limited capacity.

All focus group participants interpreted “cognitive impairment” as severe deficits associated with trauma, dementia or other neurologic events. When “cognitive deficits” and “cognitive impairment” were redefined for focus group and individual participants, only two therapists (20%) changed their estimates of the prevalence of such deficits among their patients to 50%. As in the current study, therapists in the focus group predominantly relied on informal assessments of memory and orientation, and believed observation of ADLs to be a useful way to screen cognitive status.

The study presents new information. This is possibly the first study in occupational therapy, adopting a theoretical perspective utilized in practice, to consider the influence of both personal and external contexts on therapists’ clinical practices. The study also presents new information for public health, and the need to engage in further research regarding the public health implication of medical and clinical practice.

The study is relevant. As Walker (2000) cautioned, changes in response to managed care were not and will not be a one time event. Instead, they signaled the beginning of a constant state of flux where change is rapid and driven by cost containment, efficiency, and competition. How occupational therapists adapt to these changes while continuing to provide evidence-based care and engage in sound clinical decision-making is perhaps even more relevant today.

The study is timely. Within two weeks of completing data collection for this study, AOTA sent its own inquiry through all special interest listserves urgently requesting information as to the type of cognitive assessment instruments therapists were using in the field. This request was made as AOTA was preparing to respond to proposed changes to Medicare’s Current Procedural Terminology (CPT) coding, which threatened

to limit the use of any type of cognitive or neuropsychological assessment to licensed psychologists.

The proposed change would have precluded therapists from assessing their patients' cognitive status and conducting comprehensive assessments in their evaluations, by denying reimbursement to disciplines other than psychology. Such changes also have the potential for increasing costs and limiting patients' access to needed and appropriate services.

Additionally, new Medicare guidelines for reimbursement require that therapists provide more thorough documentation of their patient assessments and that they utilize specific standardized instruments in their practice. Medicare's list of standardized assessments include several instruments such as the Lowenstein Occupational Therapy Assessment, The Routine Task Inventory, and the Cognitive Performance Test, which were almost never utilized by therapists in this study and which fewer therapists reported being trained to use in their professional preparation or in continuing education courses.

The study is also timely because of the mounting awareness in the literature of the prevalence of cognitive impairment among older, non-demented, medical patients and the failure of medical, nursing, and rehabilitation professionals to identify these patients.

Recommendations for Future Research

Of the six predictor variables associated with use of standardized assessment instruments, one (*years in geriatric rehabilitation*) is a function of time, but predictors within knowledge and support are modifiable. This is particularly important when we consider that the highest odd ratios in the model for use of assessment instruments were associated with employer requirements (3.4) and with the facility having sufficient

resources (2.6). The effect of context on practice should be an area of continued research for AOTA and other researchers in order to improve the practice of occupational therapy and provide therapists with the knowledge and tools to advocate for and facilitate change. As such, a larger scale study of members and non-members would be useful to more fully understand the assessment practices of therapists in general, the factors associated with therapists' use of standardized cognitive screening and assessment tools, and the perceived barriers to their use of such instruments.

Additionally, supervisor and corporate knowledge and beliefs regarding use of cognitive assessments should be studied in order to determine ways of bolstering support for therapists' assessment practices. Then, along with continuing education and university OT programs, AOTA could promote the development, standardization, and skillful utilization of cognitive screening and assessment instruments to identify mild forms of cognitive impairment in older medical patients.

Whether therapists' responses to questions regarding age-associated changes in cognition represent an actual gap in knowledge or speak to how therapists conceptualize cognition and its relationship to functional performance, this is certainly an area that warrants further investigation and intervention. Thus, future research exploring the impact of practice and personal contexts on therapists' assessment practices should also inquire as to the therapists' perceptions regarding the relationship between cognition and functional performance, as described in Knight's literature review (2000). Such research would inform as to additional personal factors that may influence therapists' decisions to screen/assess the cognitive status of elderly non-demented medical patients.

Research on the impact of screening/assessing cognitive status on treatment outcomes, functional performance, cost factors, safety, caregiver burden, and patient and caregiver satisfaction with delivery of occupational therapy services is also recommended. This type of research would provide useful information in the following domains: 1) determining which, of a variety of screening and assessment instruments, is/are sensitive to milder forms of cognitive impairment; 2) establishing which screening and assessment instruments provide information which can be translated into goals of functional performance and safety; and 3) exploring the efficiency and cost-effectiveness of identifying cognitive deficits in older non-demented medical patients;

Studies such as the one conducted for this dissertation, combined with actual observation of therapists' assessment practices and/or chart reviews, would be useful in order to control for potential effects of social desirability on self-report.

Although the current study focused on occupational therapists, the need for further research goes beyond the practice of occupational therapy and the responsibility of AOTA. The issue of under-recognition of cognitive deficits in older patients has been identified across health care providers (Pisani, et al., 2003; Ruchinskis, 2002) and, as such, should be of concern to the National Institutes of Health and the Centers for Disease Control and Prevention. As in this study, the focus of future research should be on barriers to identifying cognitive deficits among older patients hospitalized for acute conditions in order to determine suitable interventions to enhance professionals' awareness of the issue as well as increase their screening and assessment practices

Results of the recommended research should serve to guide evidence-based practice; to educate students of occupational therapy, other practitioners, consumers,

family caregivers, and payers; and to provide practitioners with information and tools to influence health care policy, particularly as it affects delivery of services to elder clients.

References

Allen, C. (1985). *Occupational therapy for psychiatric diseases: Measurement and management of cognitive disabilities*. Little Brown, Boston.

Allen, C., Earhart, C., & Blue, T. (1992). *Occupational therapy treatment goals for the physically and cognitively disabled*. Rockville, Md: American Occupational therapy Association.

Allen, C., Earhart, C., & Blue, T. (1995). *Occupational therapy treatment goals for the physically and cognitively disabled* (2nd ed.). Rockville, Md: American Occupational Therapy Association.

American Occupational Therapy Association. (2002). Occupational Therapy Practice Framework: Domain and process. *American Journal of Occupational Therapy* 56, 609-639.

American Occupational Therapy Association. (2006). 2006 AOTA Workforce and Compensation Survey: Occupational therapy salaries and job opportunities continue to improve. *OT Practice*, September 25, 2006.

Ary, D., Jacobs, L., & Razavieh, A. (2002). *Introduction to research in education*. Belmont, California: Wadsworth/Thomson Learning.

Barberger-Gateau, P., & Fabrigoule, C. (1997). Disability and cognitive impairment in the elderly. *Disability and Rehabilitation*, 19(5), 175-193.

Barnes, C., Conner, D., Legault, L., Reznickova, N., & Harrison-Felix, C. (2004). Rehabilitation outcomes in cognitively impaired patients admitted to skilled nursing facilities from the community. *Archives of Physical Medicine and Rehabilitation*, 85, 1602-1607.

Barris, R. (1987). Clinical reasoning in psychosocial occupational therapy: The evaluation process. *Occupational Therapy Journal of Research*, 7, 147-162.

Baum, C. (1985). Growth, renewal, and challenge: An important era for occupational therapy. *American Journal of Occupational Therapy*, 39, 778-784.

Boone, K. B., Miller, B. L., Lesser, I. M., Hill, E., & D'Elia, L. (1991). Performance on frontal lobe tests in healthy, older individuals. *Developmental Neuropsychology*, 6, 215-223.

Braithwaite, D., Emery, J., de Lusignan, S., & Sutton, S. (2003). Using the internet to conduct surveys of health professionals: a valid alternative? *Family Practice*, 20(5), 545-551.

Bureau of Labor Statistics, U.S. Department of Labor. (2006). Occupational Therapists. *Occupational Outlook Handbook, 2006-07 Edition*, (On-line). Available: <http://www.bls.gov/oco/ocos078.htm> (obtained May 29, 2006).

Burke, J., & Cassidy, J. (1991). The issue is - Disparity between reimbursement-driven practice and humanistic values of occupational therapy. *American Journal of Occupational Therapy*, 45, 173-176.

Center for Survey Research, Indiana University. (2004). Survey research methods. Topics in methods and measurements (Online). Available:

http://www.indiana.edu/~survmeth/survey_coop_nonrespon_04.htm.

Challiner, Y., Carpenter, I., Potter, J., & Maxwell, C. (2003). Performance indicators for hospital services for older people. *Age and Ageing*, 32(3), 343-346.

Chao, L., & Knight, R. (1997). Prefrontal deficits in attention and inhibitory control with aging. *Cerebral Cortex*, 7(1), 63-69.

Christiansen, C., & Baum, C. (Eds.). (1997). *Occupational therapy: Enabling function and well-being*, pp 46-71. Thorofare, NJ: Slack.

Christensen, H., Jorm, A., Henderson, A., Mackinnon, A., & Korten, A. (1994). The relationship between health and cognitive functioning in a sample of elderly people in the community. *Age and Ageing*, 23(3), 204-212.

Chodosh, J., Seeman, T., Keeler, E., Sewall, A., Hirsch, S., et al., (2004). Cognitive decline in high functioning older persons is associated with an increased risk of hospitalization. *Journal of the American Geriatrics Society*, 52, 1456-1462.

Clark, F., Parham, D., Carlson, M., Frank, G., Jackson, J., & Pierce, D., et al., (1991). Occupational science: Academic innovation in the service of occupational therapy's future. *American Journal of Occupational Therapy*, 45(4), 300-310.

Clarnette, R. M., & Patterson, C. J. (1993). Hypothyroidism: Does treatment cure dementia? *Journal of Geriatric Psychiatry*, 6, 23-27.

Cody, R., & Smith, J. (1991). *Applied Statistics and the SAS Programming Language* (3rd ed.). Englewood Cliffs, New Jersey: Prentice Hall.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc.

Cohen-Zion, M., Stepnowsky, C., Johnson, S., Marler, M., Dimsdale, J., Ancoli-Israel, S., et al., (2004). Cognitive changes and sleep disordered breathing in the elderly: Differences in race. *Journal of Psychosomatic Research*, 56 (5), 549-553.

Cohendy, R., Brougere, A., & Cuvillon, P. (2005). Anesthesia in older patients. *Current Opinion in Clinical Nutrition and Metabolic Care*, 8(17), 17-21.

Collie, A., & Maruff, P. (2002). An analysis of systems of classifying mild cognitive impairment in older people. *Australian and New Zealand Journal of Psychiatry*, 36, 133-140.

Cook, C., Heath, F., & Thompson, R. (2000). A meta-analysis of response rates in web or internet-based surveys. *Educational and Psychological Measurement*, 60(6), 821-836.

Crowne, D & Marlowe, D (1960). A new scale of social desirability independent of pathology. *Journal of Consulting Psychology*, 24(4), 349-354.

DeCarli, C., Miller, B., Swan, G., Reed, T., Wolf, P., & Carmelli, D. (2001). Cerebrovascular and brain morphologic correlates of mild cognitive impairment in the National Heart, Lung, and Blood Institute Twin Study. *Archives of Neurology*, 58(4), 463-467.

Dillman, D. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York: John Wiley & Sons, Inc.

Dunn, W., Brown, C., & McGuigan, A. (1994). The Ecology of Human Performance: A framework for considering the effect of context. *American Journal of Occupational Therapy*, 48(7), 595-607.

Dunn, W., Brown, C., & Youngstrom, M. (2003). Ecological Model of Occupation. In P. Kramer, J. Hinojosa, C. Brasic-Royeen (Ed.), *Perspectives in human occupation* (pp. 222-263). Baltimore, MD: Lippincott Williams & Wilkins.

Elias, M. (1998). Effect of chronic hypertension on cognitive function. *Geriatrics*, 53(Supp 1), S49-S52.

Elfant Asher, I. (1996). *Occupational therapy assessment tools: An annotated index* (2nd. Edition). Bethesda, MD; American Occupational Therapy Association.

Field, A. (2001). *Discovering statistics using SPSS for windows*. Thousand Oaks, CA. Sage Publications, Inc.

Fleming, M. (1991). The therapist with the three-track mind. *American Journal of Occupational Therapy*, 45, 1007-1014.

Fondiller, E., Rosage, L., & Neuhaus, B. (1990). Values influencing clinical reasoning in occupational therapy: an exploratory study. *Occupational Therapy Journal of Research*, 41-55.

Foto, M. (1988). Managing changes in reimbursement patterns, Part 1. *American Journal of Occupational Therapy*, 42, 463-465.

Galanos, A., Fillenbaum, G., Cohen, H., & Burchett, B. (1994). The comprehensive assessment of community dwelling elderly: Why functional status is not enough. *Aging Clinical and Experimental Research*, 6, 343-352.

Garrett, K., Browndyke, J., Whelihan, W., Paul, R., DiCarlo, M., Moser, D., et al., (2004). The neuropsychological profile of vascular cognitive impairment-no dementia: Comparisons to patients at risk for cerebrovascular disease and vascular dementia. *Archives of Clinical Neuropsychology, 19*, 745-757.

Gregg, E., Yaffe, K., Cauley, J., Rolka, D., Blackwell, T., Narayan, K., et al. (2000). Is diabetes associated with cognitive impairment and cognitive decline among older women? *Archives of Internal Medicine, 160*(2), 174-80.

Grigsby, J., Kaye, K., & Robbins, L. (1995). Behavioral disturbance and impairment of executive functions among the elderly. *Archives of Gerontology and Geriatrics, 21*, 167-177.

Hatcher, L., & Stepanski, J. (1997). *A step-by-step approach to using the SAS System for univariate and multivariate statistics* (552 pp). Cary, N.C.: SAS Institute, Inc.

Hennekens, C., & Mayrent, S. (1987). *Epidemiology in Medicine* (1st ed.). Boston: Little, Brown and Company.

Herrick, I., Ganapathy, S., Komar, W., Kirby, J., Moote, C., Dobkowski, W., et al., (1996). Postoperative cognitive impairment in the elderly: Choice of patient-controlled analgesia opioid. *Anaesthesia, 51*, 356-360.

Hinojosa, J., Kramer, P., & Crist, P. (Eds.). (2005). *Evaluation: obtaining and interpreting data*. Bethesda, MD: American Occupational Therapy Association.

Hobbs, F., & Stoops, N. (November 2002). Demographic trends in the 20th century. U.S. Census Bureau, Census 2000 Special Reports, Series CENSR-4, Washington, D.C: U.S. Government Printing Office.

Hooper, B. (1997). The relationship between pretheoretical assumptions, and clinical reasoning. *American Journal of Occupational Therapy*, 51, 328-338.

Howard, B. (1991). How high do we jump? The effect of reimbursement on occupational therapy. *The American Journal of Occupational Therapy*, 45(10), 875-881.

Howe, C., & Briggs, A. (1982). Ecological Systems Model for occupational therapy. *American Journal of Occupational Therapy*, 36(5), 322-327.

Inouye, S., Zhang, Y., Leo-Summers, L., Jones, R., Marcantonio, E. (2006). Recoverable cognitive dysfunction at hospital admission in older persons during acute illness. *Journal of General Internal Medicine*, 21(12), 1276-1281.

Kaufman, P., McMahon, R., & Becker, L. (1989). The psychophysiological investigations of myocardial-ischemia (PIMI) study - objective, methods, and variability of measures. *Psychosomatic Medicine*, 60(1), 56-63.

Kielhofner, G., & Burke, J. (1980). A model of human occupation, Part 1. Conceptual framework and content. *American Journal of Occupational Therapy*, 34, 572-581.

Kielhofner, G. (1997). *Conceptual Foundations of Occupational Therapy*. Philadelphia, F. A. Davis Company.

Kilander, L., Andren, B., Nyman, H., Lind, L., Boberg, M., & Lithell, H. (1998). Atrial fibrillation is an independent determinant of low cognitive function: a cross-sectional study in elderly men. *Stroke*, 29(9), 1816-1820.

Kirkpatrick, J., & Jamieson, M. (1993). A critical review of cognitive and memory assessment tools: Implications for occupational therapists working in cardiac rehabilitation. *Occupational Therapy in Health Care*, 8(4), 19-45.

Knight, M. (2000). Cognitive ability and functional status. *Journal of Advanced Nursing*, 31(6), 1459-1468.

Lamar, M., Zonderman, A., & Resnick, S. (2002). Contribution of specific cognitive processes to executive functioning in an aging population. *Neuropsychology*, 16(2), 156-162.

Landon, B., Reschovsky, J., Reed, M., and Blumenthal, D. (2000). Personal, organizational, and market level influences on physicians' practice patterns. *Medical Care*, 39(8), 889-905.

Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person-environment-occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy*, 63, 9-23.

Leidy, N. (1994). Functional status and the forward progress of merry-go-rounds: toward a coherent analytical framework. *Nursing Research*, 43(4), 196-202.

Lenze, E., Munin, M., Dew, M., Rogers, J., Seligman, K., Mulsant, B., et al., (2004). Adverse effects of depression and cognitive impairment on rehabilitation participation and recovery from hip fracture. *International Journal of Geriatric Psychiatry*, 19, 472-478.

Lyons, K., & Crepeau, E. (2001). The clinical reasoning of an occupational therapy assistant. *American Journal of Occupational Therapy*, 55, 577-581.

MacNeill, S., & Lichtenberg, P. (1997). Home alone: The role of cognition in return to independent living. *Archives of Physical Medicine and Rehabilitation*, 78, 755-792.

Manias, R. (2005). How graduate nurses use protocols to manage patients' medications. *Issues in Clinical Nursing*, 14, 935-944.

Mattingly, Cheryl (1991). What is clinical reasoning? *American Journal of Occupational Therapy*, 45(11), 979-986.

Mast, B., MacNeill, S., & Lichtenberg, P. (1999). Geropsychological problems in medical rehabilitation: Dementia and depression among stroke and lower extremity fracture patients. *Journal of Gerontology: Medical Sciences*, 54A, M607-M612.

McDermott, R. & Sarvela, P. (1999). *Health education evaluation and measurement: a practitioner's perspective..* Madison, Wisconsin: Brown & Benchmark.

McDowd, J., Oseas-Kreger, D., & Fillion, D. (1995). Inhibitory processes in cognition and aging. In Dempster, F., Brainerd, C (Ed.), *New perspectives on interference and inhibition in cognition* (pp. 363-400). New York: Academic Press.

Miller, D. (2000). Effectiveness of acute rehabilitation services in geriatric evaluation and management units. *Clinics in Geriatric Medicine*, 16(4), 775-782.

Miller, D., & Salkind, N. (2002). *Handbook of research design and social measurement* (6th ed.). Thousand Oaks, CA: Sage Publications.

Moss, M., Wellman, A., Cotsonis, G. (2003). An appraisal of multivariate logistic models in the pulmonary and critical care literature. *Chest*, 123(3), 923-928.

Munro, B. (1997). *Statistical Methods for Healthcare Research* (3rd ed.). Philadelphia: Lippincott.

Mitrushina, M., & Satz, P. (1994). Utility of mini-mental state examination in assessing cognition in the elderly. *Aging*, 6(6), 427-432.

Nedley, A., Kendrick, B., & Brown, R. (1995). Health and memory in people over 50: a survey of a single-GP practice in England. *Journal of Advanced Nursing*, *21*, 646-651.

Penney, N., Kasar, J., Sinay, T. (2001). Student attitudes toward persons with mental illness: The influence of course work and Level I Fieldwork. *American Journal of Occupational Therapy*, *55*(2), 217-220.

Petersen, R., Doody, R., Kurz, A., Mohs, R., Morris, J., Rabins, P., et al. (2001). Current concepts in mild cognitive impairment. *Archives of Neurology*, *58*, 1985-1992.

Pisani, M., Redlich, C., McNicoll, L., Ely, E., Inouye, S. (2003). Underrecognition of preexisting cognitive impairment by physicians in older ICU patients. *Chest* *124*(6), 2267-2274.

Poon, L., Fozard, J., Cermak, L., Arenberg, D., Thompson, L. (Ed.). (1980). *New Directions in Memory and Aging: Proceedings from the George A. Talland Memorial Conference..* Hillsdale, NJ: Lawrence Erlbaum.

Rao, R., Jackson, S., & Howard, R. (1999). Neuropsychological impairment in stroke, carotid stenosis, and peripheral vascular disease: A comparison with healthy community residents. *Stroke*, *30*, 2167-2173.

Raz, N., Rodrigue, K., & Acker, J. (2003). Hypertension and the brain: Vulnerability of the prefrontal regions and executive function. *Behavioral Neuroscience*, *117*(6), 1169-1180.

Richards, M., Shipley, B., Fuhrer, R., Wadsworth, M. (2004). Cognitive ability in childhood and cognitive decline in mid-life: Longitudinal birth cohort study.

British Medical Journal, *doi:10.1136/bmj.37972.513819.EE* (published 3 February, 2004). Rockwood, k.,

Rogers, J., & Masagatani, G. (1982). Clinical Reasoning of occupational therapists during the initial assessment of physically disabled patients. *Occupational Therapy Journal of Research*, 2, 195-219.

Ruchinskas, R. (2002). Rehabilitation therapists' recognition of cognitive and mood disorders in geriatric patients. *Archives of Physical Medicine and Rehabilitation*, 83, 609-612.

Ruchinskas, R. A., & Curyto, K. J. (2003). Cognitive screening in geriatric rehabilitation. *Rehabilitation Psychology*, 48(1), 14-22.

Ruchinskas, R., Broshek, D., Barth, J., Francis, J., & Robbins, M. (2000). A neuropsychological normative database for lung transplantation candidates. *Journal of Clinical Psychology in Medical Settings*, 7, 107-112.

Ruchinskas, R., Singer, H., & Repetz, N. (2000). Cognitive status and ambulation in geriatric rehabilitation: Walking without thinking? *Archives of Physical Medicine and Rehabilitation*, 82, 920-924.

Sands, L., Yaffe, K., Covinsky, K., Chren, M., Counsell, S., Palmer, R., Fortinsky, R., & Landefeld, C. (2003). Cognitive screening predicts magnitude of functional recovery from admission to 3 months after discharge in hospitalized elders. *Journal of Gerontology*, 58A(1), 37-45.

Scheirton, L., Mu, K., & Lowman, H. (2003). Occupational therapists' responses to practice errors in physical rehabilitation settings. *American Journal of Occupational Therapy*, 1957(3), 307-314.

Schell, B., & Cervero, R. (1993). Clinical reasoning in occupational therapy: an integrative review. *American Journal of Occupational Therapy*, 47(7), 605-610.

Schkade, J., & Schultz, S. (1992). Occupational adaptation: Toward a holistic approach for contemporary practice, part I. *American Journal of Occupational Therapy*, 46, 829-837.

Seines, O., Goldsborough, M., Borowicz, L., & McKhann, G. (1999). Neurobehavioral sequelae of cardiopulmonary bypass. *The Lancet*, 353(May 8), 1601-1606.

Stoner, S. (1997). Drug-induced cognitive dysfunction. *Medical Update for Psychiatrists*, 2(3), 81-85.

Swan, G., DeCarli, C., Miller B., Reed, T., Wolf, P., Jack, L., et al. (1998). Association of midlife blood pressure to late-life cognitive decline and brain morphology. *Neurology* 51(4), 986-993.

Tabachnick, B., & Fidell, L. (2001). *Using multivariate statistics* (4th.ed.). Needham Heights, MA: Allyn and Bacon.

Tabbarah, M., Crimmins, E., & Seeman, T. (2002). The relationship between cognitive and physical performance: MacArthur studies of successful aging. *Journal of Gerontology: Medical Sciences*, 57A(4), M228-M235.

Tatemichi, T., Desmond, D., Stern, Y., Paik, M., Sano, M., & Bagiella, E. (1994). Cognitive impairment after stroke: Frequency, patterns, and relationship to functional abilities. *Journal of Neurology, Neurosurgery, and Psychiatry*, 57(202-207).

Teng-Wai, D., Knopman, D., Geda, Y., Edland, S., Smith, G., Ivnik, R., Tangalos, E., Boeve, G., & Petersen, R. (2003). Comparison of the short test of mental status and the mini-mental state examination in mild cognitive impairment. *Archives of Neurology*, 60(12), 1777-17781.

Thomas, S. (2004). *Using Web and Paper Questionnaires for Data-Based Decision Making: From Design to Interpretation of the Results*. Thousand Oaks, CA: Corwin Press.

Tideiksaar, R. (Ed.). (1997). *Falling in old age* (2nd. ed.). New York: Springer Publishing Co.

Tombaugh, T. & McIntyre, J. (1992). The mini-mental state examination: A comprehensive review. *Journal of the American Geriatrics Society*, 40(9), 922-935.

Tracy, C., Dantas, G., Moineddin, R., Upshur, R. (2005). Contextual factors in clinical decision making. *Canadian Family Physician*, 51. www.cfpc.ca/cfp.

Unsworth, C. (2005). Using a head-mounted video camera to explore current conceptualizations of clinical reasoning in occupational therapy. *American Journal of Occupational Therapy*, 59(1), 31-40.

Van Boxtel, M., Buntinx, F., Houx, P., Metsemakers, J., Knottnerus, A., Jolles, J., et al. (1998). The relation between morbidity and cognitive performance in a normal aging population. *Journal of Gerontology. Series A*, 53(2), M147-154 .

Waldstein, S., Ryan, J., Muldoon, C., Shapiro, M., & Polefrone, J., et al., (1996). Hypertension and neuropsychological performance in men: Interactive effects of age. *Health Psychology, 15*(2), 102-109.

Walker, K. (2000). Adjustments to managed health care: Pushing against it, going with it, and making the best of it. *American Journal of Occupational Therapy, 55*(2), 129-137.

Walonick, D. (2004). *Survival statistics* (On-line). Available: <http://statpac.com/surveys/surveys.doc>

Wentzel, C., Hachinski, V., Hogan, D., MacKnight, C., & McDowell, I. (2000). Prevalence and outcome of vascular cognitive impairment: Vascular Cognitive Impairment Investigators of the Canadian Study of Health and Aging. *Neurology, 54*(2), 447-451.

Whaley, M. (2000, September). Dissecting clinical reasoning. Paper presented at the Great Southern Occupational Therapy Symposium in Indianapolis, Indiana.

Zamboni, V., Cesari, M., Zuccala, G., Onder, G., Woodman, R., Ranzini, M., et al. (2006). Anemia and cognitive performance in hospitalized older patients: results from the GIFA study. *International Journal of Geriatric Psychiatry, 21*, 529-534.

Appendices

Appendix A – Summary of Research Questions

Summary of research question #1 and associated survey items.	
What are the current practices of occupational therapists, regarding screening or assessing the cognitive status of non-demented older patients referred for rehabilitation?	
<p>a. Do therapists routinely screen/assess the cognitive status of non-demented elderly patients referred to rehabilitation on initial evaluation?</p> <p>b. How frequently do therapists use specific cognitive assessment tools on initial evaluation of elderly rehabilitation patients?</p> <p>c. If patients fail to improve as anticipated in the initial assessments, are therapists likely to assess their cognitive status?</p>	<p>Q 6 - When you conduct initial evaluations of patients 65 years of age and older, how frequently do you assess cognition?</p> <p>Q 25 – 35 How frequently do you use the _____ screen or assessment as part of your initial evaluation of rehabilitation patients 65 years and older?</p> <p>Q 74 - After one week of treatment, your patient's functional status (ADL's, wheelchair mobility, etc) does not seem to improve to meet your long term goals as you anticipated in your initial treatment plan. Which are you most likely to do?</p>

Summary of research question # 2 and associated survey questions.	
What effect does the practice context have on therapists' decisions to assess the cognitive status of non-demented elderly patients during their initial evaluation?	
<p>a. Is the type of practice setting (acute hospital, subacute inpatient rehabilitation unit, home health agency, free-standing rehabilitation unit) associated with therapists' cognitive screening/assessment of elderly non-demented patients on initial evaluation?</p>	<p>Q 78- In which type of setting is your practice physically located?</p>
<p>b. Is there an association between facility ownership (non-profit, for profit, VA) and therapists' cognitive screening/assessment of elderly non-demented patients during initial evaluation?</p>	<p>Q 75 - Please indicate the type of ownership of the agency or company where you are employed</p>
<p>c. Is there an association between autonomy afforded therapists through the facility protocols, and their use of cognitive screening and assessment instruments?</p>	<p>Q 55 - If, in the course of treatment, a rehabilitation patient is identified as having a cognitive impairment, my facility will be denied reimbursement.</p> <p>Q 63 - If a patient is not learning in occupational therapy, I am required to discharge him or her.</p> <p>Q 72 - Which of the following best describes how you determine which performance in areas of occupation (i.e. ADLs, IADLs, etc.) to assess on initial evaluation?</p> <p>Q 73 - Which of the following best describes how you determine which performance skills (motor, process, etc.) to assess on initial evaluation?</p>

Appendix A – Summary of Research Questions (Cont.)

Summary of research question #2 (Cont.)	
<p>d. Is there an association between employer/supervisor support for conducting cognitive screenings/assessments, and available resources, and therapists' use of cognitive screening/assessment instruments?</p>	<p>Q 53 - The company for which I work believes that assessing the cognitive status of all elderly patients on initial evaluation is a poor way to use billable units.</p> <p>Q 57 - My employer requires use of cognitive assessments as part of our initial evaluation and for discharge planning.</p> <p>Q 59 - My supervisor encourages comprehensive assessment of our elderly patients, including cognitive status, as part of our initial OT evaluation.</p> <p>Q 60 - Because of productivity requirements I lack the time to use standardized cognitive screens and assessments.</p> <p>Q 65 - My facility has sufficient resources (screening and assessment instruments, sufficient funds for training) to support my use of standard cognitive screens and assessments.</p>

Appendix A – Summary of Research Questions (Cont.)

Summary of research question #3	
What effect does the personal context have on therapists' use of cognitive screening and assessment tools?	
<p>a. Is there a relationship between therapists' knowledge of the effect of aging on cognition and their use of cognitive screening and assessment tools?</p>	<p>Q 39- Impairment in cognitive function is part of normal aging.</p> <p>Q 40 - A knowledgeable therapist can effectively assess the cognitive status of a patient by conversing with the person.</p> <p>Q 42 - A person's ability to perform ADLs is a good measure of his/her cognitive ability.</p> <p>Q 43 - Fluid intelligence deteriorates with age.</p> <p>Q 45 - Fluid intelligence affects the ability to learn new skills in therapy</p>
<p>b. Is there a relationship between therapists' knowledge of how to administer and score a variety of screening and assessment tools and their use of these tools?</p>	<p>Q 8 - 18 Received formal training (through classroom instruction or specialized continuing education courses in the administration and scoring of the following screening and assessment instruments.</p>
<p>c. Are therapists' beliefs about professional responsibility associated with their use of cognitive screening and assessment instruments in geriatric rehabilitation?</p>	<p>Q 38 - Cognitive status should only be assessed by a psychologist or other licensed mental health professional.</p> <p>Q 47 - Assessing cognitive status is the responsibility of the occupational therapist.</p>
<p>d. Is there an association between therapists' beliefs about use of cognitive screening and assessment instruments and frequency of use?</p>	<p>Q 49 - Assessing the cognitive status of elderly patients is problematic, because it may lead to costly referrals for further evaluation.</p> <p>Q 50 - Assessing cognitive status is problematic, because it is difficult to translate the information into treatment goals.</p> <p>Q 46 - Assessing the cognitive status of elderly patients in every initial evaluation is a poor use of billable units.</p> <p>Q 36 - A patient's cognitive status need only be addressed on initial evaluation if the individual carries a diagnosis of stroke, head injury, or Alzheimer's disease.</p> <p>37 - Initial assessment should only address a patient's physical function.</p> <p>Q 41 - Occupational therapy education should include extensive training in assessing the cognitive status of adults and elderly patients.</p>

Appendix A – Summary of Research Questions (Cont.)

Summary of research question #3 (Cont.)	
e. Are beliefs regarding aging associated with use of cognitive screening and assessment instruments in geriatric rehabilitation?	<p>Q 44 - Non-compliance in older patients is caused by lack of cognitive capacity.</p> <p>Q 51 - Lack of motivation is the primary reason for non-compliance</p>
f. Is there an association between temporal factors of the therapists (age, years in OT practice, years in geriatric rehabilitation, length of time in employment at the time of the survey) and their use of cognitive screening and assessment tools in geriatric rehabilitation?	<p>Q 80 - What is your age?</p> <p>Q 86 - How many years have you worked in occupational therapy?</p> <p>Q 87 - How many years have you worked in geriatric rehabilitation?</p>
g. Is level of education associated with use of cognitive screening/assessment instruments?	<p>Q 84 - What is the highest degree you have attained to date?</p>

Appendix B – Expert Panel Members and Credentials

Nancy Allen, OTRL
Geriatric Occupational Therapist
Tampa, Florida

Larry Branch, Ph.D
Professor, Health Policy and Management
College of Public Health University of South Florida
Professor, Aging and Mental Health
Department of Aging and Mental Health
University of South Florida
Tampa, Florida

Celinda Evitt, R.P.T Ph.D
Associate Professor
School of Physical Therapy
University of South Florida
Tampa, Florida

Katherine Farber, OTRL
Geriatric Occupational Therapist
Tampa, Florida

Deborah Gavin-Dreschnak, Ph.D
Health Science Researcher
VSN 8 – Patient Safety Center
James A. Haley V.A. Medical Center
Tampa, Florida

Sean Hillary, M.A.
Director of Business Planning
Tampa Electric Company
Tampa, Florida

Cecilia Jevitt, CNM, Ph.D
Assistant Professor of Midwifery and Nursing
University of South Florida
Tampa, Florida

Kim Warchol, OTRL
President, Dementia Care Specialists
Allen Cognitive Disabilities Expert Advisor
Specialist in Dementia Care
Chesterfield, Missouri

Wendy Stav, Ph.D, OTRL, CDRS
Research Assistant Professor
Department of Occupational Therapy
College of Public Health and Health Professions
University of Florida
Gainesville, Florida

Appendix C – Expert Panel Instructions and Worksheets

Dear Expert Panel member,

This study looks at current screening and assessment practices in occupational therapy. Your assignment, if you should accept it, is to match the areas of interest to the researcher, to the questions in the survey instrument. Below, you will find information as to the two main categories and the sub-categories found in each. Please label each question as to which subcategory, in your opinion, it matches.

Occupational Therapy Practice Environment

1. Type of practice site or setting
2. Facility ownership
3. Patient factors (patient characteristics which may influence the therapist's assessment or treatment behavior).
4. Autonomy (degree of afforded therapists regarding assessment and treatment decisions and choices, fixed vs. flexible assessment and treatment protocols).
5. Resources (funding, availability of assessment tools, staffing patterns and levels, caseload, etc).
6. Supervisor/employee support.

Therapists' Personal Context

1. Demographic information (age, gender, race/ethnicity, education)
2. Therapists' knowledge (of aging, disease, cognition)
3. Self-efficacy (how therapists perceive their level of skill in using screening and assessment instruments).
4. Therapists' beliefs (regarding benefits Vs. disadvantages in using cognitive screening or assessment tools; professional responsibility).
5. Therapists' attitudes regarding the use of cognitive screening and assessments.
6. Therapists' values.

1. Provided physical rehabilitation to patients >65 yrs in past 6 months? (Yes, no).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

2. Percentage of patients 65 years or older in caseload past 6 months?

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

3. Which of the following assessments do you conduct in every initial evaluation of patients >65 referred to occupational therapy for rehabilitation? Select all that apply. Exclude patients who, at admission, have dx of stroke, Alzheimer’s disease, or head injury. (List of assessments provided).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

4. How familiar are you with the protocols for administering and scoring the following assessments? (List of assessments provided).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

5. Please indicate how frequently you use the following assessments as part of your initial evaluation of patients 65 years and older? (List of assessments provided).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

6. How would you rate the importance of the following characteristics in your selection of assessments? (List provided).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

7. Patient assessment should only address areas of physical function as indicated by the patient’s diagnosis. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

8. A patient's cognitive status should only be assessed when the individual has a diagnosis of stroke, head injury, or Alzheimer's disease. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

9. Cognitive status should only be assessed by a psychologist or other licensed mental health professional. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

10. Major impairment in cognitive function is part of normal aging. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

11. A knowledgeable therapist can effectively assess the cognitive status of a patient by conversing with the person. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

12. Occupational therapy education should include extensive training in assessing the cognitive status of adults and elderly patients. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

13. A person's ability to perform ADL's is a good measure of his/her cognitive status. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

14. Fluid intelligence deteriorates with age. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

15. Fluid intelligence affects the ability to learn new skills in therapy. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

16. Non-compliance in older patients is generally caused by lack of cognitive capacity. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

17. Assessing cognitive status is useful for treatment. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

18. Assessing cognitive status is a poor use of billable units. (Choice from strongly agree to strongly disagree).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

19. Assessing cognitive status is the responsibility of the occupational therapist. (Choice from strongly agree to strongly disagree).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

20. Therapists avoid assessing the cognitive status of patients, because they feel unsure of their assessment skills. (Choice from strongly agree to strongly disagree).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

21. Assessing the cognitive status of elderly patients is problematic, because it may lead to costly referrals for further evaluation. (Choice from strongly agree to strongly disagree).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

22. Assessing cognitive status of elderly patients is problematic, because it is difficult to utilize the information in the treatment plan. (Choice from strongly agree to strongly disagree).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

23. Lack of motivation is the primary reason why elderly patients are non-compliant. (Choice from strongly agree to strongly disagree).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

24. In my facility, assessment of cognitive function is done by the speech therapist. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

25. The company for which I work believes that assessing the cognitive status of all elderly patients is a poor way to use billable units. (Choices are “yes”, “no.”).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

26. If a rehab patient is identified as having a cognitive impairment, my facility will be denied reimbursement for occupational therapy services. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	

27. My employer requires OT’s use of cognitive assessments as part of our initial evaluation and for discharge planning. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

28. My supervisor encourages comprehensive assessment of our elderly patients, including cognitive status, as part of our initial evaluation. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

29. If a patient is not learning in occupational therapy, I am required to discharge him or her. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

30. Because of productivity requirements, I lack the time to use standardized cognitive screens and assessments. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

31. In my facility, issues related to cognition are believed to be social problems that we don’t address. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

32. My facility has sufficient resources (cognitive screening and assessment instruments, necessary supplies, or available funds) to support my use of standardized cognitive screens and assessments. (Choices are “yes”, “no.”)

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

33. As you get ready to answer this question, think about how your current employer allows or expects you to deliver services to your patients. Then, **on a 5 point scale from very dissatisfied to very satisfied, select your level of satisfaction** with the treatment philosophy of the company for which your work. (Choice as described in question).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

34. **On a scale from 1 (very poor) to 5 (very good)**, how would you rate the fit between your personal values and those of the company for which you work? (Choice as described in question).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

35. **On a scale from 1 (very poor) to 5 (very good)**, how would you rate the fit between your professional values and those of the company for which you work?

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

36. How frequently do you utilize one particular theoretical perspective (frame of reference) in your practice? (Choice from almost always to almost never).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

37. If you utilize one particular theoretical perspective (frame of reference) in your practice, please indicate which one. (List of frames of references provided).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

38. If you indicated that you utilize a frame of reference other than those listed in the previous question, please indicate which one by typing in the *space provided*.

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

39. Based on your personal preference, please indicate your *first, second, and third choice* of CE programs to attend.

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

40. Which of the following statements best describes how you determine which performance in areas of occupation (formerly known as performance areas) to assess on initial evaluation? (Please see questionnaire choices).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

41. Which of the following statements best describes how you determine which performance skills (formerly known as performance components) to assess on initial evaluation? (Please see questionnaire choices).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

42. The next two questions are case examples. Please indicate what you are most likely to do in these situations. ***On initial evaluation your patient was oriented and could follow two-step commands. However in the course of therapy, you find the patient to be non-compliant with treatment recommendations and safety precautions. Which of the following are you most likely to do?*** (Please see questionnaire for choices).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

43. Case example #2 – ***Your patient does not seem to learn the new skills you anticipated in your initial treatment plan. Your supervisor prefers not using billable units to assess cognition. Which of the following are you most likely to do?*** (Please see questionnaire for choices).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

44. Please indicate the type of ownership of the agency or company where you are employed. (For-profit, not-for-profit, VA, independent contractor).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

45. In which state do you practice? (Drop-down menu).

<input type="checkbox"/> Practice environment	<input type="checkbox"/> Personal context
<input type="checkbox"/> Setting	<input type="checkbox"/> Demographic
<input type="checkbox"/> Ownership	<input type="checkbox"/> Knowledge
<input type="checkbox"/> Patient factors	<input type="checkbox"/> Self-efficacy
<input type="checkbox"/> Autonomy	<input type="checkbox"/> Beliefs
<input type="checkbox"/> Resources	<input type="checkbox"/> Attitudes
<input type="checkbox"/> Support	<input type="checkbox"/> Values

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

46. In the *space provided*, please indicate how many OTs are on staff in your facility.

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

47. How many PRN or agency OTs work in your facility? (Space provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

48. How many OTAs are on staff in your facility? (Space provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

49. How many PRN or agency OTAs work in your facility? (Space provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

50. What is the average caseload in your OT department? (Ranges provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

51. In which type of setting is your primary practice physically located? (Choice of settings).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

52. If your practice is in a setting different from the selection offered in the previous question, please indicate which one in the *space provided below*.

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

53. Which of the following describes your current position? (Please see questionnaire for response choices).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

- | | |
|------------------------------------|------------------------------------|
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

54. How many years have you worked at this facility? (Choice of ranges provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

55. What is your age? (Space provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

56. What is your gender? (Male, female).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

57. Did you receive your OT training in the US? (Yes, no).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

58. What is your race/ethnicity? (Choices provided)

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

59. What is the highest degree you have attained to date? (Choices provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

- | | |
|--|--|
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

60. Do you have any special occupational therapy certification? (Yes, no).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Appendix C – Expert Panel Instructions and Worksheets (Cont.)

61. If you have any special certification, please indicate which in the *space provided* below.

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

62. How many years have you worked in occupational therapy practice? (Range provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

63. How many years have you worked in geriatric rehabilitation? (Range provided).

- | | |
|---|---|
| <input type="checkbox"/> Practice environment | <input type="checkbox"/> Personal context |
| <input type="checkbox"/> Setting | <input type="checkbox"/> Demographic |
| <input type="checkbox"/> Ownership | <input type="checkbox"/> Knowledge |
| <input type="checkbox"/> Patient factors | <input type="checkbox"/> Self-efficacy |
| <input type="checkbox"/> Autonomy | <input type="checkbox"/> Beliefs |
| <input type="checkbox"/> Resources | <input type="checkbox"/> Attitudes |
| <input type="checkbox"/> Support | <input type="checkbox"/> Values |

Now that you've had a chance to look at the questionnaire, would you take a few minutes to answer some questions?

1. Is the questionnaire appealing?
2. Are the questions such that therapists would want to answer them?
3. Is the language understandable?
4. Is there anything offensive about this questionnaire?
5. Is there something important I forgot to ask? _____

6. Is there a question I should eliminate? _____

7. Are the response choices adequate? _____

Thank you for your valuable time and feedback. I could not do this without you.

Mirtha M. Whaley, Ph.D Candidate, MPH, OTRL

Appendix D –IRB Exemption Certificate



October 6, 2005

Mirtha Whaley, Ph.D. Candidate and James Mortimer, Ph.D.
Community and Family Health
MDC56

RE: **Exempt Certification for Application for Exemption**
IRB#: 104071
Title: *Effect of Personal and Practice Contexts on Occupational Therapists' Assessments
Practices in Geriatric Rehabilitation*

Dear Ms. Whaley and Dr. Mortimer:

On October 5, 2005, the Institutional Review Board (IRB) determined that your Application for Exemption **MEETS FEDERAL EXEMPTION CRITERIA two (2)**. It is your responsibility to ensure that this research is conducted in a manner consistent with the ethical principles outlined in the Belmont Report and in compliance with USF IRB policies and procedures.

Please note that changes to this protocol may disqualify it from exempt status. It is your responsibility to notify the IRB prior to implementing any changes.

The Division of Research Compliance will hold your exemption application for a period of five years from the date of this letter or until a Final Review Report is received. If you wish to continue this protocol beyond the five-year exempt certification period, you will need to submit an Exemption Certification Request form at least 30 days before this exempt certification expires. The IRB will send you a reminder notice prior to expiration of the certification; therefore, it is important that you keep your contact information current. Should you complete this study prior to the end of the five-year period, you must submit an Application for Final Review.

Please reference the above IRB protocol number in all correspondence to the IRB or the Division of Research Compliance. In addition, we have enclosed an Institutional Review Board (IRB) Quick Reference Guide providing guidelines and resources to assist you in meeting your responsibilities when conducting human subjects research. Please read this guide carefully.

OFFICE OF RESEARCH • DIVISION OF RESEARCH COMPLIANCE
INSTITUTIONAL REVIEW BOARDS, FWA NO. 00001669
University of South Florida • 12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-5618

Appendix D –IRB Exemption Certificate (Cont.)

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to the Human Research Protections Program. If you have any questions regarding this matter, please call 813-974-9343.

Sincerely,



Paul G. Stiles, J.D., Ph.D.
USF Institutional Review Board

Enclosures: IRB Quick Reference Guide

Cc: Brenda Kuska, USF IRB Professional Staff

IA-EC-05-01

Appendix E. Pilot Study Reliability Summary

Appendix _____ Pilot Study Reliability Summary

Note: Unless otherwise noted, items were retained and included in the final version of the questionnaire.

Ranked variables

Reliability for ranked variables is expressed as Spearman rho correlation coefficient.

2 What percentage of your caseload in the past six months would you estimate to be 65 years or older?	Frequency		Spearman rho Ranked Variables .819
	T1	T2	
0-25%	1	1	
26-50%	1	1	
51-75%	4	2	
76% or more	12	14	

4. How familiar are you with the protocols for administering and scoring the following?	Very familiar	Somewhat familiar	Not familiar at all	Spearman rho
	T1, T2	T1, T2	T1, T2	
Canadian Occupational Performance Measure	2, 2	6, 6	8, 8	.751
Clock Drawing Test	11, 9	7, 9	0, 0	.570
Cognitive Performance Test	8, 3	7, 12	2, 3	.693
Nutritional Assessment of the Elderly	1, 0	3, 4	13, 14	.611
Assessment of Motor and Processing Skills (AMPS)	1, 0	8, 9	8, 9	.756
Routine Task Inventory (RTI)	11, 10	3, 3	3, 5	.774
Mini Mental Status Exam (MMSE)	16, 13	0, 4	2, 1	.631
Allen Cognitive Level Assessment (ACL/LACL)	14, 14	4, 3	0, 1	.994
Lowenstein Occupational Therapy Cognitive Assessment	4, 3	4, 4	10, 11	.925
Short Portable Mental Status Questionnaire	1, 2	6, 2	10, 14	.708

Appendix E. Pilot Study Reliability Summary (Cont.)

8	A patient's cognitive status should only be assessed when the individual has a diagnosis of stroke, head injury, or Alzheimer's disease.	T1,	T2	Spearman rho
	Strongly agree	1	1	.296
	Moderately agree	1	1	
	Moderately disagree	2	2	
	Strongly disagree	14	14	

Question #8 was rephrased as: *A patient's cognitive status need only be addressed on initial evaluation if the individual carries a diagnosis of stroke, head injury, or Alzheimer's disease.*

9	Cognitive status should only be assessed by a psychologist or other licensed mental health professional.	T1,	T2	Spearman rho
	Strongly agree	0	0	.686
	Moderately agree	0	0	
	Moderately disagree	2	1	
	Strongly disagree	16	17	

10	Major impairment in cognitive function is part of normal aging.	T1,	T2	Spearman rho
	Strongly agree	1	1	.396
	Moderately agree	1	0	
	Moderately disagree	0	2	
	Strongly disagree	16	15	

It is possible that "major" was interpreted as in advanced stages of dementia. Question was reworded to read: *Impairment in cognitive function is part of normal aging.*

11	A knowledgeable therapist can effectively assess the cognitive status of a patient by conversing with the person.	T1,	T2	Spearman rho
	Strongly agree	1	1	.483
	Moderately agree	10	8	
	Moderately disagree	5	9	
	Strongly disagree	2	0	

Appendix E. Pilot Study Reliability Summary (Cont.)

12 Occupational therapy education should include extensive training in assessing the cognitive status of adults and elderly patients.			Spearman rho
	T1,	T2	
Strongly agree	11	12	.662
Moderately agree	6	6	
Moderately disagree	1	0	
Strongly disagree	0	0	

13 A person's ability to perform ADL's is a good measure of his/her cognitive status.			Spearman rho
	T1,	T2	
Strongly agree	2	2	.398
Moderately agree	12	13	
Moderately disagree	3	3	
Strongly disagree	1	0	

Question #13 was retained because it addresses an important area of knowledge about aging and cognition.

14 Fluid intelligence deteriorates with age.			Spearman rho
	T1,	T2	
Strongly agree	0	2	.844
Moderately agree	7	8	
Moderately disagree	7	5	
Strongly disagree	4	3	

15 Fluid intelligence affects the ability to learn new skills in therapy.			Spearman rho
	T1,	T2	
Strongly agree	2	3	.662
Moderately agree	11	10	
Moderately disagree	2	3	
Strongly disagree	3	0	

Appendix E. Pilot Study Reliability Summary (Cont.)

16	Non-compliance in older patients is generally caused by lack of cognitive capacity.	T1,	T2	Spearman rho
	Strongly agree	0	0	.000
	Moderately agree	7	6	
	Moderately disagree	4	10	
	Strongly disagree	7	2	

Question #16 was retained but reworded to remove "generally" as it was a vague qualifier which could account for the .000 correlation.

17	Assessing cognitive status is useful for treatment.	T1,	T2	Spearman rho
	Strongly agree	17	18	
	Moderately agree	1	0	
	Moderately disagree	0	0	
	Strongly disagree	0	0	

Question #17 was eliminated from the final survey because of the poor distribution of responses.

18	Assessing cognitive status is a poor use of billable units.	T1,	T2	Spearman rho
	Strongly agree	0	0	.728
	Moderately agree	1	0	
	Moderately disagree	1	1	
	Strongly disagree	16	17	

Question #18 showed good stability, but wording for the final instrument was changed to: *Assessing cognitive status in every initial evaluation is a poor use of billable units.*

19	Assessing cognitive status is the responsibility of the occupational therapist.	T1,	T2	Spearman rho
	Strongly agree	11	8	.436
	Moderately agree	5	9	
	Moderately disagree	2	1	
	Strongly disagree	0	0	

Appendix E. Pilot Study Reliability Summary (Cont.)

20 Therapists avoid assessing the cognitive status of patients, because they feel unsure of their assessment skills.	T1,	T2	Spearman rho
Strongly agree	9	7	.672
Moderately agree	5	7	
Moderately disagree	2	1	
Strongly disagree	2	3	

21 Assessing the cognitive status of elderly patients is problematic, because it may lead to costly referrals for further evaluation.	T1,	T2	Spearman rho
Strongly agree	0	0	.490
Moderately agree	3	0	
Moderately disagree	3	2	
Strongly disagree	12	16	

22 Assessing cognitive status of elderly patients is problematic, because it is difficult to utilize the information in the treatment plan.	T1,	T2	Spearman rho
Strongly agree	0	0	.744
Moderately agree	0	2	
Moderately disagree	5	3	
Strongly disagree	13	13	

Question #22 Responses were stable, but the wording was changed to read: ...*difficult to translate the information into treatment goals.*

23 Lack of motivation is the primary reason why elderly patients are non-compliant.	T1,	T2	Spearman rho
Strongly agree	0	0	.486
Moderately agree	1	2	
Moderately disagree	7	5	
Strongly disagree	10	11	

Appendix E. Pilot Study Reliability Summary (Cont)

24 In the next section, the questions refer to your employment experience in the past 6 months.

In my facility, assessment of cognitive function is:	T1	T2	Spearman rho
Assigned to speech therapy	1	0	.611
Assigned to OT	3	2	
A turf battle	0	0	
Successfully negotiated between speech and OT	14	16	
Done by speech, but OT is okay with that	0	0	

33 As you get ready to answer this question, think about how your current employer allows or expects you to deliver services to your patients. Then, on a 5 point scale from very dissatisfied to very satisfied, select your level of satisfaction with the treatment philosophy of the company for which you work.

	T1	T2	Spearman rho
Very dissatisfied	0	0	.721
Moderately dissatisfied	0	0	
Neither	0	0	
Moderately satisfied	3	5	
Very satisfied	15	13	

34 Again, think about your current employment and your delivery of services to your patients. On a scale from 1 (very poor) to 5 (very good), how would you rate the fit between your personal values and those of the company for which you work?

	T1	T2	Spearman rho
Very poor	0	0	.615
Moderately poor	0	0	
Neither	1	0	
Moderately good	4	9	
Very good	13	9	

Appendix E. Pilot Study Reliability Summary (Cont.)

35 Once more, think about your current employment and your delivery of services to your patients. On a scale from 1 (very poor) to 5 (very good), how would you rate the fit between your professional values and those of the company for which you work?

	T1	T2	Spearman rho
Very poor	0	0	.396
Moderately poor	0	0	
Neither	0	1	
Moderately good	7	9	
Very good	11	8	

36 How frequently do you utilize one particular theoretical perspective (frame of reference) in your practice?

	T1	T2	Spearman rho
Almost always	4	3	.862
Very frequently	3	6	
Sometimes	9	5	
Almost never	2	4	

37 If you prefer to use a particular theoretical perspective (frame of reference) in your practice, please indicate which one.

	T1	T2	Spearman rho
Biomedical	0	0	.127
Ecology of Human Performance	0	0	
Cognitive Disability	1	3	
Model of Human Occupation	1	0	
Occupational Adaptation	0	0	
Person-Environment-Occupation	0	0	
Canadian Occupational Performance Measure	0	0	
Other	0	0	
None	3	3	
Combination	13	12	

Question #37 was retained despite the low Spearman rho coefficient, as this may be a function of the small sample size. The question was changed by eliminating the last option, to force a selection that would more clearly identify in the final survey the proportion of therapists who guide their practice by a specific theoretical perspective.

Appendix E. Pilot Study Reliability Summary (Cont.)

39 Based on your personal preference, please indicate your first choice of CE programs to attend.	Frequencies		Spearman rho
	T1	T2	
Continuing education on physical disease process	1	3	.430
Continuing education on new technology	3	2	
Continuing education on physical agent modalities	4	2	
Continuing education on physical function	3	2	
Continuing education on cognition	4	7	

40 Which of the following statements best describes how you determine which performance in areas of occupation (formerly known as performance areas) to assess on initial evaluation?	Frequencies		Spearman rho
	T1	T2	
I have to assess all areas as designated by the evaluation form	7	6	.645
I determine which areas to address, based on the pt's diagnosis	11	12	
My assessments are based on what is allowed by the patient's payer source (insurance, Medicare)	0	0	
My facility doesn't get reimbursed for initial evaluation, so I evaluate as I treat	0	0	

41 Which of the following statements best describes how you determine which performance skills (formerly known as performance components) to assess on initial evaluation?	Frequencies		Spearman rho
	T1	T2	
I have to address only the performance skills (components) identified in the department's evaluation forms	3	2	.791
I determine which performance skills (components) to assess, based on the patient's diagnosis	15	16	
My assessments are based on what is allowed by the patient's payer source	0	0	
I don't evaluate performance skills (components) on initial evaluation	0	0	

Appendix E. Pilot Study Reliability Summary (Cont.)

42 The next 2 questions are case examples. Please indicate what you are most likely to do in these situations.

On initial evaluation your patient was oriented and could follow two-step commands. However in the course of therapy, you find the patient to be non-compliant with treatment recommendations and safety precautions. Which of the following are you most likely to do?

	T1	T2	Spearman rho
Discharge from therapy because of non-compliance	0	0	1.0
Discharge because the patient shows poor rehabilitation potential	0	0	
Discharge as having reached maximum benefit from therapy	0	0	
Assess cognition and revise treatment goals	18	18	

Question 42 was eliminated because such a high correlation appeared a function of a socially desirable response. Additionally having two questions address this issue was redundant and did not add to the inquiry.

43 Your patient does not seem to learn the new skills you anticipated in your initial treatment plan. Your supervisor prefers not using billable units to assess cognition. Which of the following are you most likely to do?

	T1	T2	Spearman rho
Discharge patient as having received maximum benefit from therapy	2	1	.781
Discharge patient as not having rehabilitation potential	1	0	
Assess the patient's cognitive status and code as such for reimbursement	8	10	
Assess the patient's cognitive status and code as a treatment session to avoid hassles	7	7	

Question #43 was changed to read: After one week of treatment, your patient's functional status (e.g. ADLs, wheelchair mobility, using a walker, using adaptive equipment, or following precautions) does not seem to improve to meet your long-term goals as you anticipated in your initial treatment plan. Which are you most likely to do?

Appendix E. Pilot Study Reliability Summary (Cont.)

44 In the next set of questions, please refer to the agency or company for which you work. In order to have a description of your employment, we ask questions about ownership, staffing of the occupational therapy department, and the type of setting where your practice is located.

Please indicate the type of ownership of the agency or company where you are employed	T1	T2	Spearman rho
For profit	13	13	1.0
Not for profit	0	0	
VA/Military	5	5	
Independent Contractor	0	0	

45 In which state do you practice?

	T1	T2	Spearman rho
Alabama	2	2	1.0
Arkansas	1	1	
Florida	15	15	

50 What is the average caseload in your OT department?

	T1	OTs	T2	Spearman rho	T1	OTAs	T2	Spearman rho
<10 patients	6		5	.830	3		1	1.0
10-12 patients	4		7		2		2	
13-15 patients	0		0		1			
>15 patients	2		3		-			

Question #50 addressing the average caseload was changed to include only therapists (not OT Assistants).

Appendix E. Pilot Study Reliability Summary (Cont.)

51 In which type of setting is your primary practice physically located?				Spearman rho
	T1	T2		
Acute hospital	3	3		.979
Subacute inpatient	2	2		
SNF rehab	13	13		
Outpatient Center	0	0		
ALF	0	0		
Home Health	0	0		
Other	0	0		

	53 Which of the following describes your current position?						Spearman rho		
	T1		T2		T1			T2	
	Full time		Part time		PRN				
Work for one company, one facility	13	12	0	0	0	0			
Work for one company, several facilities	5	5	0	0	1	1			
Work for more than one company	0	0	0	0	0	0			

Question #53 was confusing, and there was evidence that therapists may fit more than one of the response categories offered. The question was eliminated.

54 How many years have you worked at this facility?				Spearman rho
	T1	T2		
< 1 year	4	4		.991
2-5 years	4	5		
6-9 years	2	1		
>10 years	8	8		

Appendix E. Pilot Study Reliability Summary (Cont.)

Question #55			
Age	T1	T2	Spearman rho
26	2	2	1.0
30	1	1	1.0
33	2	2	1.0
37	2	2	1.0
39	1	1	1.0
40	2	2	1.0
41	1	1	1.0
46	1	1	1.0
48	1	1	1.0
51	3	3	1.0
53	1	1	1.0
58	1	1	1.0

58 What is your race/ethnicity			
	T1	T2	Spearman rho
White	9	10	1.0
African-American	2	2	
Hispanic	3	3	
Native American	1	1	
Alaskan-Pacific Islander	1	1	

59 What is the highest degree you have attained to date?			
	T1	T2	Spearman rho
Bachelor	13	13	1.0
Master	5	5	
Doctoral degree	0	0	

Appendix E. Pilot Study Reliability Summary (Cont.)

62 How many years have you worked in occupational therapy practice?	T1	T2	Spearman rho
<1 year	1	1	.941
2-5 years	2	2	
6-10 years	1	1	
11-15 years	4	3	
> 15 years	10	11	

63 How many years have you worked in geriatric rehabilitation?	T1	T2	Spearman rho
<1 year	1	3	.961
2-5 years	4	2	
6-10 years	3	2	
11-15 years	5	6	
> 15 years	5	4	

Appendix E. Pilot Study Reliability Summary (Cont.)

Dichotomous Variables

Reliability for dichotomous variables was computed as % agreement with coefficient kappa. Coefficient kappa identifies the proportion of consistent classifications beyond that which is expected by chance alone (Ari, Jacobs, and Razavieh, 2002). Where coefficient kappa=(a), this indicates that variables were constant, and no statistics were computed.

3 The following question asks which assessments you conduct in every initial evaluation of patients 65 and older referred to occupational therapy for rehabilitation. Please select all that apply, and remember we are excluding patients who, at the time of admission, have a diagnosis of Alzheimer's disease, stroke, or head injury.

	Frequency T1		Frequency T2		% Agreement and coefficient kappa (κ)
Balance/mobility	No=3	Yes=15	No= 4	Yes=14	94.5 κ =.824
Muscle strength	No=0	Yes=18	No= 0	Yes=18	100.0 κ =(a) **
Visual/perceptual	No= 5	Yes=13	No= 11	Yes=7	55.5 κ =.191 *
IADLs	No=5	Yes=13	No= 9	Yes=9	66.6 κ =.333 *
ROM	No=0	Yes=18	No=0	Yes=18	100.0 κ =(a) **
Grasp/pinch	No=2	Yes=16	No= 6	Yes=12	77.8 κ =.400*
Coordination	No=1	Yes=17	No=4	Yes=14	83.4 κ =.341
Cognition	No= 1	Yes=17	No=1	Yes=17	88.9 κ =.059
Sensation	No=8	Yes=10	No=9	Yes=9	94.4 κ =.889
ADLs	No=0	Yes=18	No=0	Yes=18	100.0 κ =(a) **

* Criteria for retention of an item in the final survey was a % agreement or .80 or greater. Three items with < 80% agreement were dropped from the final instrument (visual/perceptual, and IADLs).

** Because of the stability of muscle strength, ROM, and ADLs, these items were also dropped from the final instrument. The high % agreement is not surprising, as these performance areas are consistently the basis for initial evaluations in rehabilitation.

Appendix E. Pilot Study Reliability Summary (Cont.)

25	The company for which I work believes that assessing the cognitive status of all elderly patients is a poor way to use billable units.				% Agreement and coefficient kappa (κ)
	Frequency T1		Frequency T2		
	No=18	Yes=0	No=18	Yes=0	100.0 $\kappa=.9(a)$
	Question #25 was rephrased to clarify... <i>Assessing cognitive status of all elderly patients on initial evaluation</i> is a poor way to use billable units.				
26	If a rehab patient is identified as having a cognitive impairment, my facility will be denied reimbursement for occupational therapy services.				% Agreement and coefficient kappa (κ)
	Frequency T1		Frequency T2		
	No=18	Yes=0	No=18	Yes=0	100.0 $\kappa=.9(a)$
27	My employer requires OT's use of cognitive assessments as part of our initial evaluation and for discharge planning.				% Agreement and coefficient kappa (κ)
	Frequency T1		Frequency T2		
	No=8	Yes=10	No=3	Yes=13	81.3 $\kappa=.556$
28	My supervisor encourages comprehensive assessment of our elderly patients, including cognitive status, as part of our initial evaluation.				% Agreement and coefficient kappa (κ)
	Frequency T1		Frequency T2		
	No=4	Yes=14	No=1	Yes=17	83.4 $\kappa=.341$
29	If a patient is not learning in occupational therapy, I am required to discharge him or her.				% Agreement and coefficient kappa (κ)
	Frequency T1		Frequency T2		
	No=18	Yes=0	No=16	Yes=2	88.9 $\kappa=.9(a)$

Appendix E. Pilot Study Reliability Summary (Cont.)

25	The company for which I work believes that assessing the cognitive status of all elderly patients is a poor way to use billable units.			%	Agreement and coefficient kappa (κ)
	Frequency T1	Frequency T2			
	No=18 Yes=0	No=18 Yes=0		100.0	$\kappa=. (a)$
	Question #25 was rephrased to clarify... <i>Assessing cognitive status of all elderly patients on initial evaluation</i> is a poor way to use billable units.				
26	If a rehab patient is identified as having a cognitive impairment, my facility will be denied reimbursement for occupational therapy services.			%	Agreement and coefficient kappa (κ)
	Frequency T1	Frequency T2			
	No=18 Yes=0	No=18 Yes=0		100.0	$\kappa=. (a)$
27	My employer requires OT's use of cognitive assessments as part of our initial evaluation and for discharge planning.			%	Agreement and coefficient kappa (κ)
	Frequency T1	Frequency T2			
	No=8 Yes=10	No=3 Yes=13		81.3	$\kappa=.556$
28	My supervisor encourages comprehensive assessment of our elderly patients, including cognitive status, as part of our initial evaluation.			%	Agreement and coefficient kappa (κ)
	Frequency T1	Frequency T2			
	No=4 Yes=14	No=1 Yes=17		83.4	$\kappa=.341$
29	If a patient is not learning in occupational therapy, I am required to discharge him or her.			%	Agreement and coefficient kappa (κ)
	Frequency T1	Frequency T2			
	No=18 Yes=0	No=16 Yes=2		88.9	$\kappa=. (a)$

Appendix E. Pilot Study Reliability Summary (Cont.)

60			%
	Do you have any special occupational therapy certification?		Agreement and coefficient kappa (κ)
	T1	T2	
No	12	11	83.4 $\kappa=.640$
Yes	6	7	

Question #60 was retained, but improved by providing a list of certificates from which to choose.

Two additional changes were made to the final survey based on results of the pilot test. One was to add a question identifying which Special Interest Section therapists had designated as their primary. The other was to add a social desirability scale.

Appendix F – IRB Certificate of Approval for URL



EXEMPTION CERTIFICATION

UNIVERSITY OF
SOUTH FLORIDA

MEMO: Mirtha Montejo Waley, MPH
College of Public Health
MDC Box 56

FROM: Institutional Review Board / PGS:cas

SUBJECT: Exemption Certification for Protocol No. (IRB # 104071G)

DATE: April 12, 2006

On October 5, 2005, it was determined that your project entitled, "*Effect of Personal and Practice Contexts on Occupational Therapists' Assessments Practices in Geriatric Rehabilitation*" met federal criteria which exempts it from the regulations specified in the Common Rule.

On April 21, 2006, you requested the following change(s):

Creation of a web page for participants to access the link for the survey; revised participant letter.

The modification was reviewed and found to be appropriate for the population; did not change the risk benefit ratio; and, did not impact research in terms of meeting exemption criteria.

These changes have been noted in the file. Please remember that any grants connected to this project must be submitted to the Institutional Review Board for review.

Because the study has been certified as exempt, you will not be required to complete continuation or final review reports. However, it is your responsibility to notify the IRB prior to making any changes to the study. Please note that changes made to an exempt protocol may disqualify it from exempt status and may require an expedited or full review.

If you have any questions, please contact the Division of Research Integrity and Compliance at (813) 974-5638

Pc: Elizabeth Gullitz, PhD
James Mortimer, PhD

OFFICE OF RESEARCH • DIVISION OF RESEARCH INTEGRITY & COMPLIANCE
INSTITUTIONAL REVIEW BOARDS, FWA No. 00001669
University of South Florida • 12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-5618

Appendix G – Electronic and Postal Notifications



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-issues in your state](#)

Tree View

Home & Community Health Post New Topic Prev Topic Next Topic

Author: **Mirtha Whaley** Message

Times Read: 27

Subject: Invitation to Participate in Research Study

Hello Everyone,

Tomorrow I will be mailing out invitations to occupational therapists to participate in my dissertation research study, but I wanted to extend a special invitation to all members of this Home and Community Health Special Interest Section.

My research study explores factors that impact occupational therapy and focuses on current assessment practices in geriatric rehabilitation.

The survey, which should take no more than 15 minutes to complete, has been uploaded to a secured University of South Florida (USF) website. The questionnaire will be available online from April 16, 2006 to May 16, 2006. To access the survey site, just click on either of the links below.

<http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?s=FAAD54BC815F4B57AC4B4A237AED0590>

or

<http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?surveyid=1107>

As a token of appreciation, I invite participants to register for a drawing for two \$50.00 gift certificates (winner's choice).

We hope you will take the time to participate and help us understand important factors which impact clinical decisions and occupational therapy care of our elderly clients.

Mirtha M. Whaley, MPH, OTRL
Ph.D Candidate
mwhaley@hsc.usf.edu
College of Public Health
University of South Florida
Tampa, Florida

Posted: 17 Apr 2006 11:16 PM

email profile delete edit quote reply

Stop Watching This Topic Post New Topic Prev Topic Next Topic

<http://www.aota.org/wb/default.asp?action=9&read=11755&fid=162&FirstTopic=40&LastTopic=59> 9/18/2006

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- Subscribe To E-Mail Lists (Listservs)
- Guidelines
- Change Email Options
- Search
- Help
- listservs Home
- Show New Messages
- Log off
- Mark Listservs As Read
- TALK AOTA-Issues in your state

Tree View Home & Community Health [+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Author Message

Mirtha Whaley
Times Read:16

Subject: Thank you and reminder

Hello everyone,

I wanted to express my appreciation to the therapists who have answered my invitation to participate in my dissertation research study. I hope you all remembered to register for the drawing for (2) \$50.00 winner's choice gift certificates.

I would also like to encourage those who have not participated, to take a few minutes to complete the survey questionnaire. The survey has been uploaded to a secured University of South Florida(USF) website, and will be available online through May 16, 2006.

To access the survey site, just click on the link below.

<http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?surveyid=1107>

or visit my web page at:
<http://www.hsc.usf.edu/~mwahaley/>

Thanks again,

Mirtha M. Whaley, MPH, OTRL
Ph.D Candidate

Posted: 28 Apr 2006 11:30 PM

[email](#) [profile](#) [delete](#) [edit](#) [quote](#) [reply](#)

Stop Watching This Topic

[+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Go to Listserv: [Select Listserv](#)



Powered by WebBoard 6



Copyright ©2002 Akiva Corp.

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

Tree View	Home & Community Health	Post New Topic	Prev Topic	Next Topic
Author	Message			
Mirtha Whaley	Subject: Current Assessment Practices in Geriatric Occupational Therapy			
Times Read:22	I am grateful for all the therapists who have participated, contacted me with comments and suggestions, encouraged me, and celebrated this effort.			
	Results of the study will be available sometime in August through my web page http://www.hsc.usf.edu/~mwhaley .			
	Please note the deadline has been extended, and the survey will remain live until May 21. I hope to hear from you.			
	Mirtha			
	Posted: 16 May 2006 10:26 AM			
email profile	delete edit quote reply			
<input checked="" type="checkbox"/> Stop Watching This Topic	Post New Topic Prev Topic Next Topic			

Go to Listserv: [Select Listserv](#)



Powered by WebBoard 6



Copyright ©2002 Akiva Corp.

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

Tree View	Home & Community Health	+ Post New Topic Prev Topic Next Topic
Author	Message	
Mirtha Whaley	Subject: Current Assessment Practices in Geriatric Occupational Therapy	
Times Read:17	The deadline for data collection has been extended through May 26. Your feedback is very important. To access the survey link, please visit http://www.hsc.usf/~mwhaley . Thanks. Mirtha M. Whaley, MPH, OTRL Doctoral Candidate mwhaley@hsc.usf.edu	
email profile	Posted: 21 May 2006 01:03 PM	delete edit quote reply
<input checked="" type="checkbox"/> Stop Watching This Topic		+ Post New Topic Prev Topic Next Topic

Go to Listserv: [go](#)


Powered by WebBoard 5 Copyright ©2002 Akiva Corp.

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [Listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

 Tree View	Home & Community Health	+ Post New Topic	← Prev Topic	Next Topic →
Author		Message		
Mirtha Whaley	Subject: Correction			
Times Read: 9	Please note the correct study link is: http://www.hsc.usf.edu/~mwhaley My apologies for any inconvenience. Mirtha			
	Posted: 21 May 2006 01:13 PM			
email profile	delete edit quote reply			
<input checked="" type="checkbox"/> Stop Watching This Topic	+ Post New Topic			← Prev Topic Next Topic →

Go to Listserv:

Powered by WebBoard 6



Copyright ©2002 Akiva Corp.

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- Subscribe To E-Mail Lists (Listservs)
- Guidelines
- Change Email Options
- Search
- Help
- Listservs Home
- Show New Messages
- Log off
- Mark Listservs As Read
- TALK AOTA-issues in your state

Tree View		Gerontology	Post New Topic	Prev Topic	Next Topic
Author	Message				
Mirtha Whaley	Subject: Invitation to Participate In Research Study				
Times Read:36					
<p>Hello Everyone,</p> <p>Tomorrow I will be mailing out invitations to occupational therapists to participate in my dissertation research study, but I wanted to extend a special invitation to all members of this Gerontological Special Interest Section.</p> <p>My research study explores factors that impact occupational therapy and focuses on current assessment practices in geriatric rehabilitation.</p> <p>The survey, which should take no more than 15 minutes to complete, has been uploaded to a secured University of South Florida (USF) website. The questionnaire will be available online from April 16, 2006 to May 16, 2006. To access the survey site, just click on either of the links below.</p> <p>http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx? - s=EAAD54BC815F4B57A4B4A237AED0590</p> <p>or</p> <p>http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?surveyid=1107</p> <p>As a token of appreciation, I invite participants to register for a drawing for two \$50.00 gift certificates (winner's choice).</p> <p>We hope you will take the time to participate and help us understand important factors which impact clinical decisions and occupational therapy care of our elderly clients.</p> <p>Mirtha M. Whaley, MPH, OTRL Ph.D Candidate mwhaley@hsc.usf.edu College of Public Health University of South Florida Tampa, Florida</p> <p>Posted: 17 Apr 2006 11:13 PM</p> <p> email profile</p> <p> delete edit quote reply</p>					
Sarah Austin	Subject: Re: Invitation to Participate in Research Study				

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [Listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

Tree View Gerontology [+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Author: **Mirtha Whaley** Message

Subject: **Thank you and reminder**

Times Read: 32

Hello everyone,

I wanted to express my appreciation to the therapists who have answered my invitation to participate in my dissertation research study. I hope you all remembered to register for the drawing for (2) \$50.00 winner's choice gift certificates.

I would also like to encourage those who have not participated, to take a few minutes to complete the survey questionnaire. The survey has been uploaded to a secured University of South Florida(USF) website, and will be available online through May 16, 2006.

To access the survey site, just click on the link below.

<http://hscm2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?surveyid=1107>

or visit my web page at:
<http://www.hsc.usf.edu/~mwhaley/>

Thanks again,

Mirtha M. Whaley, MPH, OTRL
Ph.D Candidate

Posted: 28 Apr 2006 11:28 PM

[email](#) [profile](#) [delete](#) [edit](#) [quote](#) [reply](#)

Stop Watching This Topic

[+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Go to Listserv: [Select Listserv](#)



Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

Tree View		Gerontology	+ Post New Topic	← Prev Topic	Next Topic →		
Author			Message				
Mirtha Whaley	Subject: Current Assessment Practices In Geriatric Occupational Therapy						
Times Read:39							
<p>I am grateful for all the therapists who have participated, contacted me with comments and suggestions, encouraged me, and celebrated this effort.</p> <p>Results of the study will be available sometime in August through my web page http://www.hsc.usf.edu/~mwhaley .</p> <p>Please note the deadline has been extended, and the survey will remain live until May 21. I hope to hear from you.</p> <p>Mirtha Mirtha M. Whaley, MPH, OTRL Doctoral Candidate</p>							
		Posted: 16 May 2006 10:23 AM					
email	profile			delete	edit	quote	reply
<input checked="" type="checkbox"/> Stop Watching This Topic							
		+ Post New Topic	← Prev Topic	Next Topic →			

Go to Listserv: [Select Listserv](#)



Powered by WebBoard 6



Copyright ©2002 Akiva Corp.

Appendix G – Electronic and Postal Notifications (Cont.)



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

<input type="checkbox"/> Tree View		Gerontology	<input type="button" value="+ Post New Topic"/>	<input type="button" value="Prev Topic"/>	<input type="button" value="Next Topic"/>
Author	Message				
Mirtha Whaley	<input type="checkbox"/> Subject: Current Assessment Practices In Geriatric Occupational Therapy				
Times Read:49	The deadline for data collection has been extended through May 26. Your feedback is very important. To access the survey link, please visit http://www.hsc.usf/~mwhaley . Thanks. Mirtha M. Whaley, MPH, OTRL Doctoral Candidate mwhaley@hsc.usf.edu				
		Posted: 21 May 2006 01:02 PM			
<input type="button" value="email"/>	<input type="button" value="profile"/>	<input type="button" value="delete"/> <input type="button" value="edit"/> <input type="button" value="quote"/> <input type="button" value="reply"/>			
<input checked="" type="checkbox"/> Stop Watching This Topic					
		<input type="button" value="+ Post New Topic"/>	<input type="button" value="Prev Topic"/>	<input type="button" value="Next Topic"/>	

Go to Listserv: [Select Listserv](#)

Appendix G – Electronic and Postal Notifications (Cont.)

AOTA Online Listservs - Mirtha Whaley

Page 1 of 1



Welcome Mirtha Whaley

- [Subscribe To E-Mail Lists \(Listservs\)](#)
- [Guidelines](#)
- [Change Email Options](#)
- [Search](#)
- [Help](#)
- [listservs Home](#)
- [Show New Messages](#)
- [Log off](#)
- [Mark Listservs As Read](#)
- [TALK AOTA-Issues in your state](#)

[Tree View](#) Gerontology [+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Author: Mirtha Whaley Message

Subject: Correction

Times Read: 18

Please note the correct study link is: <http://www.hsc.usf.edu/~mwhaley>
My apologies for any inconvenience.
Mirtha

Posted: 21 May 2006 01:13 PM

[email](#) [profile](#) [delete](#) [edit](#) [quote](#) [reply](#)

Stop Watching This Topic

[+ Post New Topic](#) [← Prev Topic](#) [Next Topic →](#)

Go to Listserv: [Select Listserv](#)



Powered by WebBoard 6  Copyright ©2002 Akiva Corp.

<http://www.aota.org/wb/default.asp?action=9&read=12073&fid=161>

9/18/2006

Appendix G – Electronic and Postal Notifications (Cont.)

April 17, 2006

Dear Colleague:

We are all aware of the changes which have swept our profession and health care in general in recent years. Changes which have impacted the duration and scope of services provided our patients, as well as staffing levels and patterns in our facilities. Studies such as this one are important to help us understand factors that influence the practice of occupational therapy, so I am writing to ask for your help with this very important survey, exploring the current assessment practices of occupational therapists in geriatric rehabilitation.

Your responses are important, whether you are a new therapist, or have been in clinical practice for many years. The survey questionnaire has been uploaded to a University of South Florida website. The survey URL is <http://hscem2.hsc.usf.edu/us3/Surveys/TakeSurvey.aspx?surveyid=1107>.

Links to connect directly to the survey are available on both the Gerontological and Home and Community Health SIS Listserves of AOTA, in a message titled *Invitation to Participate in Research Study*. Alternatively, you may access the survey and information related to the study through my web page at USF....

<http://www.hsc.usf.edu/~mwhaley>

Completing the questionnaire should take you approximately 15 minutes. Because we know that your time is valuable and that Internet connections can sometimes be unpredictable, we have enabled a "resume" feature in the questionnaire. Therefore, should you need to close your browser prior to completing the survey, or should you lose your connection, the program will remember where you left off and will take you back to that point when you log back on. The questionnaire will be available from April 16, 2006 to May 16, 2006.

Included with this letter you will find an Informed Consent Form as required by the Institutional Review Board at USF. This is provided to inform you of the study, of your rights as a participant, and as to how the data will be collected and protected. To protect your anonymity, we are not requiring you to sign the informed consent. By your voluntary completion of the survey questionnaire, you are giving your consent to participate in the study.

Results of the analyses of the aggregated data will be used in the final dissertation, and will be shared with participants through AOTA's HCHSIS and GSIS at the conclusion of the study. Articles summarizing the specific issue and findings of the study will be submitted for publication to occupational therapy and public health journals.

Although there will not be any direct benefits to individual participants, we expect that our findings will benefit the practice of occupational therapy in geriatric rehabilitation, and the care of our elderly patients. Any questions or concerns about the study may be directed to:

Mirtha M. Whaley, OTRL., Ph.D Candidate
Principal Investigator
mwhaley@hsc.usf.edu
10707 Roundview Lane
Tampa, FL 33624
813-974-5891

Elizabeth Gultiz, Ph.D, R.N, Major-Professor
egultiz@hsc.usf.edu
James Mortimer, Ph.D, Co-Major Professor
jmortime@hsc.usf.edu
University of South Florida
College of Public Health, MDC 56
13201 Bruce B. Downs Blvd
Tampa, FL 22624

As a token of appreciation, we would like to invite you to register for a drawing for a \$50.00 gift certificate. Instructions are provided on the last page of the questionnaire. Again, thank you for your participation. We appreciate your assistance in helping us understand important factors which impact clinical decisions and occupational therapy care of our elderly clients.

Mirtha M. Whaley, MPH, OTRL
Ph.D Candidate
College of Public Health, University of South Florida

Appendix G – Electronic and Postal Notifications (Cont.)

Current Assessment Practices in Geriatric Occupational Therapy Informed Consent

You have been selected to participate in a dissertation research study because you are an occupational therapist, member of AOTA, and have designated either the Home and Community Health or the Gerontologic Special Interest Section as your primary area of interest. This study, which explores current assessment practices in geriatric occupational therapy, will be conducted using self-report questionnaires which will be available electronically through the University of South Florida (HSC IT). There are no experimental procedures involved in this research.

The questionnaire will be available online for a period of 4 weeks. Answering the survey questions should take approximately 15 minutes. Should you need to close your browser prior to completing the survey, or should you lose your connection, the program will remember where you left off and will take you back to that point when you log back on. At the time data collection is completed, the survey site will be closed down.

The online questionnaire has been designed using Ultimate Surveyor software, which is an IIS Microsoft ASP based software, written in Visual Basic, using secured socket layers for translation, with information stored behind firewalls. The information between the participant's computer and the HSC server is encrypted, so that it cannot be intercepted. Additionally, it will not be possible to link the IP address to the database record.

To protect your privacy and maintain anonymity, the questionnaire is designed and delivered in such a way that neither participants, nor employment locations can be identified. Also, you will not be asked to provide a signed consent form, but will instead be giving your consent to participate by logging on and answering the survey items.

Data collected will only be available to the principal investigator, and her examining committee. Analyses of the data will be used in the dissertation and subsequent articles, but only in aggregated form, so that no specific response can be identified. This information will also be made available to participating therapists through the GSIS and HCHSIS chairpersons. The data will be stored in a spreadsheet form, with no identifying information, and will be kept by the principal investigator.

There is no deception involved in this research, nor are there any foreseeable risks to participants. There is a financial incentive in the form of a drawing for 2 gift certificates valued at \$50.00 each, but there are no costs to participants associated with this study. And, although there are no direct benefits to participants, there are potential benefits to the practice of occupational therapy, and to the elderly clients therapists serve.

Your participation in this study is voluntary, and you may discontinue participation at any point you so choose. Refusal to participate or withdrawal from the study will not result in any penalty or loss of benefits. We do not expect the study to cause discomfort, or to require termination due to causing discomfort. However, should there be concerns or complaints communicated to the researcher or her Major Professor, the questionnaire site can be closed down to allow a review of the instrument, and determine if the study should continue with revisions, or be terminated. Should you have any questions about the study or about your rights as a participant, you may contact:

Mirtha M. Whaley, Ph.D Candidate, OTRL,
Principal Investigator
mwhaley@hsc.usf.edu
10707 Roundview Lane
Tampa, FL 33624
813-974-5891

Elizabeth Gultiz, Ph.D, R. N, Major Professor
egultiz@hsc.usf.edu
James Mortimer, Ph.D, Co-Major Professor
jmortime@hsc.usf.edu
College of Public Health, USF, MDC 56
13201 Bruce B. Downs Blvd
Tampa, FL 33612
813-974-3623

Appendix G – Electronic and Postal Notifications (Cont.)

Dear Colleague,

You were recently sent a letter inviting you to participate in a research study inquiring as to current assessment practices in geriatric occupational therapy. We hope you have taken the time to complete the survey questionnaire. If you have not, won't you take a few minutes to provide us with this important information?

The survey was made available on April 16 and will remain online until May 21. The link to access the survey is:
<http://www.hsc.usf.edu/~mwhaley>.

Your input is very valuable, and we sincerely appreciate your participation. Please be sure to register for the drawing after completing the survey. When the analyses have been completed, and the dissertation approved, we will post results on this website. Again, thank you for your assistance.

Mirtha M. Whaley, Doctoral Candidate, MPH, OTRL
10707 Roundview Lane
Tampa, FL 33624

Dear Colleague,

You were recently sent a letter inviting you to participate in a research study inquiring as to current assessment practices in geriatric occupational therapy. We hope you have taken the time to complete the survey questionnaire. If you have not, won't you take a few minutes to provide us with this important information?

The survey was made available on April 16 and will remain online until May 21. The link to access the survey is:
<http://www.hsc.usf.edu/~mwhaley>.

Your input is very valuable, and we sincerely appreciate your participation. Please be sure to register for the drawing after completing the survey. When the analyses have been completed, and the dissertation approved, we will post results on this website. Again, thank you for your assistance.

Mirtha M. Whaley, Doctoral Candidate, MPH, OTRL
10707 Roundview Lane
Tampa, FL 33624

Appendix H - IRB Certificate of Approval for Incentive and Yahoo Account



EXEMPTION CERTIFICATION

MEMO: Mirtha Montejo Waley, MPH
College of Public Health
MDC Box 56

FROM: Institutional Review Board / PGS:cas

SUBJECT: Exemption Certification for Protocol No. (IRB # 104071G)

DATE: April 12, 2006

On October 5, 2005, it was determined that your project entitled, "*Effect of Personal and Practice Contexts on Occupational Therapists' Assessments Practices in Geriatric Rehabilitation*" met federal criteria which exempts it from the regulations specified in the Common Rule.

On April 12, 2006, you requested the following change(s):

The addition of Elizabeth Gullitz, PhD as co-investigator; a change in the number of subjects from 3510 to 3000; change in procedures to offer two (2) gift certificates each valued at \$50.00 each, these will not be linked to the survey, revised survey; revised participant letters

The modification was reviewed and found to be appropriate for the population; did not change the risk benefit ratio; and, did not impact research in terms of meeting exemption criteria.

These changes have been noted in the file. Please remember that any grants connected to this project must be submitted to the Institutional Review Board for review.

Because the study has been certified as exempt, you will not be required to complete continuation or final review reports. However, it is your responsibility to notify the IRB prior to making any changes to the study. Please note that changes made to an exempt protocol may disqualify it from exempt status and may require an expedited or full review.

If you have any questions, please contact the Division of Research Integrity and Compliance at (813) 974-5638

Pc: Elizabeth Gullitz, PhD

James Mortimer, PhD
OFFICE OF RESEARCH DIVISION OF RESEARCH INTEGRITY & COMPLIANCE
INSTITUTIONAL REVIEW BOARDS, FWA No. 00001669
University of South Florida • 12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-5618

Appendix I Distribution of Respondents by SIS Membership

Special Interest Section	Frequency	Percent
Gerontological	208	64.6
Home and Community Health	95	29.5
*Physical Disabilities	10	3.1
*Developmental Disabilities	1	0.3
*Education	1	0.3
*Administration and Management	1	0.3
*Technology	1	0.3
*Work Programs	1	0.3
*Missing	4	1.2
Total	322	100.0

*Denotes participants who did not meet the inclusion criteria and were therefore excluded from analyses

Appendix J – Bivariate Analysis – Chi Square

Variable	Chi Square	Df	P value
Gender	0.706	1	.401
Education	0.085	1	.770
Setting	2.995	2	.224
Ownership	1.891	2	.388
Special Interest Section	6.277	1	.012*
Responders	0.427	1	.514
Percentage of Caseload > 65 years of age	0.908	1	.341
Years OT Practice	8.435	3	.038*
Years Geriatric Rehab	8.975	3	.030*
Years with Company	4.088	2	.130

* significant at $p < .05$

Appendix K – Summary of Logistic Regressions

Summary of Logistic Regression Analyses To Determine Associations Between Predictor Variables and Outcome Adjusted for Age, Education, and Gender				
Variable	Odds Ratio	P value	95% Confidence Interval	
			Lower	Upper
Autonomy to determine areas and skills to assess	1.466	.173	.845	2.542
Lack time to assess because of productivity	1.510	.143	.870	2.620
Employer requires assessment	3.537	.000**	1.947	6.426
Support from supervisor	.714	.359	.348	1.467
Sufficient resources in facility	2.735	.000**	1.579	4.738
Company believes assessment is poor use of units	1.942	.311	.538	7.010
Knowledge of decline in fluid intelligence	1.720	.057	.984	3.006
Impairment in cognitive function normal aging	1.124	.680	.646	1.954
Knowledgeable therapists can assess conversing	1.429	.181	.847	2.409
Ability to perform ADLs good measure	1.137	.644	.660	1.957
Fluid intelligence affects ability to learn	.855	.608	.471	1.555
Knowledge of a variety of assessment instruments	1.254	.002**	1.084	1.451
Lack of motivation primary reason for noncompliance	1.288	.470	.648	2.561
Assessment can lead to costly referrals	.812	.735	.244	2.705
Therapist believes is poor use of Tx units	3.201	.135	.697	14.695
Assessment if indicated by diagnosis	1.759	.489	.355	8.708
Assessment should only address physical status	.542	.436	.116	2.528
Difficult to incorporate information in treatment plan	1.853	.082	.924	3.718
If cognitive impairment facility denied reimbursement	.391	.510	.024	6.386
OT education should include training in use of assess.	1.462	.577	.384	5.563
Assessment is responsibility of OT	1.738	.217	.723	4.177
Assessment done by other licensed professional	1.639	.166	.815	3.295
Social Desirability Scale	1.139	.259	.909	1.428

*p < .05. **p < .01

Appendix L – Summary of Responses to Belief Questions

Beliefs	Frequency	% Strongly or Moderately Agreed	% Strongly or Moderately Disagreed
Non-compliance in older patients is caused by lack of cognitive capacity	301	26.9	73.1
Lack of motivation is the primary reason for non-compliance in older adults	303	20.2	79.8
Assessing cognition is problematic because it may lead to costly referrals for further evaluation	302	4.6	95.4
Assessing cognition is problematic because it is difficult to translate the information into the treatment plan	302	20.5	79.5
Assessing cognitive status of elderly patients on every initial evaluation is a poor use of billable units	303	5.3	94.7
Cognitive status need only be assessed on initial evaluation if the patient carries a diagnosis of stroke, Alzheimer's disease, or head injury	303	3.4	96.6
Initial evaluation only address a patient's physical function	303	2.4	97.6
OT education should include extensive training in assessing the cognitive status of older patients	303	95.7	4.3
Assessing cognitive status is the responsibility of the occupational therapist	303	87.0	13.0
Cognitive status should only be addressed by a psychologist or other licensed mental health professional	303	20.8	79.2

Appendix M Temporal Variables of Participants

Characteristic		Frequency	Percent
Age	24-29	48	16.1
	30-35	44	14.8
	36-41	46	15.4
	42-47	49	16.4
	48-53	55	18.5
	54-59	39	13.1
	>65	17	5.7
Years in OT Practice	<1	3	1.0
	2-5	61	20.2
	6-10	64	21.2
	11-15	31	10.2
	>15	143	47.4
Years in Geriatric Practice	<1	9	3.0
	2-5	77	25.6
	6-10	68	22.6
	11-15	55	18.3
	>15	92	30.6
Years with Company	<1	47	15.6
	2-5	135	44.7
	6-9	60	19.9
	>10	60	19.9

Spearman Correlations Between Therapists' Age and Temporal Values			
Temporal variable	Spearman rho	Sig.	N
Years Occupational Therapy practice	.746	.000**	.302
Years geriatric rehabilitation	.648	.000**	.301
Years with company	.421	.000**	302

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

Appendix N – Summary of Logistic Regressions

Model 1 – Full Model of Odds Ratio Estimates for Covariates (13 predictor variables) of Use of Cognitive Assessment Instruments

Variable	β	Odds Ratio	95% CI	P-value
Age	0.016	1.02	0.98 - 1.06	0.437
Gender	0.288	1.33	0.47 - 3.76	0.586
Education (Post baccalaureate)	-0.128	0.88	0.46 - 1.69	0.699
Case example 1 (charge assessment)	-0.051	0.95	0.34 - 2.65	0.923
Case example 2 (charge treatment)	-0.646	0.52	0.18 - 1.57	0.249
Knowledge of assessment instruments	0.174	1.19	1.00 - 1.42	0.052
Employer requires assessment	1.145	3.14	1.56 - 6.32	0.001
Knowledge of age decline in fluid intelligence	0.712	2.04	1.05 - 3.95	0.035
Assessment not difficult to incorporate	0.411	1.51	0.67 - 3.39	0.321
Facility has sufficient resources	0.854	2.35	1.20 - 4.59	0.012
Gerontological SIS	0.666	1.95	0.92 - 4.12	0.082
Years OT experience	0.123	1.13	0.67 - 1.95	0.657
Years geriatric experience	0.272	1.31	0.82 - 2.11	0.263

Model 2 – Odds Ratio Estimates for Covariates (12) of Use of Cognitive Assessment Instruments*

Variable	β	Odds Ratio	95% CI	P-value
Age	0.016	1.02	0.98 - 1.06	0.801
Gender	0.288	1.33	0.47 - 3.76	0.586
Education (Post baccalaureate)	-0.127	0.88	0.46 - 1.69	0.701
Case example 2 (charge for treatment)	-0.603	0.55	0.28 - 1.08	0.800
Knowledge of assessment instruments	0.173	1.19	1.00 - 1.42	0.052
Employer requires assessment	1.145	3.14	1.56 - 6.32	0.001
Knowledge of age decline in fluid intelligence	0.711	2.04	1.05 - 3.95	0.035
Assessment not difficult to incorporate	0.413	1.51	0.67 - 3.40	0.318
Facility has sufficient resources	0.854	2.35	1.20 - 4.59	0.012
Gerontological SIS	0.666	1.95	0.92 - 4.12	0.082
Years OT experience	0.124	1.13	0.66 - 1.95	0.655
Years geriatric experience	0.271	1.31	0.82 - 2.11	0.264

* Predictor variable Case Example “charge for cognitive assessment” (p value 0.923) deleted from analysis

Appendix N – Summary of Logistic Regressions (Cont.)

Model 3 - Odds Ratio Estimates for Covariates (11) of Use of Cognitive Assessment Instruments*

Variable	β	Odds Ratio	95% CI	P-value
Age	0.015	1.02	0.98 - 1.06	0.466
Gender	0.289	1.34	0.47 - 3.76	0.584
Case example 2 (charge for treatment)	-0.611	0.54	0.28 - 1.07	0.076
Knowledge of assessment instruments	0.168	1.18	1.00 - 1.41	0.056
Employer requires assessment	1.153	3.17	1.58 - 6.36	0.001
Knowledge of age decline in fluid intelligence	0.722	2.06	1.07 - 3.98	0.032
Assessment not difficult to incorporate	0.432	1.54	0.69 - 3.44	0.293
Facility has sufficient resources	0.846	2.33	1.19 - 4.55	0.013
Gerontological SIS	0.645	1.91	0.91 - 4.00	0.088
Years OT experience	0.133	1.14	0.67 - 1.96	0.630
Years geriatric experience	0.267	1.31	0.81 - 2.10	0.270

**Predictor variable “post-baccalaureate education” (p value .701) deleted from the analysis*

Model 4 - Odds Ratio Estimates for Covariates (10) of Use of Cognitive Assessment Instruments*

Variable	β	Odds Ratio	95% CI	P-value
Age	0.02	1.02	0.99 - 1.06	0.27
Gender	0.253	1.29	0.46 - 3.58	0.628
Case example 2 (charge for treatment)	-0.614	0.54	0.28 - 1.06	0.075
Knowledge of assessment instruments	0.163	1.18	0.99 - 1.40	0.062
Employer requires assessment	1.169	3.22	1.61 - 6.44	0.001
Knowledge of age decline in fluid intelligence	0.722	2.06	1.07 - 3.98	0.032
Assessment not difficult to incorporate	0.445	1.56	0.70 - 3.49	0.277
Facility has sufficient resources	0.852	2.34	1.20 - 4.57	0.012
Gerontological SIS	0.651	1.92	0.91 - 4.03	0.085
Years geriatric experience	0.35	1.42	1.01 - 1.99	0.042

**Predictor variable “years of occupational therapy experience” (p value .630) deleted from the analysis.*

Appendix N – Summary of Logistic Regressions (Cont.)

Model 5 - Odds Ratio Estimates for Covariates (9) of Use of Cognitive Assessment Instruments*

Variable	β	Odds Ratio	95% CI	P-value
Age	0.02	1.02	0.99 - 1.06	0.263
Case example 2 (charge for treatment)	-0.622	0.54	0.27 - 1.05	0.071
Knowledge of assessment instruments	0.159	1.17	0.99 - 1.39	0.067
Employer requires assessment	1.17	3.22	1.61 - 6.45	0.001
Knowledge of age decline in fluid intelligence	0.712	2.04	1.06 - 3.93	0.034
Assessment not difficult to incorporate	0.456	1.58	0.71 - 3.52	0.265
Facility has sufficient resources	0.877	2.4	1.24 - 4.65	0.009
Gerontological SIS	0.65	1.92	0.91 - 4.02	0.086
Years geriatric experience	0.346	1.41	1.01 - 1.98	0.043

**Predictor variable "gender" (p value .628) deleted from the analysis*

Model 6 - Odds Ratio Estimates for Covariates (8) of Use of Cognitive Assessment instruments

Variable	β	Odds Ratio	95% CI	P- value
Case example 2 (charge for treatment)	-0.611	0.54	0.28 - 1.06	0.075
Knowledge of assessment instruments	0.144	1.16	0.98 - 1.36	0.091
Employer requires assessment	1.174	3.23	1.62 - 6.46	0.001
Knowledge of age decline in fluid intelligence	0.682	1.98	1.03 - 3.80	0.040
Assessment not difficult to incorporate	0.485	1.63	0.73 - 3.61	0.233
Facility has sufficient resources	0.896	2.45	1.27 - 4.72	0.008
Gerontological SIS	0.62	1.86	0.89 - 3.89	0.100
Years geriatric experience	0.453	1.57	1.19 - 2.09	0.000

**Predictor variable "age" (p value .263) deleted from the analysis*

Appendix N – Summary of Logistic Regressions (Cont.)

Model 7 - Odds Ratio Estimates for Covariates (7) of Use of Cognitive Assessment instruments*

Variable	β	Odds Ratio	95% CI	P-value
Case example 2 (charge for treatment)	-0.702	0.50	0.26 - 0.96	0.036
Knowledge of assessment instruments	0.153	1.17	0.99 - 1.38	0.071
Employer requires assessment	1.168	3.22	1.62 - 6.39	0.001
Knowledge of age decline in fluid intelligence	0.644	1.91	1.00 - 3.63	0.050
Facility has sufficient resources	0.913	2.49	1.30 - 4.79	0.006
Gerontological SIS	0.586	1.80	0.86 - 3.74	0.118
Years geriatric experience	0.463	1.59	1.20 - 2.10	0.001

**Predictor variable "assessment not difficult to incorporate into treatment plan" (p value .233) deleted from the analysis*

Model 8 - Odds Ratio Estimates for Covariates (6) of Use of Cognitive Assessment instruments*

Variable	β	Odds Ratio	95% CI	P-value
Case example 2 (charge for treatment)	-0.696	0.5	0.26 - 0.96	0.036
Knowledge of assessment instruments	0.17	1.19	1.01 - 1.40	0.041
Employer requires assessment	1.222	3.39	1.71 - 6.73	0
Knowledge of age decline in fluid intelligence	0.691	2	1.05 - 3.78	0.34
Facility has sufficient resources	0.961	2.62	1.37 - 5.00	0.004
Years geriatric experience	0.413	1.51	1.15 - 1.98	0.003

**Predictor variable "SIS" (p value 0.118) deleted from the analysis*

Appendix O – Summary of Regression Diagnostics

Case #	Pred Prob	Analog Cook's Stat	Leverage Value	Logit Res	Student Res	Standard Res	Deviance Value	DFB Const	DFB Case1	DFB Case2	DFB Fluint age	DFB Employ req	FB acsuff	DFB Years gerrehab
51	07687	.11245	.00928	13.00941	.27583	.46546	2.26525	07458	.06977	-.00790	-.04161	.02604	.03845	-.00223
77	12612	.11926	.01692	7.92886	.05239	.63227	2.03495	10575	.02299	.00945	-.05238	.03691	.04707	-.02597
88	12355	.09409	.01309	8.09382	.05856	.66342	2.04504	13859	.03419	-.01604	-.03821	.02282	.02650	-.00506
89	10856	.11212	.01347	9.21134	.12168	.86554	2.10734	13814	.02577	.00334	-.05251	.03753	.04283	-.02908
145	12298	.13580	.01869	8.13170	.06673	.67052	2.04732	04819	.06382	-.01449	.05585	.02778	.01093	.00049
182	12355	.09409	.01309	8.09382	.05856	.66342	2.04504	13859	.03419	-.01604	-.03821	.02282	.02650	-.00506
275	11176	.11617	.01441	8.04787	.10877	.81920	2.09352	01241	.06779	-.00496	-.03491	.01803	.03929	.01513
285	11176	.11617	.01441	8.04787	.10877	.81920	2.09352	01241	.06779	-.00496	-.03491	.01803	.03929	.01513

Expected value of leverage = $k+1/N$ (k =no. of predictors, N =sample size). For this analysis, expected value of leverage = $6+1/271 = 0.026$. Range of values for these cases is from 0.009 to 0.02; leverage close to 0 indicates no undue influence by any case.; 95% of cases should have studentized residuals, standardized residuals, and deviance values that lie within + or - 2; 99% of cases should have values that lie between + or - 2.5. All cases above (~3% of the sample) have studentized residuals ranging from 2.05 to 2.28 and deviance ranging from 2.03 to 2.26, so they are below 2.5 and are not cause for concern. Although, all cases have standardized residuals >2.5 and case #51 exceeds 3.0, all DFBetas and Cook's values are <1, indicating no case has undue influence on the model.

About the Author

Mirtha Montejo Whaley received a Bachelor's Degree in Occupational Therapy from the University of Florida in 1968 and for over 30 years engaged in the psychosocial rehabilitation of chronically ill adult individuals. During the last ten years of her clinical practice, she returned to physical rehabilitation and became interested in the cognitive function of older medical patients. In 1993, Mrs. Whaley obtained a Master's Degree of Public Health from the University of South Florida, and later returned to obtain a Ph.D in Public Health, which she completed in 2007.

In addition to her rehabilitation experience, Mrs. Whaley has provided clinical training to occupational therapy students, and instructed undergraduate students at USF. She is a certified Allen Cognitive Advisor, and her research interests include cognition and function, caregiver education and preparedness, cultural competence, successful aging, preventing excess disability in nursing homes, aging in place, and quality in long term care.