

AN EVALUATION OF THE PREDICTIVE VALIDITY AND RELIABILITY OF TWO
MEASURES OF PERSON-CENTERED CAREGIVING WITH NURSING HOME
RESIDENTS WITH DEMENTIA

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ABSTRACT

The goal of this dissertation was to test the predictive validity of two measurements of person-centered care (PCC), the Person-Centered Behavioral Inventory (PCBI), and the Global behavior scale (GBS). These measures were developed as part of a previous study to assess certified nurse aide students' person-centered skills following an educational training program to increase person-centered behaviors (Grosch, Medvene, & Wolcott, 2008). This study tested whether the person-centered behavioral inventory and the global behavior scale could significantly predict scores found using the Resistiveness to Care (RTC) scale. A negative linear relationship was expected based on the theory of Need-Driven Dementia-Compromised Behavior (NDB) that specified that resident's resistiveness to care was a response to needs of theirs that had not been met. The person-centered behavioral inventory and global behavior scale measured the caregiver's person-centered skills. Based on the need-driven dementia-compromised theory of behavior, it was expected that caregivers who engaged in person-centered behaviors would be more likely to meet residents' needs and thus reduce their resistiveness to care. Therefore, person-centered caregiving, as measured by the person-centered behavioral inventory and the global behavior scale, were expected to be negatively associated with residents' resistiveness to care as measured by the resistiveness to care scale.

This study was conducted in collaboration with Kristine Williams, Ph.D. and the University of Kansas School of Nursing using an existing data set consisting of 80 caregiving interactions between nursing staff and residents with dementia. Caregivers' person-centeredness was coded using the person-centered behavioral inventory and the global behavior scale.

Residents' resistiveness to care (e.g. kicking, pulling away, yelling, etc.) during the caregiving interaction was coded using the Resistiveness to scale.

Results of correlational analyses showed that nursing staffs' scores on the global behavior scale marginally predicted residents' scores for the resistiveness to care scale. The person-centered behavioral inventory was negatively correlated with the resistiveness to care scale, but not significantly. An emergent finding was that nursing staff members' age was the biggest predictor among variables of residents' resistive behaviors with age and resistiveness to care scores significantly negatively correlating. The person-centered behavior measures showed strong concurrent validity across residents' varying behaviors and tasks. The measures also showed good inter-rater agreement and the global behavior scale showed high internal consistency.

TABLE OF CONTENTS

Chapter	Page
1. INTRODUCTION.....	1
Overview.....	2
The Graying of America.....	2
Person-Centered Caregiving	8
Person-Centeredness in Gerontology: Initial Focus on Dementia Caregiving.. ..	8
Barriers to Person-Centered Caregiving.....	9
Dementia and Person-Centered Caregiving	11
Need-Driven Dementia-Compromised Behavior and Resistiveness to Care.....	12
Background for the Development of the Person-Centered Behavioral Inventory and the Global behavior scale.....	15
Goals of Present Study.....	20
3. METHODS	
Participants.....	22
Procedures.....	24
Caregiving Examples.....	25
Materials	27
Pilot Study for Present Research.....	29
Data Analysis Strategy.....	33
Exploratory Analysis	33
Data Cleaning.....	36
4. RESULTS	
Descriptives and Correlations.....	37
Hypothesis Testing.....	38
Linear Multiple Regression.....	39
Exploratory Findings.....	40
5. DISCUSSION	
Behavioral Measurement Outcomes.....	50
Measurement Limitations and Challenges.....	53
Future Research.....	54
Conclusion.....	55
REFERENCES.....	57

TABLE OF CONTENTS (CONT.)

Chapter	Page
APPENDICES.....	66
A. Resistiveness to Care Scale.....	66
B. Person-Centered Behavioral Inventory.....	79
C. Task-Centered Behavioral Inventory.....	83
D. Global behavior scale.....	85
E. Table 15-16. Intercorrelations Between Subscales for Caucasians and African Americans.....	89

LIST OF TABLES

Table	Page
1. Demographic Information of Nursing Staff.....	23
2. Intercorrelations Between Subscales for Nursing Staff and Residents.....	37
3. Summary of Regression Analysis for Variables Predicting Resistiveness to Care.....	40
4. Intercorrelations Between Subscales for Dynamic Interactions.....	41
5. Intercorrelations Between Subscales for Cooperative Interactions.....	42
6. Intercorrelations Between Subscales for Resistive Interactions.....	43
7. Intercorrelations Between Subscales for Bathing Tasks.....	44
8. Intercorrelations Between Subscales for Oral Care Tasks.....	44
9. Intercorrelations Between Subscales for Dressing Tasks.....	45
10. Intercorrelations Between Subscales for Miscellaneous Tasks.....	46
11. Intercorrelations Between Subscales for Aides.....	47
12. Intercorrelations Between Subscales for Nurses.....	47

LIST OF ABBREVIATIONS

RTC	Resistiveness To Care
PCC	Person-Centered Caregiving
PCBI	Person-Centered Behavioral Inventory
TCBI	Task-Centered Behavioral Inventory
GBS	Global Behavior Scale
MDS-COGS	Minimum Data Set Cognition Scale

CHAPTER 1

INTRODUCTION

Overview

The purpose of this dissertation was to test the predictive validity of two measures of person-centered caregiving, the Person-Centered Behavioral Inventory and the Global Behavior Scale. Both were developed to measure certified nurse aides' person-centered caregiving behaviors. The predictive validity was tested by coding caregiving interactions between nursing staff and residents with dementia. Results found using the person-centered measures to assess caregiver's behavior were correlated with residents' resistive behaviors during the same interactions, using the Resistiveness to Care scale. The resistiveness to care scale measures residents' resistive behaviors, such as kicking, biting, pulling away, etc. Theoretically, it was expected that the person-centered measures would be negatively correlated with the resistiveness to care measure based on the Need-Driven Dementia-Compromised behavior theory. This theory views resistive behaviors as a response to needs that have not been met. Therefore, if a caregiver engages in person-centered behaviors, the resident is likely to be less resistive to care. A negative correlation was expected which would provide evidence of the person-centered behavioral inventory and global behavior scale's predictive validity and validate the need-driven dementia-compromised behavior theory. Internal consistency for the global behavior scale and inter-rater reliability for both the global behavior scale and person-centered behavioral inventory were assessed and expected to be high.

What made this dissertation possible was an NIH small grant Williams, Herman, Gajewski, and Wilson (2009) received to assess the impact of elderspeak communication on dementia care. Elderspeak refers to a style of communication used by caregivers that is

patronizing, often similar to baby talk. For example, a caregiver may rely on diminutives, such as words like “sweetie,” or collective pronouns, such as “let’s tie our shoes” to communicate with residents. Williams et al. coded videotaped caregiving interactions using both the measure of elderspeak communication and the resistiveness to care scale. Williams et al. allowed the author to use these same-videotaped interactions to measure person-centered caregiving and explored whether it was correlated with the results Williams et al. found using the resistiveness to care scale.

The Graying of America

Older adults make up one of the fastest growing populations in the United States with those 65 and older expected to reach 71 million by year 2030, more than double those 65 and older today (Centers for Disease Control, 2008). Additionally, those 100 years or older, referred to as centenarians, could reach anywhere between 834,000 to 4.2 million by 2050 (Centers for Disease Control). These projections also indicate a greater number of older adults who will be in need of long-term care. By the year 2020, the number of older adults entering long-term care facilities is expected to double to 14 million (Pillimer, Szaja, Schulz, & Stahl, 2003). Consequently, increasing attention has focused on the quality of care residents receive in long-term care facilities.

Person-Centered Caregiving

Older adults enter long-term care facilities for a variety of reasons ranging from the death of a spouse, to increased health problems, to an inability to live safely on their own (Crandall, 2007; Foner, 1994). Once in a long-term care facility, older adults become dependent on the care they receive from nursing staff, specifically certified nurse aides who provide roughly 90% of the direct care they receive (Carpiac-Claver & Levy-Storms, 2007; McGilton,

2004; Williams, Kemper, & Hummert, 2003). Nurse aides are typically overworked by the intense nature of the physical and emotional aspects of their job. Often their interactions with residents are interpreted as impersonal or emotionally strained (Foner, 1994; Talerico, O'Brien, & Swafford, 2003). Until recently, nurse aides were predominately taught to remain distant and detached from residents in order to perform their tasks efficiently and were discouraged from becoming emotionally involved (McGilton et al., 2003). This is consistent with the traditional caregiving method based on the medical model. This approach has focused on maintaining professional distance and objectivity from the patient in order to perform tasks more effectively (Epstein, Franks, Fiscella et al., 2005). However, recent advancements in caregiving are leading researchers, administrators, and nursing staff in a new direction that is less institutionally-centered and more person-centered (Eaton, 2000; McCormack, 2004; Slater, 2006).

The Nursing Home Act, part of the Omnibus Budget Reconciliation Act of 1987, passed in response to a study conducted by the Institute of Medicine that found residents in long-term care facilities living in deplorable conditions (Bott, Gajewski, Lee, Piamjariyakul, & Taunton, 2007). Physical and mental abuse cases were observed including excessive use of physical and chemical restraints. Based on these findings, Congress put out a call for researchers to find alternative approaches to caring for older adults that increased their quality of life both physically and mentally (Bott et al.).

A nationwide movement has been taking place that focuses on creating long-term care settings that foster more person-centered rather than institutionally centered approaches based on the traditional and rigid medical model. This movement is part of the “culture change” movement (Eaton, 2000). Alternatives to traditional caregiving methods include models such as the Eden Alternative and the Greenhouse Model that physically alter the facilities to promote

more of a family or community setting. The Eden Alternative focuses on giving residents choices, creating an environment that is stimulating, and does not rely on physical and chemical restraints to control residents. The nursing home is filled with various animals and children from area schools visit regularly. Residents enjoy story telling or gardening activities among a variety of others. Staff members are also given choices about scheduling their hours and tasks. These changes cost the nursing home around the same as the previous, traditional model and increased both resident and staff satisfaction with care (Eaton).

The Greenhouse Model focuses on creating “neighborhoods” for residents that include on average of 10 residents. Each resident has his/her own private room and all share a communal living space where they can visit and share meals, etc. (Kane, Lum, & Culter, 2007). In a recent longitudinal study, Greenhouse Model residents, in comparison to residents in a traditional setting, reported higher levels of satisfaction with their living arrangement, higher levels of emotional well being, and less periods of inactivity (Kane, Lum, & Culter).

In 1997, the Pioneer Network was formed in an effort to promote this culture change movement, and offer administrators, caregivers, and researchers an opportunity for networking about their concerns and ideas. The Pioneer Network promotes research and educational materials to help nursing homes to adopt person-centered approaches that focus on physical changes to facilities as well as interventions to improve communication and person-centered skills of staff (Misiorkski, 2003).

Researchers show that these efforts have improved care (Kane, Lum, & Culter, 2007, McGilton et al., 2003, Caris-Verhallen, Kerkestran, & Bensing, 1999, Williams, 2006). Many of these efforts are deeply rooted in the person-centered approach to caregiving. Though this approach is widely accepted, it is still poorly understood (Slater, 2006). Part of this confusion is

due to the term being used along side others such as ‘relationship-centered’, ‘patient-centered’, and ‘client-centered’, each of which describes different types of interactions and aspects of interactions (Slater).

Humanist Carl Rogers coined the term “client-centered” therapy in which the role of the therapist is non-directive and focused on providing the client with unconditional positive regard (Slater, 2006; McCormack, 2004). Client-centered therapy recognizes the power differential traditionally associated with the interaction between the therapist and client and sought to reduce the amount of control the therapist has and allow the client to achieve personal growth in a safe environment through empathic understanding (Rogers, 1961).

Numerous studies in the medical and nursing field have focused on “patient-centered communication” where the medical doctor or nursing staff recognize that each patient has his/her own unique history and set of experiences and interacts with the patient in a manner that considers his/her preferences for care (Brown, 1999; Epstein, Franks, Shields et al., 2005). This involves inquiring about the patient’s reasons for attendance, agreement about the problem, the resolution, and satisfaction with the consultation (Epstein et al.).

This definition is in stark contrast to the traditional model, or disease-centered model, practiced by many physicians. The traditional model stresses the importance of diagnosing the illness based on the present symptoms of the patient without questioning patients about psychosocial, cultural, or lifestyle factors (Brown, Stewart, McCracken, McWhinney, & Levenstein, 1986; Brown, 1999; Gillotti & Applegate, 2000). Conceptually this model was intended to help doctors reach a diagnosis about the illness more objectively and efficiently due to time constraints.

Several studies have focused on training medical students and physicians to use patient-centered communication skills (Deveugele et al., 2005; O'Keefe, Robertson, Sawyer & Baghurst, 2003). Many behaviors emphasized include asking open-ended questions (Brown, Stewart, McCracken, McWhinny, & Levenstein, 1986), exerting less conversational control (Cecil & Killeen, 1997), encouraging the patient to discuss psychosocial issues (Street, Gordon, & Haidet, 2007), and expressing warmth (Roter et al., 2004). These behaviors have led to diagnoses that are more accurate and patients report a higher rate of satisfaction with the consultation (Brown, 1999).

Doctor/patient interactions have been analyzed for their patient-centered content in several studies (Roter et al., 2004; Cecil & Killeen, 1997; Epstein, Franks, Fiscella et al., 2005). Additionally, the effects of using patient-centered communication have been studied by measuring doctor/patient satisfaction, patient compliance with physician recommendations, and diagnostic testing expenditures. Cecil and Killeen conducted a study focusing on person-centered communication in physician-patient encounters at a family practice. The goal was to learn how physicians and patients messages used during the medical interview related to patient satisfaction with care and compliance to medical recommendations. They did so by analyzing videotaped interactions with a convenience sample of patients ($n=50$) and physicians ($n=15$). They coded these interactions using the Relational Communication Control Coding System. This system assigns codes to statements made by the doctor and patient (e.g., being controlling, questioning, supportive, nonsupportive, etc). The results indicated that the more dominant and controlling the statements were made by physicians, the lower the patient's satisfaction ($r= -.27, p<.05$) and that the more controlling the physician's statements were the less compliant the patient was with medical recommendations ($r= -.28, p<.05$).

Epstein, Franks, Shields et al. (2005) conducted a study to determine the effects of using patient-centered communication on diagnostic testing costs. They recruited 100 physicians who agreed to have two unannounced audio-recorded visits with standardized patients during a 12-month period. To determine diagnostic testing costs, they assessed claims data from a managed care organization. They coded interactions for patient-centered communication using the Measure of Patient-Centered Communication. This measure assesses physician's responsiveness to patient's concerns. Results of the study indicated that physicians who used patient-centered communication had fewer diagnostic testing expenditures.

Roter (1989) developed a measure of doctor/patient communication known as the Roter Interaction Analysis System. The Roter Interaction Analysis System involves a list of categories specifying target physician and patient behaviors: e.g. asking open-ended questions about patient's lifestyle and/or psychosocial needs, showing concern or worry, asking patients' opinion, and showing optimism. The Roter Interaction Analysis System compares the number of biomedical statements, such as questions related specifically to the illness, to the number of socio-emotional statements made by the physician and patient. Roter et al. (2004) conducted a study to improve medical students communication with patients. The study incorporated software developed to assess medical students behaviors based on the Roter Interaction Analysis System. Specific behavioral sequences were coded and used to provide feedback to medical students. Results of the study demonstrated an increase in medical student's use of open-ended questions, empathy, partnership building, and problem solving for therapeutic regimen adherence, and reduced verbal dominance.

These studies suggest that engaging in patient-centered communication can improve the quality of care patients receive in medical encounters. Research efforts in the field of medicine

have demonstrated success in identifying and training doctors in patient-centered communication. In addition, these studies provide promise for research in the field of gerontology aimed at improving caregiver/resident interactions.

Person-Centeredness in Gerontology: Initial Focus on Dementia Caregiving

Beginning studies in the field of gerontology were aimed at developing the idea of person-centered care based on finding new ways relate to residents. Kitwood and the Bradford Dementia Group were among the first to apply the term *person-centered care* to finding ways to relate to residents with dementia (McCormack, 2004). This approach is gaining increasing attention in the gerontology literature and has been the focus of many studies (McCormack, 2004, Slater, 2006). Kitwood's concept of person-centered care was influenced by Carl Rogers. According to Kitwood, person-centered care recognizes each individual's need for unconditional love, comfort, inclusion, autonomy, and identity (Boettcher, Kemeny, & Boerman, 2004). Kitwood believed that person-centered care was an all encompassing concept that allowed the person to form relationships with others, have the means to express their 'personhood', and receive recognition and respect to promote their sense of self (Kitwood, 1997). Kitwood believed that personhood involved an understanding that individuals need to be seen as social beings who form relationships with others and that the context in which relationships take place determines how these relationships can be interpreted (e.g., understanding the person in the present and the past).

Kitwood believed that there existed six ways to learn more about an individual's experience with dementia (Kitwood, 1997). The paths to understanding dementia included: 1) reading individuals personal stories about their experiences living with dementia, 2) interviewing individuals with dementia to gain insight as well as to practice listening skills, 3) talking with

others about the experiences they have had with illnesses that resemble dementia (e.g. meningitis), 4) engaging in *imaginative listening* (e.g. listening closely to a resident's confusing statement for meaning, 5) making an effort to understand others with dementia by writing poetry depicting feelings expressed by persons with dementia, and 6) engaging in role plays (Kitwood).

Based on these paths Kitwood developed the *domain of negative experiences in dementia* (Kitwood, 1997). The first domain includes feelings such as fear of abandonment, fear of being controlled, and fear of becoming useless. The second area includes *global states* such as terror, misery, rage, and chaos. This area can be evoked if the person with dementia experiences confusion or arousal. If this arousal is high and sustained for a long period, the individual may move into the third area made up of *burnt-out* states such as despair, depression, and apathy. These three areas can be reached in any order and multiple feelings may be experienced at one time (Kitwood).

Based on the concepts discussed above, Kitwood identified psychosocial needs people require. These needs include attachment, comfort, identity, inclusion, and occupation. These needs are dependent upon one another so when one need is met, another will be as well (Kitwood, 1997). For example, if a person's need for attachment is met, it is likely that their need for inclusion will also be affected. Additionally, if one need is met, it is also likely to affect the individual's feelings, global states, and burnt-out states. Therefore, caring for persons with dementia should incorporate a desire to consider each person's unique self and gain a better understanding of the person in his/her context (Kitwood).

Barriers to Person-Centered Caregiving

Many factors influence the ability for long-term care facilities to adopt person-centered caregiving approaches. Facilities are often under-staffed, nurse aides often lack education and training in person-centered caregiving, and person-centered values are often not incorporated system wide. A major barrier is the high nursing staff turnover rates in long term care. High turnover rates can be costly, affect the quality of care provided to residents, and disrupt continuity in caregiving. According to the Kansas Department on Aging, long-term care facilities replaced an average of 91% of nurse aides in 2007. Relationships established between nursing staff and residents develop over time, however, high turnover rates can interfere with their development and add to the confusion of residents, making it more difficult to meet residents' needs. Research on person-centered care is attempting to address this issue by identifying key elements that contribute to the development of quality nursing staff/residents relationships. However, one problem studies have is the task of meeting the needs of staff and residents on all levels (e.g., nursing staff, residents, family members, and administrators). For example, it's difficult to train nurse aides in person-centered skills, such as giving residents more choices, when they are confronted by strict rules from administrators and states laws that require them to work with a number of residents in a relatively short period of time in an environment that is already stretched too thin (Talerico, O'Brien, & Swafford, 2003).

Nurses are trained to provide person-centered caregiving and work with residents with different cognitive and physical needs, unlike most nurse aides who are provided minimal training before being required to provide upwards of 90% of residents care. In addition, nurse aides are faced with dismal wages that in most facilities are barely above minimum wage (Bowers, Esmond, & Jacobson, 2003). According to the Kansas Department of Labor (2007), the average nurse aide's hourly wage in Kansas is \$10.02. These are all issues that will

eventually need to be addressed in order to make lasting changes in long-term care (Talerico, O'Brien, & Swafford, 2003).

Dementia and Person-Centered Caregiving

Kitwood's definition of person-centered care was developed based on studying interactions between older adults with dementia and their caregivers. Many studies focusing on improving relationships and communication between residents and nursing staff include residents with dementia (McGilton, 2004; Muller & Guenouzi, 2005; Penrod & Yu, 2007; Sloane et al., 2004). Previous research suggests that many conversations caregivers have with residents with dementia are focused on instrumental tasks rather than interpersonal (Burgener, Jirovec, Murrell, & Barton, 1992; McGilton, 2004; Williams, 2006;). This is most likely due to the cognitive impairment residents with dementia experience making it difficult for caregivers to relate to them. Many measures have been developed to assess the quality of interactions as well as the effectiveness of interventions in increasing satisfaction with communication between both parties (Acton, Yauk, Hopkins, & Mayhew, 2007; Cohen-Mansfield & Werner; 1997; McGilton, 2004; Sloane et al. 2004;).

Dementia involves a change in the way a person's brain functions and is evident in certain symptoms expressed by the individual (Muller & Guendouzi, 2005). Two major forms of dementia include Dementia of the Alzheimer's Type and vascular dementia. Dementia of the Alzheimer's Type is the most common form of the two. Of those over the age 85, approximately half experience some form of dementia (National Institute of Aging, 2008). Symptoms experienced by older adults with dementia could be mild (e.g. memory loss, confusion) intermediate (e.g., difficulty with feeding, bathing, name recognition, and wandering) and severe (e.g. loss of speech and bladder control). Currently the cause of dementia is unknown (National

Institute of Aging). Older adults with dementia on average live eight to ten years after diagnosis, however some live up to 20 years (Penrod & Yu, 2007).

Research suggests that older adults with dementia experience various communication difficulties that increase with the progression of symptoms. Difficulties associated with the early state of dementia include trouble with finding words and managing conversations. During the moderate stage of dementia, older adults may experience an increase in use of empty words and/or increase in difficulties with finding words. However, their ability to take turns throughout a conversation during the moderate stage of dementia is still intact. The late stage of dementia often results in a general worsening of skills, however, if given time, the older adult with dementia can monitor conversations and engage in turn-taking (Action, Yauk, Hopkins, Mayhew, 2007; Muller & Guendouzi, 2005).

Decreases in communication skills often lead to depression, feelings of worthlessness, helplessness, and anger (Cohen-Mansfield, 2001). This lack of communication can lead to behaviors exhibited by the resident with dementia to be seen as disruptive (Cohen-Mansfield & Werner, 1997). Common disruptive behaviors include: a) physically aggressive behaviors, such as kicking or biting, b) non-aggressively physical behaviors, such as pacing, c) verbally aggressive behaviors, such as screaming, and d) verbally non-aggressive behaviors, such as repetition of sentences (Pulsford & Duxbury, 2006, Richards, Lambert & Beck, 2000). These disruptive behaviors vary across situations and contexts often in response to various environmental variables (Burgener, Jirovec, Murrell, & Barton, 1992; Kitwood, 1997).

Need-Driven Dementia-Compromised Behavior and Resistiveness to Care

Many researchers view disruptive behaviors exhibited by residents with dementia as a response to unmet needs (Algase et al., 1996; Penrod & Yu, 2007; Richards, Lambert, & Beck

2000). Need-driven dementia-compromised behaviors refer to behaviors such as vocalizing and physical aggression as responses to needs that have not been met (Algase et al.). These behaviors typically occur because of a nurse aide's inability to recognize the unmet need and the resident's inability to communicate that need to the nurse aide (Kovach, Noonan, Schlidt, & Wells, 2005). Need-driven dementia-compromised behaviors can develop based on two factors: background factors (e.g. neurological, cognitive, general health, and psychosocial), and proximal factors (e.g. personal, physical environment, and social environment). These background and proximal factors are viewed as antecedents to dementia-compromised behavior (Kovach et al.). One potential way to reduce disruptive behaviors is through identifying proximal factors affecting the resident and manipulating those elements to reduce disruptive behaviors. For example, if a resident clenches his/her mouth during a feeding interaction with the caregiver, it may be that the disruptive behavior is in response to an unmet need, such as lack of choice or appetite. Research has shown that nurse aides often have difficulty determining which behaviors are related to pain (Kovach et al.). For example, if a resident appears agitated, the resident is sometimes given an anti-anxiety drug. However, the agitated behavior may actually be related to arthritis, thus the anti-anxiety drug does not in fact treat the underlying problem, which could lead to secondary need driven behaviors (Kolanowski & Whall, 2000). If caregivers engage in more person-centered behaviors (e.g., learning about resident's individual needs, offering choices, etc.) the resident is likely to be less resistive to care. However, if the person-centered caregiving measures do not significantly predict resident's resistive behaviors, it would most likely be due to background factors affecting the resident's behavior. Additionally, a lack of significant findings could also be due to proximal factors that were not measured or controlled.

Kitwood and colleagues developed a method for evaluating the quality of care residents with dementia receive, known as Dementia Care Mapping (Thornton, Hatton, and Tatham, 2006). Dementia Care Mapping was developed as a tool to assess how well resident's needs have been met. This method involves observing the resident's caregiving environment for six hours in five-minute intervals and then assigning behavioral codes to the various activities that take place during that period of time (e.g., sleeping/dozing, participating in a game, eating/drinking, etc.). This is the Behavioral Category Code and includes 24 codes. Additionally, the resident's well being is recorded on a 6 point scale ranging from +5 (wellbeing) to -5 (ill-being), known as the Well/Ill-being scale. Ratings are based on the resident's activity and affect (Sloan et al., 2007). Feedback is then provided to the caregiving staff and a plan is created to help improve the resident's caregiving environment. Some criticisms of this method, however, refer to the amount of time it takes to complete as well as its lack of reliability (Beavis, Simpson, & Graham, 2002; Thornton, Hatton, and Tatham).

Thornton, Hatton, & Tatham (2004) wanted to explore the reliability of the dementia care mapping using routine care staff. Kitwood (1997) reported interrater reliability for the dementia care mapping at .85 for mappers rating up to five residents. Thornton et al., however, noted that agreement had only been studied using dementia care mappers who were associated with the Bradford Dementia Care Group. Using routine care staff, Thornton et al. reported an interrater reliability percentage of .60 for 11 items of the Behavioral Category Code and for all Well/Ill-being codes. Thornton et al. suggest a lack of rigorous training and follow-up training as a potential explanation for the lack of reliability found.

Sloane et al (2007) found similar results to those found by Thornton, Hatton, & Tatham (2008) with interrater reliability for the Behavioral Category Code at .62 and .74 for the Well/Ill-

being codes. Sloane et al. also explored the validity of the dementia care mapping. Concurrent validity was determined by comparing the Well/Ill Being scores to various quality of life measures used in the literature (Quality of Life in Alzheimer's Disease scale, Social Interaction, Awareness of Self and Feelings and Mood sub scales of the Alzheimer's Disease Related Quality). The authors reported moderate correlations ($r=.28-.40$). Sloane et al. concluded that the dementia care mapping measure was time consuming and difficult to apply. However, Sloane felt the dementia care mapping still showed promise and offered suggestions to improve the Behavioral Category Code and Well/Ill-being scales (e.g. adding a "0" score for Well/Ill-being and shortening the observation period). There is a strong interest and desire in the field of gerontology for a method of measuring the person-centeredness of caregiving. The dementia care mapping is a popular method, however, it is tailored to residents with dementia and issues associated with its reliability and validity have been raised.

Background for the Development of the Person-Centered Behavioral Inventory and the Global behavior scale

What follows is a review of the literature in gerontology that relates to person-centered caregiving as it has been studied with residents who are intact rather than suffering from dementia. This literature provided the basis for the development of the PCBI and the GBS, the two observational instruments on which this dissertation is focused. The literature in gerontology more generally has been concerned with identifying behaviors that promote person-centered care such as continuity (McGilton et al., 2003), reciprocity (Bowers, Fibach, & Jacobson, 2001) emotional support (Carpiac-Claver & Levy-Storms, 2007) or eye contact (Caris-Verhallen et al, 1999). Research efforts have sought to gain a better understanding of the dynamics involved in the caregiving relationship between nurse aides and residents in long-term

care facilities. Bowers, Fibich, & Jacobson conducted a study to assess the meaning of quality care as seen through the eyes of the residents. Based on their interviews, they found three categories that captured the residents' views on quality care: Care-as-service, care-as relating, and care-as-comfort. Most relevant for this study is care as relating. Residents in this category described their idea of quality care as involving friendship and reciprocity.

McGilton et al. (2003) designed the Relationship-Enhancing Program of Care to improve resident/caregiver interactions. The program involved five sessions aimed at teaching caregivers to obtain information about residents background, listen, reflect, give choices, and provide continuity in the care they provide. To assess the effectiveness of this program McGilton et al. created two scales measuring the caregiver and resident's behavior. One of these scales was known as the Relational Behavior scale used to assess caregivers empathic behaviors. The relational behavior scale consists of three subscales: 1) staying with a resident during the care episode, 2) adapting the pace of care to the resident's, and 3) focusing care beyond the task. The relational behavior scale is a 7-point semantic differential scale with high internal consistency (.89) and construct validity with scores found to be inversely associated with anxiety ($r = -.59$, $p < .005$), sadness ($r = -.59$, $p < .005$), and agitation ($r = -.39$, $p < .005$). In addition, McGilton created the Relational Care scale to assess the resident's perception of the caregiver's empathic care. This measure also had good internal consistency (.86) and test-retest reliability ($r = .69$). Caregiver's empathic behaviors increased significantly from baseline to posttest scores (paired $t = 3.25$, $df = 23$, $p < .003$).

Person-centered care involves communication between the nurse aide and resident that involves affective communication based on both verbal and non-verbal communication (Caris-Verhallen, Kerkestra, & Bensing, 1999; Roter et al., 2004). Carpiac-Claver & Levy-Storms

(2007) conducted a study focused on identifying key communication behaviors used by nurse aides with residents during mealtime. Based on the coding of their video-taped interactions, the researchers identified five communication categories, four affective and one instrumental: 1) personal conversation, such as “what did you do for a living”, 2) addressing the resident, including “what is your name?” and “Hi sweetie”, 3) checking in, such as “Are you tired”, 4) emotional support/praise, such as “you can do it!” and 5) instrumental communication, including “you gotta finish this drink” (Carpiac-Claver & Levy-Storms).

Roter's Interaction Analysis System, described earlier, consists of three sections: Socioemotional Exchange (e.g. shows approval, gives compliments), Task Focused Exchange, (e.g., asks permission, gives orientation), and Global Affect Ratings which relate the emotional context of the dialogue. The Roter Interaction Analysis System has been used in many doctor/patient communication studies and has been adapted successfully to nurse/patient interactions as well (Caris-Verhallen et al., 1999).

Building on Roter's work, Caris-Verhallen et al. (1999) conducted a study to assess both verbal and nonverbal communication behaviors displayed by nurses when working with residents in long-term care facilities. Verbal categories drew heavily from the Roter Interaction Analysis System with the addition of non-verbal behaviors (e.g. eyegaze, affirmative head nodding, smiling, forward leaning, affective touch, and instrumental touch). According to Caris Verhallen et al. (1999), nonverbal communication comprises 55-95% of messages communicated. Researchers found that, all of the non-verbal behaviors previously listed, with the exception of instrumental touch, were important in establishing a good relationship with the patient. They also found that nurses mostly used eyegaze, head nodding and smiling when attempting to establish good rapport with the patients (Caris-Verhallen et al.).

Sloane et al. (2004) developed an intervention to reduce disruptive behaviors among residents with dementia during bathing. They had two intervention groups and one control group. One intervention group was trained to use person-centered skills during the bathing task (e.g., offer choices and exert less control). The second intervention group was trained to use the towel-bath method (e.g., resident remains in bed and nurse aide uses a warm towel to protect the privacy and dignity of resident during the bath). The control group bathed the resident as usual (e.g., giving few choices and failing to take steps to preserve the resident's dignity). They found that they were able to reduce aggressive behaviors exhibited during bathing by 53% for the person-centered group ($p < .001$) and 60% in the group relying on the towel-bath method ($p < .001$) (Sloane et al.). This study provides evidence that when caregivers used PCC skills during the task of bathing, they were met with less resistance from residents.

Williams, Herman, Gajewski, and Wilson (2009) compared scores found measuring videotaped caregiving interaction in dementia care facilities using the resistiveness to care measure with scores found using the measure of elderspeak communication. Results of their study indicated that the probability that residents resistive behaviors were related to nurse aide's use of elderspeak was .55 (95% CrI, .44-.66), as opposed to instances where nurse aide's used normal communication, .26 (95% CrI, .12-.44). This suggests that nurse aide's use of elderspeak is likely an influencing factor in terms of whether or not residents exhibit resistive types of behavior. The video recorded interactions collected and analyzed by Williams and her colleagues were used in this proposed dissertation.

The author's second year project (Medvene & Wolcott, 2009), was part of a larger exploratory study focusing on nurse aide and resident relationships, dealt with identifying communication skills exhibited by nurse aide's working in long-term care facilities. Interviews

were conducted with nurse aides who were identified by their administrators as capable of establishing rapport with residents and staff members. Based on these interviews, coding categories emerged that were similar to behaviors Carl Rogers noted as important elements of client-centeredness. For example, 44% of the interactions involved *giving positive regard*, which meant showing the resident respect and interest. Furthermore, verbal categories developed by Roter (1989) and non-verbal categories developed by Caris-Verhallen et al. (1999) seemed to match in terms of describing interactions between residents and nurse aide's (e.g. giving compliments, making eye contact).

This work was the basis for developing two instruments to assess person-centered caregiving, the person-centered behavioral inventory and the global behavior scale. Roter's (1989) categories identifying verbal behaviors such as "shows approval" and "back-channel responses" were included in the person-centered behavioral inventory. Non-verbal behaviors Caris-Verhallen et al. (1999) used to measure nurse's communication skills, such as eyegaze, affirmative head nodding, and affective touch were included in the person-centered behavioral. Sloane's (2004) successful work in reducing resistive behaviors by, in part, offering residents choices inspired the item "giving choices" on the person-centered behavioral inventory. Kitwood's (1997) views on personhood, treating others as though they are worthy of a relationship and preserving residents dignity made up subscales for the global behavior scale. Subscales of McGilton's relational behavior measure were incorporated in the global behavior scale measure, specifically "focusing care beyond the task", and "adjusting to the residents pace" became an item on the person-centered measure. Williams et al. (2006) work with elderspeak influenced the development of the subscale for the global behavior scale statements made by the resident that are "appropriately directive" as opposed to "overly nurturing".

The person-centered behavioral inventory and global behavior scale each were developed with the idea of creating a more general scale that could be used to measure PCC skills in a variety of settings (i.e. assisted living, nursing homes, etc.) with a variety of residents (i.e. those with dementia, those without dementia, etc.) and to measure these skills during a variety of tasks (i.e. feeding, dressing, bathing, etc.) Previous studies have mostly looked at more specific and specialized populations without expanding to other settings and including a variety of tasks. The person-centered behavioral inventory and global behavior scale were originally developed to assess caregiving interactions between nurse aide students and standardized residents during one caregiving task. A standardized resident is a person who is hired to play a scripted role. This study explored their predictive validity by measuring caregiver interactions with residents with dementia involving a variety of tasks.

Grosch, Medvene, & Wolcott (2008) conducted a small scale study to test the effectiveness of a two-hour educational program which taught nurse aide students person-centered caregiving skills. The person-centeredness of caregiving skills among students who completed the training, as well as those who did not, was evaluated by coding their videotaped interactions with a “standardized resident.” The standardized resident role was created by a director of nursing and was played by two residents living independently at Larksfield Place. The person-centered behavioral inventory and the global behavior scale were developed in order to evaluate this training program. Inter-rater reliability for the person-centered behavioral inventory was .86 between two coders. Cronbach’s alpha was .95 and a moderate correlation between both measures was found, $r(21) = .49, p < .02$.

Goals of the Present Study

The goal of this study was to determine the predictive validity of the global behavior scale and person-centered behavioral inventory. Video-recorded caregiving interactions (n=70) were coded using these measures and the results found using the resistiveness to care measures, already collected and coded by Williams et al. (2009). The strength of the person-centered measure's ability to predict residents' resistive behaviors -were determined through a multiple regression analysis.

Hypotheses:

1. Based on the need-driven dementia-compromised theory of behavior, it was expected that the person-centered caregiving behavior inventory and global behavior scale would significantly predict residents' resistive behaviors. The more person-centered a nurse aide behaved, the less resistive a resident was expected have behaved.
2. The person-centered caregiving behavioral inventory and global behavior scale were expected to have high inter-rater reliability.
3. The person-centered caregiving behavioral inventory and global behavior scale were expected to have high internal consistency.

CHAPTER 2

METHODS

Kristine Williams at the University of Kansas School of Nursing collected the data for this study as part of an NIA funded study to assess caregiving behaviors of residents in dementia care facilities (Williams, Herman, Gajewski, & Wilson, in 2009). Williams videotaped 80 caregiver-resident interactions during activities such as eating, bathing, oral care, and other activities of daily living. Interactions were transcribed and coded using the Resistiveness to Care Scale. This proposed study involved viewing and coding those videotaped interactions with two measures of PCC.

Participants

The proposed study involved 70 caregiving interactions between 20 residents with dementia observed in three different types of caregiving tasks and 52 nursing staff. The caregiving interactions were collected from three dementia care facilities. Consent for participation was given by surrogate decision makers for the residents, usually family members. In addition to the surrogate decision maker's consent, the residents also gave verbal consent.

Residents' ages ranged from 69 to 97 years ($M = 82.9$, $SD = 8.2$). Of those residents, there was one African American male, four Caucasian males, and 15 Caucasian females. Participants' functional status was obtained using the Activities of Daily Living support scale with scores ranging from seven to 52 ($M = 29.6$, $SD = 10.5$), with higher scores indicating greater dependency of residents on caregivers. The Minimum Data Set Cognition Scale (MDS-COGS) ranged from four to nine ($M = 6.4$, $SD = 1.4$) indicating that participants were in the moderate stage of dementia.

Certified nurse aide's made up 78% of the caregivers (n= 32). The remaining staff included one rehab aide, medication aides (n = 5), licensed practical nurses (n = 7), registered nurses (n = 5), and other (n = 4). Of those participants, 83% were female, 68% were white, 30% African American, 2% Pacific Islander, and 4% indicated being either Hispanic or Latino. The average age of participants was 31.6 (*SD* = 10.96) with a range of 21 to 54 years. The mean years of experience in patient care indicated was 7.5 (*SD* = 8.3). The average years spent working in the current facility was 3.5 years (*SD* = 3.5) with a range of .10 – 18 years, as seen in Table 1.

Table 1.

Demographic Information of Nursing Staff

Gender		
Female % (N)	88.6	(62)
Male % (N)	11.4	(8)
Age M (SD)		
	31.6	(10.96)
Years of Experience M (SD)		
	7.5	(8.3)
Tenure at Facility M (SD)		
	3.5	(3.5)
Staff Role		
Certified Nurse Aide % (N)	77.1	(54)
Medical Aide % (N)	4.3	(3)
Licensed Practical Nurse % (N)	15.7	(11)
Registered Nurse % (N)	2.9	(2)

Table 1 (cont.)

Ethnicity

Not Hispanic (%)	81.4	(57)
Hispanic or Latino (%)	18.6	(13)

Race

Caucasian (%)	77.1	(54)
Black (%)	21.4	(15)
Native Hawaiian, Pacific Islander	1.4	(1)

Note. N = 70

Procedures

Williams, Herman, Gajewski, & Wilson (2009) videotaped interactions using a hand held recorder. In an effort to reduce reactivity, Williams spent a day in the residents' dementia care facilities. This also allowed her to find areas in the facility to record interactions less noticeably. Williams followed a resident for one shift in order to record activities of daily living interactions as they happened. However, activities of daily living that required a closed door or curtain were not taped to preserve the resident's privacy. Staff members and residents were told that recording could stop at any time and that any portion could be deleted. None of the staff or residents elected to do so.

The first ten minutes of footage was deleted in order to give the resident and staff members an opportunity to adjust to the presence of the researcher and video recorder. The first ten minutes of activities of daily living were established as a reliable representation of verbal ($r = .80-.93$) and nonverbal ($r = .61-.92$) behaviors in comparison to the full interactions. They were also established as standard intervals in staff resident interactions in dementia. Criteria

used for selecting the videotaped interactions included: a) making sure the staff and residents could be seen during the interaction, b) interactions had to last at least 30 seconds, c) recordings were sufficiently understandable for transcription, and d) interactions were initiated by staff and ended by staff. The length of recordings ranged from .5 to 10 minutes ($M = 4.58$).

Based on viewing many of the videotaped interactions, it became evident that some recordings were too short to code. For example, six recorded interactions were less than a minute in length. Practice coding using the person-centered caregiving behavioral inventory measure indicated a lack of behaviors enacted in the short time period making it difficult to determine the nurse aide's proportion of time spent using person-centered caregiving skills. Therefore, of the 80 interactions, only 70 were coded. The second coder was a master's student in the nursing department at the University of Kansas Medical School. She plans to specialize in geriatric care and is very familiar with this area. Inter-rater reliability was established by coding an interaction from each category until .80 or higher reliability was achieved. After adequate inter-rater reliability was achieved, the second coder was responsible for coding 23% ($N = 16$) of the videos in order to maintain reliability. This allowed us to establish reliability for each resident. The author coded all 70 interactions and was blind to the resistiveness to care scores to prevent biasing results.

Caregiving Examples

The majority of the interactions coded as part of this proposed study included nurse aides (78%), however, in many of these recorded interactions more than one nurse aide was helping the resident with a task. Included in these interactions were medication aides, licensed practical nurses, and others. Most, however, involved the nurse aide directly working with the resident though other staff members were present. These interactions involved four types of caregiving

tasks: bathing, oral care, dressing, and other. The oral care tasks usually included instances of feeding or brushing the resident's teeth. The bathing tasks involved taking the resident to a shower room and bathing the resident. The dressing activity usually took place after the resident had taken a bath, was getting ready in the morning, or before going to sleep at night. This category also included grooming tasks, such as combing a resident's hair. The other category included instances of walking with the resident to his/her room, the lounge for socializing, or helping the resident use the toilet.

What follows are two transcribed interactions from the video-recordings that were used for this study. One interaction involved preparing a resident for bathing and the other involved dressing a resident. Both interactions were less than a minute in length and therefore were not coded as part of this study as previously stated. The caregiving interactions are included here to provide examples of the caregiving videos to be coded.

Bathing: The resident says to the nurse aide, "I don't want to take a bath." The nurse aide responds, "Your son, what did we say? Your son is coming to pick you up." The resident replies, "That doesn't mean I have to take a bath." The nurse aide attempts to reason with the resident by saying, "well, you can take a bath and smell good!" To this the resident replies, "Oh, pickle." The nurse aide further pleads with the resident, "C'mon, I know, C'mon honey." "No I don't want to take a bath," says the resident. The nurse aide says, "Please, please to Grandma? But you will be smelling good, you will like the shower." Still unwilling to take part in the task the resident says, "I approve, but I'm stubborn and I don't want to take a bath." Finally, the nurse aide says, "Remember the last time I gave you the best shower?" The resident replies, "No, I don't remember any shower that I took." The clip ended after this statement.

Dressing: The nurse aide says to the resident, "here's your sweater honey. Sit here in my chair babe and we'll comb your hair." The resident is sitting in a wheel chair next to a dresser. The resident is fiddling with the buttonhole of her sweater. The resident says, "I can't find the hole." The nurse aide responds, "Right there it is," by pointing at the hole. The resident appears concerned, "I can't see it." The nurse aide replies, "It's kind of stretched out there." The resident appears increasingly upset, "I can't feel it!" The nurse aide says, "Can't feel it, fingers are numb this morning?" The nurse aide is searching through drawers and cabinets. The nurse aide turns to the resident and says, "Sorry X, no more perfume. Feel good?" The nurse aide then turns to the

camera and says, “Sometimes she don’t always like to get in the tub. She got mad at X one day.” The clip ended after this statement.

Materials

Resistiveness to Care: The Resistiveness to Care scale measures the duration and intensity of residents with dementia’s resistive behaviors during activities of daily living. The resistiveness to care scale views these resistive behaviors as a sign of a need that has not been met rather than as intentionally disruptive. The resistiveness to care scale measures 13 behaviors (See Appendix A for the complete instrument). Williams, Herman, Gajewski, & Wilson (2009) practiced using this measure for several months with materials that were developed by the creators of the scale (Mahoney et al., 1999). They practiced coding until they reached an agreement of 90%.

Each occurrence of the 13 resistiveness to care behaviors was scored by duration (0=none, 1<16 seconds, 2=16-59 seconds, 3=60-120 seconds, and 4>120 seconds) and intensity (1=mild, 2=moderate, and 3=extreme). The total resistiveness to care score was the sum of multiplying the duration of each occurrence by its observed intensity, which gives a weighted score with in the range of 0, no resistiveness, to 156, maximum resistiveness. The variation in recorded interaction length was accounted for by dividing each resistiveness to care score by the length of the interaction. The proportion of time a resident spent in a resistive state was used in the present study. This was necessary in order to correlate scores residents received using the resistiveness to care scale with scores nursing staff members received using the person-centered caregiving measures, which include scores based on the proportion of time nursing staff spent in a person-centered state. Mahoney et al. (1999) report an established interrater reliability for the resistiveness to care scale at 95% within two long-term care dementia populations (Cronbach’s alpha 0.82-0.87). Content validity was reported at 1.0 ($p < .05$) and criterion validity was

reported at .76 and was established by correlating the Discomfort Scale for Dementia with the resistiveness to care.

Williams, Herman, Gajewski, & Wilson (2009) used a behavioral coding system known as the Noldus Observer Video Pro program 2003 to code (Noldus information Technologies Inc., Leesburg, Virginia). Computer keys corresponding to each staff communication and resident behavior were pushed when the behavior state was present. Williams et al. coded each second of an interaction for a communication state (elderspeak, normal speech, or silence) and resident behavior state (resistiveness to care, cooperative, neutral). The resistiveness to care scores correlated with nursing staff reports of the resident's frequency of resistiveness. as reported on the MDS ($r = .67, p < .001$). In an effort to avoid biasing results, one research assistant team coded video clips for nursing staff members' communication and another research team coded for residents' behaviors.

Person-Centered Caregiving Behavioral Inventory: Based on a scripted interaction with standardized residents, as part of a previous study to teach and measure nurse aide student's person-centered care behaviors, the person-centered caregiving behavioral inventory and global behavior scale were created (Grosch, Medvene, & Wolcott, 2008). The scripted interaction consisted of a "standardized resident" known as John McGuire, who preferred to be called "Coach." Coach was instructed to sit in his chair asleep with his smudged glasses and sports page on his lap. The standardized resident was also instructed to rub his leg in pain when standing and resist the nurse aide student's request to go to dinner. Nurse aide students were given an opportunity to read some background information about John McGuire. They were told that he wore glasses, was hard of hearing, required the use of a gait belt to assist with transfers, and relied on the use of a walker. They were also given some personal information about John

such as where he was born, his immediate family, his former career, and his love for football and basketball. The person-centered caregiving behavioral inventory was developed to measure the nurse aide student's behaviors used while caring for John. More specifically, the person-centered caregiving behavioral inventory contains 19 behaviors, 11 verbal (e.g., orients resident to caregiving task, appropriate use of information about residents history, etc.) and 8 non-verbal behaviors (e.g., resident directed eye gaze, adjusting to the residents pace, etc.). The person-centered caregiving behavioral inventory is a checklist that requires coders to determine, within two minute intervals, whether or not behaviors occur. The proportion of time nurse aides used those behaviors was then determined by dividing the total score by the number of units. In previous research (Grosch, Medvene, & Wolcott) interrater reliability was .86 based on the coding for 21 interactions between the nurse aide students and standardized residents.

Pilot Study for Present Research

Pilot work was required for the present study in order to adapt the person-centered caregiving behavioral inventory measure to be used with this study's dementia population. This was necessary because the person-centered caregiving behavioral inventory was originally intended to measure nurse aide student's person-centered behaviors used when caring for standardized residents. The standardized resident was a scripted role consisting of specific behaviors the standardized resident was to perform and a specific background he was to draw upon when speaking with the nurse aide student. This standardized role did not include the resident exhibiting symptoms of dementia. Additionally, since the resident's role was scripted, interactions included a beginning, middle, and end. This made development of a measure and coding for behaviors much easier. The interactions used in this current study were not as neatly or simplistically arranged. These interactions involved nurse aides and residents whose

behaviors were spontaneous, not scripted. Therefore, pilot work was needed to make necessary adjustments to the person-centered caregiving behavioral inventory.

By viewing several of the interactions used in this study, it became evident that certain categories would not apply to nursing staffs' behaviors. The categories "greetings" and "closing" were not necessary. Often interactions videotaped did not start with a resident in his/her room where a nursing staff member would be required to knock on the door and greet the resident. Instead, many would begin in a bathroom or dining hall where a greeting may have already taken place or was not appropriate for the interaction. Likewise, recordings of interactions often ended in such a way as to make it difficult to assess closing statements. Other verbal categories excluded were "appropriate use of information." This category was created in the previous study to assess the nurse aide student's use of the standardized resident's biographical information, which was not a part of this current study. The category "instrumental touch" was also eliminated. This category was included in the last study to capture touch that was necessary for a nurse to complete a task (e.g., putting a shirt on a resident or combing the resident's hair). This category was removed because it was felt that touch required for a task was confusing to code and not representative of person-centered behavior. For example, it would be highly unusual to see a nursing staff member dress a resident without ever touching him or her.

Other changes to the inventory included the addition of the verbal category "cooperative negotiating" meant to capture instances when the nursing staff member shared control with the resident by reasoning with the resident during a task and allowing the resident to share his or her perspective. The category "positive gestures/facial expressions" was created to capture nursing staff members' nonverbal behaviors such as waving or smiling. After coding was completed, the category "assessing medical condition" was not used to calculate person-centered scores because

it was never used during observed interactions (see Appendix B for the instrument and the guidelines for defining each behavior).

A task-centered behavioral inventory was created in an effort to capture more aspects of the caregiving interaction. Verbal categories included nursing staff members' use of "verbally controlling" statements such as ordering a resident to do something. The second verbal category involved nursing staff members' statements that served to take the speaking floor from the resident, labeled "interruption/changing topic." Nonverbal behaviors included nursing staffs' "ignoring" residents and "physically controlling" residents by forcing them physically to do something. These categories were meant to capture task-centered behaviors and be compared to staff members' person-centered behaviors (see Appendix C for the instrument and the guidelines for defining each behavior).

Global Behavior Scale: The global behavior scale was developed to be used in sequence with the person-centered caregiving behavioral inventory and is an 11-item measure based on a seven point semantic differential scale (See Appendix D for the instrument and the definitions of each term). Cronbach's alpha was .95. Concurrent validity was determined by comparing the person-centered caregiving behavioral inventory to the global behavior scale. A correlation between the two was found $r(21) = .49, p < .02$.

The first item of the global behavior scale is *treating like a person-respecting personhood* versus *treating in stereotyped way*. This item was inspired by Kitwood's work with personhood, validation, and preserving the resident's self-worth as opposed to treating the resident in a manner consistent with stereotypes about older adults with dementia, for example, being frail or incompetent. The second item was developed also based on Kitwood's work and is called *treating like worthy of relationship* versus *indifferent to bond or connection*. Treating a resident

as if he/she is worthy of a relationship involves spending time with the resident and talking with the resident. The third item *respecting dignity* versus *not respecting dignity* involves physically and psychologically preserving the resident's dignity. For example, making sure the resident is not exposed on the way to the bath, the door is shut during the bath, or that the resident is made to feel comfortable and safe would represent taking steps to respect the residents dignity. This could also include allowing the resident to do things for himself/herself whenever possible. *Putting person before the task* versus *putting the task before the person* comes from the literature on person-centered caregiving (Kitwood, 1997; Slater, 2006; McCormack, 2004). Putting the person first would involve considering the resident's perspective or adapting the caregiving to the residents needs by slowing down the pace, giving the resident choices, etc. as opposed to objectifying the resident. *Providing a positive social environment* versus *not providing positive social environment* has to do with Eaton's (2000) descriptions of the long-term care settings. For example, enrichment is offered to the resident in the form of activities or perhaps conversation that is positive, or meant to improve the resident's attitude as opposed to contributing to their negative mood by mocking or ignoring the resident. *Working cooperatively* versus *working in a directive manner* refers to the nurse aide recognizing the interdependent nature of his/her working relationship with the resident as opposed to ordering the resident around and disempowering the resident. *Affirming* versus *over nurturing* includes the nurse aide communicating messages that are not patronizing but respectful and appropriately directive towards the resident. *Tolerates frustration* versus *intolerant* would involve the nurse aide remaining calm and being patient with the resident when he/she encounters set backs as opposed to getting angry or annoyed with the resident. *Takes likes and dislikes into account* versus *ignores likes and dislikes* has to do with the nurse aide asking for the residents preferences and

giving the residents choices. *Responsive to spontaneous needs* versus *unresponsive to spontaneous needs* would involve the nurse aide being attentive to the residents needs. For example, if the resident is upset, the nurse aide takes steps to find out the source of the resident's discomfort. The final item is *positive affect* versus *negative affect*. Positive affect would include the nurse aide expressing positive emotions, such as smiling instead of rolling his/her eyes or sighing.

Data Analysis Strategy

Predictive validity for the person-centered caregiving behavioral inventory and global behavior scale was determined by using both correlational analysis and multiple regression analysis in order to assess whether either measure was related to resistiveness to care. The regression analysis only included variables that were significantly correlated with resistiveness to care scores. Internal consistency for the global behavior scale was also assessed by Cronbach's alpha. Interrater reliability for both the person-centered caregiving behavioral inventory and global behavior scale was determined by comparing the results found by two coders. The second coder coded 23% of the interactions ($n = 16$). Concurrent validity was assessed by correlating the person-centered caregiving behavioral inventory with the global behavior scale.

Exploratory Analysis

Another area of interest had to do with analyzing groups of residents identified by Williams et al. (2009) as behaving in a manner that was always cooperative ($N = 21$), resistive ($N = 21$), or dynamic ($N = 26$) in that residents' behaviors changed across caregiving tasks and caregivers. Williams et al. identified these groups of residents by looking at their individual plots of behavioral changes. A sub analysis looking at how the cooperative, resistive, and

dynamic groups relate to resistiveness to care were conducted. The following are examples of residents categorized as cooperative, resistive, and or as dynamic:

Cooperative

The female nurse aide is in the female resident's room and the task involves brushing the resident's teeth. This interaction is two minutes in length.

The nurse aide enters the room and says to the resident, "I'm gonna clean your teeth real quick, okay?" The resident replies, "Oh." The nurse aide says, "Real quick, I won't make it long. You ready?" The resident says, "Yeah." The nurse aide cleans the residents teeth. When the task is complete the nurse aide says, "Better?" The nurse aide then leaves the resident's room.

Resistive

The female nurse aide and female resident are in the bathroom and the task involves bathing the resident. This interaction is nine minutes in length.

The resident is crying. The nurse aide says, "Come here. Let's hold on right here." The nurse aide is helping the resident into the bathtub. The nurse aide says, "Okay, let's get your shirt, lean forward." The resident continues to cry. The nurse aide says, "I have to get it (the water) warm first. Sit down." The resident continues to cry. The nurse aide bathes the resident while the resident sobs. The nurse aide then says, "Okay, we have to dry you off." The resident continues to cry. The nurse aide directs the resident, "Lift up." The resident says, "Ouch!" The nurse aide replies, "Sorry. Got to dry your toes." The resident continues to cry and says, "Ouch." The nurse aide again says, "Sorry." The resident begins to moan and continues to cry until the end of the interaction.

Dynamic

The nurse aide approaches the resident who is sitting on a couch. This task involves helping the resident with toileting. The interaction is four and a half minutes in length.

The nurse aide says to the resident, "Hi! Are you sleeping?" The resident looks up at the nurse aide and says, "Well I was." The nurse aide says, "Uh...would you like to use the bathroom now?" The resident says, "No. I don't need to." The nurse aide informs the resident, "It's almost 4:00. I took you last around 3:00. Its two hours now." The resident responds, "Hmmm." The nurse aide pleads, "I need to toilet you every two hours, will you please come with me then?" The resident says, "Oh honey I just..." The nurse aide interrupts, "But it's 4:00." The resident says, "I know but I hate to move."

The nurse aide responds, "There's nothing wrong, I'll help you, you have to. Let's see if you need too." The resident says, "Honey I don't need to go to the bathroom." The nurse aide insists, "It's been two hours now, we need to use the bathroom every two hours. Come with me." The nurse aide motions to the resident to get up. The resident, says, "I'm having trouble getting up." The nurse aide asks, "You need a back rub?" The nurse aide begins rubbing the resident's back. The nurse aide holds her arms out to the resident and says, "Com on let's shake it, shake it mamma!" The nurse aide pulls the resident up from the couch and the two begin to dance together. The resident says, "I'm going to shake my head off. Toot toot." The nurse aide echoes, "Toot toot." The resident asks, "Where are we going?" The nurse aide answers, "We're going to the bathroom." The resident says, "Oh so we're going to the bathroom?" The nurse aide responds, "Uh huh, right there." The resident says, "Yep, toot too, isn't that nice." The nurse aide and the resident go into the bathroom. After the task, they stand around for a few seconds and the resident asks, "What are we going to do?" The nurse aide says, "What do you want to do?" The resident says, "I don't know." The two begin to sing a song together, "Show me the way to go home..." The nurse aide then asks, "You want to go over there? You see your friend? You want to go see her?" The resident says, "Okay." The nurse aide begins to exit the room and says to The resident, "Thank-you so much." The resident replies, "Thank you dear."

Correlational patterns between resistiveness to care, the person-centered behavioral inventory, and global behavior scale were also examined across caregiving tasks (e.g., bathing, oral care, dressing, and miscellaneous) in which residents and nursing staff interacted. There was interest in whether the correlational patterns differed by type of task. Bathing tasks generally involved undressing the resident and bathing the resident in a bathtub. Sometimes toileting would accompany the task depending upon the residents needs. Oral care involved brushing the resident's teeth or helping them to brush their teeth, floss, and rinse with mouthwash. The oral care task could also involve feeding. The dressing task took place just after a resident awoke or before taking a nap or going to bed. Sometimes the dressing task would take place if the resident needed to change their clothing due to an accident. Miscellaneous tasks involved activities such as helping residents to their room, to their meal, or just talking with them.

Data Cleaning

Analysis was performed using SPSS FREQUENCIES for evaluation of assumptions. Results of evaluation of assumptions led to transformation of the variables to reduce skewness, reduce the number of outliers, and improve the normality, linearity, and homoscedasticity of residuals. A square root transformation was used on the length of time the nursing staff spent in their role and the nursing staff's tenure at the facility. Logarithmic transformations were used on the task-centered behavioral inventory. These transformations normalized their distributions. With the use of a $p < .01$ criterion for Mahalanobis distance no outliers among the cases were found. No cases had missing data, $N = 70$. No cases were excluded because there were outliers.

CHAPTER 3

RESULTS

Descriptives and Correlations

Correlation coefficients were computed using SPSS BIVARIATE CORRELATION among resistiveness to care, global behavior scale, person-centered behavioral scale, task-centered behavioral scale, the nursing staff's age, length of time spent in their role, and tenure at the facility. The results of the correlational analyses are presented in Table 2.

Table 2

Intercorrelations between subscales for nursing staff and residents

Subscale	1	2	3	4	5	6	7
Caregiving Interactions (n=70)							
1. RTC	--	-.08	.17	-.22+	-.37**	-.26*	-.20+
2. PCBI		--	-.35**	.70**	.16	.18	-.02
3. TCBI			--	-.56**	-.15	-.27*	-.07
4. GBS				--	.21	.32*	.14
5. Age					--	.60**	.55**
6. Length of Role						--	.66**
7. Tenure at Facility							--
Mean	43.4	26.9	.35	74.6	32.0	2.2	1.6
Std. Dev.	36.9	11.2	.50	20.7	10.6	1.2	.92
Range	0-99.8	4-53.9	0-40.0	20.1-100	18-52.0	.25-4.6	.20-18

Note: ** correlation is significant at the .01 level (2-tailed)

* correlation is significant at the .05 level (2-tailed)

+ correlation is marginally significant $p < .08$

Hypothesis Testing

Predictive Validity: Consistent with the first hypothesis, a negative correlation between the resistiveness to care scale ($M = 43.4$, $SD = 36.9$) and the global behavior scale ($M = 74.6$, $SD = 20.7$) was found and approached significance, $r(68) = -0.2$, $p < .08$, $r^2 = .04$. Contrary to the first hypothesis, a significant negative correlation between the resistiveness to care scale and the person-centered behavioral inventory ($M = 26.8$, $SD = 11.1$) was not found, $r(68) = .30$, ns , $r^2 = .09$.

Nursing staff's age was the biggest predictor of residents' resistive behaviors among the variables. A negative and significant correlation between age ($M = 32.0$, $SD = 10.6$) and resistiveness to care was found, $r(68) = -.37$, $p < .01$, $r^2 = .14$. A positive and significant correlation between the length of time the nursing staff spent in their role and the global behavior scale was found, $r(68) = .32$, $p < .01$, $r^2 = .10$. Also, a negative and significant relationship between the length of time the nursing staff spent in their role and the resistiveness to care scale was found, $r(68) = -.26$, $p < .05$, $r^2 = .07$. A correlation was found between age and the global behavior scale which approached significance $r(68) = .21$, $p < .08$, $r^2 = .04$. Age was also correlated with the nursing staff's tenure at the facility ($M = 1.6$, $SD = 0.9$) and this correlation was significant, $r(68) = .55$, $p < .01$, $r^2 = .30$. A positive and significant correlation was found between nursing staff's age and the length of time spent in their role ($M = 2.2$, $SD = 1.2$), $r(68) = .60$, $p < .01$, $r^2 = .36$. The nursing staff's tenure at the facility was correlated with their length of time spent in their role, $r(68) = .66$, $p < .01$, $r^2 = .44$.

The person-centered behavioral inventory, global behavior scale, and task-centered behavioral inventory showed good concurrent validity. The person-centered behavioral inventory correlated with the global behavior scale, $r(68) = .70$, $p < .01$, $r^2 = .49$. The task-

centered behavioral inventory correlated with the global behavior scale $r(68) = -.56, p < .01, r^2 = .44$ and with the person-centered behavioral inventory, $r(68) = -.35, p < .01, r^2 = .12$.

Reliability and Validity: The second hypothesis stating that the person-centered behavioral inventory and the global behavior scale would have high inter-rater agreement was supported. Inter-rater agreement for the person-centered behavioral inventory was .85 and inter-rater agreement for the global behavior scale was .81. Additionally, inter-rater reliability for the task-centered behavioral inventory was .97.

The third hypothesis stating that the global behavior scale will have high internal consistency was also supported. Cronbach's alpha was .98.

Linear Multiple Regression

To test the first hypothesis, a standard multiple regression was performed between resistiveness to care as the dependent variable and the global behavior scale and nursing staff's age as the independent variables. Analysis was performed using the SPSS REGRESSION. The linear combination of dependent variables was significantly related to the resistiveness to care measure, $F(2, 67) = 3.34, p < .01$. The sample multiple correlation coefficient was .39, indicating that approximately 15% of the variance of the resistiveness to care measure in the sample can be accounted for by the linear combination of the dependent variables. Table 3 displays the unstandardized regression coefficients (B), the standard error, and the standardized regression coefficients (β).

Table 3

Summary of Regression Analysis for Variables Predicting Resistiveness to Care

Variable	B	SE B	β
Global behavior scale	-.26	.21	-.14
Age	-1.17	.40	-.33

Exploratory Findings

Also of interest for this study was how resident's scores for the resistiveness to care scale, and nursing staff's scores for the person-centered behavioral inventory, global behavior scale, and task-centered behavioral inventory, differed by resident's patterns of behavior. As stated previously, during interactions with nursing staff, resident's behaviors were categorized as being dynamic, or consistently cooperative, or consistently resistive based on their pattern of behavior. Correlation coefficients were computed using SPSS among resistiveness to care, person-centered behavioral inventory, task-centered behavioral inventory, global behavior scale, separately for each type of resident. The person-centered behavioral inventory and the global behavior scale were consistently correlated.

The results of the correlational analyses for residents' who were dynamic, cooperative, or resistive are presented in Tables 4, 5, and 6, respectively. Scores from the resistiveness to care scale did not significantly correlate with any of the other variables for interactions where residents exhibited either dynamic, or consistently cooperative, or consistently resistive behaviors. Scores for the global behavior scale consistently and positively correlated with scores for the person-centered behavioral inventory across the different types of residents.

The results of the correlational analyses are presented in Table 4 for the dynamic interactions. The global behavior scale ($M = 75.44$, $SD = 22.65$) and the person-centered behavioral inventory ($M = 26.10$, $SD = 10.99$) significantly correlated, $r(25) = .72$, $p < .01$, $r^2 = .52$. The global behavior scale was significantly correlated with the task-centered behavioral inventory ($M = .35$, $SD = .47$), $r(25) = -.45$, $p < .05$, $r^2 = .20$. Therefore, scores nursing staff members received using the person-centered measures positively related to one another. Also, the higher staff members' scores, as measured by the global behavior scale, the lower residents scores, as measured by the resistiveness to care scale.

Table 4

Intercorrelations Between Subscales for Dynamic Interactions

Subscales	1	2	3	4
Dynamic Caregiving Interactions (n = 26)				
1. RTC	--	.10	-.15	-.29
2. PCBI		--	-.24	.72**
3. TCBI			--	-.45*
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

* correlation is significant at the .05 level (2-tailed)

Results for the cooperative interactions are presented in Table 5. The global behavior scale ($M = 79.10$, $SD = 18.37$) and the person-centered behavioral inventory were significantly correlated, $r(20) = .68$, $p < .01$, $r^2 = .46$. Consistent with findings for dynamic interactions, nursing staff members' scores found using the person-centered measures were positively related to one another.

Table 5

Intercorrelations Between Subscales for Cooperative Interactions

Subscales	1	2	3	4
Cooperative Caregiving Interactions (n = 21)				
1. RTC	--	-.02	-.00	.05
2. PCBI		--	-.19	.68**
3. TCBI			--	-.41
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

*correlation is significant at the .05 level (2-tailed)

Results for the resistive interactions are presented in Table 6. The global behavior scale ($M = 69.62$, $SD = 20.19$) and the person-centered behavioral inventory ($M = 25.67$, $SD = 10.91$) were significantly correlated, $r(22) = .71$, $p < .01$, $r^2 = .50$. The global behavior scale was significantly correlated with the task-centered behavioral inventory ($M = .48$, $SD = .58$), $r(22) = -.72$, $p < .01$, $r^2 = .52$. Therefore, high scores nursing staff received using the global behavior scale were negatively related to their low scores found using the task-centered behavioral inventory. The person-centered behavioral inventory was also significantly correlated with the task-centered behavioral inventory, $r(22) = -.51$, $p < .05$, $r^2 = .26$. Nursing staff members' high person-centered scores were related to their low task-centered scores.

Table 6

Intercorrelations Between Subscales for Resistive Interactions

Subscales	1	2	3	4
Resistive Caregiving Interactions (n = 21)				
1. RTC	--	-.01	-.00	.02
2. PCBI		--	-.51*	.71**
3. TCBI			--	-.72**
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)
 * correlation is significant at the .05 level (2-tailed)

Also explored were the intercorrelations between resistiveness to care scores, person-centered behavioral inventory scores, task-centered behavioral inventory scores, and global behavior scores for the type of task the nursing staff and residents engaged in, including bathing, oral care, dressing, or miscellaneous. The results of the correlational analyses are presented in Tables 7, 8, 9, and 10, respectively. Scores from the resistiveness to care scale did not significantly correlate with any of the other variables for the different tasks. Scores for the global behavior scale consistently positively correlated with scores for the person-centered behavioral inventory across the different tasks. Scores for the task-centered behavioral inventory negatively correlated with the scores for the global behavior scale for bathing, dressing, and miscellaneous tasks.

The results of the correlational analyses are presented in Table 7 for the bathing task. The global behavior scale ($M = 70.90$, $SD = 22.65$) and the person-centered behavioral inventory ($M = 24.64$, $SD = 11.24$) were significantly positively correlated, $r(18) = .81$, $p < .01$, $r^2 = .66$. Also the task-centered behavioral inventory ($M = .33$, $SD = .48$) and the global behavior scale were significantly negatively correlated, $r(18) = -.58$, $p < .01$, $r^2 = .34$.

Table 7

Intercorrelations Between Subscales for Bathing Tasks

Subscales	1	2	3	4
Bathing Caregiving Interactions (n = 17)				
1. RTC	--	-.02	-.28	.05
2. PCBI		--	-.39	.81**
3. TCBI			--	-.58**
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

*correlation is significant at the .05 level (2-tailed)

Results for the oral care task are presented in Table 8. The global behavior scale ($M = 73.86$, $SD = 18.79$) and the person-centered behavioral scale ($M = 26.83$, $SD = 11.71$) were significantly positively correlated, $r(15) = .64$, $p < .01$, $r^2 = .41$. Therefore as global behavior scores for nursing staff members increased so did their scores for the person-centered behavioral inventory.

Table 8

Intercorrelations Between Subscales for Oral Care Tasks

Subscales	1	2	3	4
Oral Care Caregiving Interactions (n = 17)				
1. RTC	--	-.06	-.35	-.13
2. PCBI		--	-.43	.64**
3. TCBI			--	-.46
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

• correlation is significant at the .05 level (2-tailed)

Results for the dressing task are presented in Table 9. The person-centered behavioral inventory ($M = 26.91, SD = 11.44$) and the global behavior scale ($M = 79.80, SD = 19.62$) were significantly correlated, $r(17) = .75, p < .01, r^2 = .56$. Therefore, as nursing staff members scores increased using the global behavior scale, so did their scores for the person-centered behavioral inventory. The global behavior scale and the task-centered behavioral inventory ($M = .35, SD = .48$) were significantly negatively correlated, $r(17) = -.51, p < .03, r^2 = .26$. High scores nurse aides received using the global behavior scale were related to low scores they received using the task-centered behavioral inventory.

Table 9

Intercorrelations Between Subscales for Dressing Tasks

Subscales	1	2	3	4
Dressing Caregiving Interactions (n = 18)				
1. RTC	--	.05	.12	-.27
2. PCBI		--	-.25	.75*
3. TCBI			--	-.51*
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

*correlation is significant at the .05 level (2-tailed)

Finally, results for the miscellaneous task are presented in Table 10. Again, the person-centered behavioral inventory scores ($M = 29.61, SD = 10.73$) and the global behavior scale scores ($M = 74.03, SD = 21.50$) were significantly positively correlated, $r(16) = .62, p < .01, r^2 = .38$. The task-centered behavioral inventory scores ($M = .45, SD = .60$) and the global behavior scale scores were significantly correlated, $r(16) = -.71, p < .01, r^2 = .50$.

Table 10
Intercorrelations Between Subscales for Miscellaneous Tasks

Subscales	1	2	3	4
Miscellaneous Caregiving Interactions (n = 19)				
1. RTC	--	.23	.47	.42
2. PCBI		--	-.43	.62**
3. TCBI			--	-.71**
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

*correlation is significant at the .05 level (2-tailed)

Differences between nurse aides and nurses were also explored regarding their scores on the resistiveness to care scale, person-centered behavioral inventory, task-centered behavioral inventory, and global behavior scale. A variable was created in SPSS grouping the aides ($N = 51$) into one variable, including certified nurse aides, rehab aides, bathing aides, and medical aides. A separate variable was created for all the nurses ($N = 19$), including registered nurses and licensed practical nurses. The results of the correlational analyses for nurse aides are presented in Table 11.

The person-centered behavioral inventory ($M = 25.63$, $SD = 12.01$) and the global behavior scale ($M = 72.71$, $SD = 22.35$) were significantly correlated, $r(49) = .75$, $p < .01$, $r^2 = .56$. High scores nursing staff members received for the person-centered behavioral inventory were related to their high scores found using the global behavior scale. The person-centered behavioral inventory and the task-centered behavioral inventory ($M = .39$, $SD = .54$) were negatively correlated $r(49) = -.35$, $p < .05$, $r^2 = .12$. Also, the task-centered behavioral inventory was negatively related to the global behavior scale, $r(49) = -.57$, $p < .01$, $r^2 = .32$. Therefore,

high scores using the person-centered measures were related to low scores using the task-centered behavioral inventory.

Table 11

Intercorrelations between subscales for Aides

Subscale	1	2	3	4
Caregiving Interactions (n=51)				
1. RTC	--	-.04	.20	-.19
2. PCBI		--	-.35**	.75**
3. TCBI			--	-.57**
4. GBS				--

Note: ** correlation is significant at the .01 level (2-tailed)

* correlation is significant at the .05 level (2-tailed)

Nurses' scores for the four subscales did not significantly correlate with one another.

The results of these correlational analyses are presented in Table 12.

Table 12

Intercorrelations between subscales for Nurses

Subscale	1	2	3	4
Caregiving Interactions (n=19)				
1. RTC	--	-.14	-.08	-.28
2. PCBI		--	-.13	.31
3. TCBI			--	-.38
4. GBS				--

Note: Correlations were not significant.

Differences in terms of nursing staff's race were also explored regarding their scores on the resistiveness to care scale, person-centered behavioral inventory, task-centered behavioral inventory, and global behavior scale. The majority of nursing staff indicated that they were Caucasian ($N = 51$) followed by African American ($N = 18$). Based on this information, two variables were created in SPSS with one variable grouping African Americans and the other variable grouping Caucasians. Patterns of subscale correlations were compared for the two race variables. Results of correlational analyses for the Caucasian variable and African American variable are presented in tables 13 and 14, respectively (see Appendix E). A significant negative correlation was found between the person-centered behavioral inventory ($M = 22.04$, $SD = 11.42$) and the task-centered behavioral inventory ($M = .58$, $SD = .58$) for the African American nursing staff members, $r(16) = -.66$, $p < .01$, $r^2 = .44$. However, a significant correlation was not found between the person-centered behavioral inventory ($M = 28.68$, $SD = 10.79$) and the task-centered behavioral inventory ($M = .26$, $SD = .44$) for Caucasian nursing staff members $r(49) = -.13$, ns , $r^2 = .02$. This was the only difference between significant findings for the two race variables.

In summary, partial support for the first hypothesis was found with scores from the global behavior scale marginally predicting resistiveness to care scores with age being the biggest predictor. Strong, consistent support was found regarding concurrent validity for the person-centered behavioral inventory, global behavior scale, and task-centered behavioral scale across varying types of resident behaviors, nursing staff, and tasks.

CHAPTER 4

DISCUSSION

The purpose of this observational study was to examine the relationship between nursing staff members' person-centered behaviors and residents' resistive behaviors. According to the need-driven dementia-compromised theory of behavior, residents exhibit resistive behaviors when their needs are not being met. Therefore, it was hypothesized that when nursing staff engaged in person-centered behaviors they would be more likely to meet the needs of residents and in turn, residents would be less likely to exhibit resistive behaviors. Nursing staff's behaviors were measured using the person-centered behavioral inventory, global behavior scale, and task-centered behavioral inventory. Residents' behaviors were measured using the resistiveness to care scale. There was partial support for the hypothesis stating that the person-centered measures would be significantly and negatively related to the resistiveness to care measure. The global behavior scale was correlated with the resistiveness to care scale and this relationship approached significance. This finding was consistent with Sloane et al. (2004) work, which significantly reduced residents' resistive behaviors by offering residents an alternative to traditional bathing methods. The alternative involved a person-centered approach which used a warm, body length towel, for bathing. This method allowed residents to remain in their beds. Although not significant, the person-centered behavioral inventory was negatively correlated with the resistiveness to care scale. As for the task-centered behavioral inventory, a statistically significant relationship with resistiveness to care was not found, although the correlation coefficient was consistently positive. Support for the second hypothesis stating that the person-centered measures would show high concurrent validity was found. The third

hypothesis stating that the global behavior scale would have internal consistency was also found. In what follows, predictors of resistiveness to care will be discussed. These findings are discussed below along with the, limitations of the study and recommendations for future research.

Behavioral Measurement Outcomes

First hypothesis: Theoretically, it was expected that nursing staff members' scores for the global behavior scale and the person-centered behavioral inventory would be significantly and negatively related to residents' scores for the resistiveness to care scale. There was a marginally significant negative relationship between the global behavior scale and the resistiveness to care scale. Although the person-centered behavioral inventory was negatively correlated with the resistiveness to care scale, the relationship was not significant. These findings could suggest that global judgments of nursing staff's behavior were better predictors of resident's resistive behaviors than identifying specific behaviors, suggesting an important connection between caregiver's emotional tone and residents' behavioral response. One problem with the person-centered behavioral inventory is that it does not take into account differences in caregiving and residents' preferences for care. For example, some residents may not want to talk, and others may wish to at great length. The global behavior scale better captures these differences by allowing the tone of the overall encounter be the salient feature. Several studies have emphasized the importance of nursing staff members' attitudes (McGilton et al., 2003; McGilton et al., 2007; Williams, Kemper, & Hummert, 2003) in reference to residents' perceptions of quality care. For example, McGilton et al. (2007) interviewed residents and found they valued nurse aides who they felt had their best interests at heart and were dependable. Bowers, Fibich, & Jacobson (2001) found, after interviewing residents about their preferences

for care, that many viewed the intentions of the nurse aide as more important than their specific behaviors. For example, one resident described how forgiving she was of a nurse aide's mistake because she knew that the nurse aide meant well. These studies along with the present study, could suggest that nursing staff's emotional tone, way of relating to residents, could be more important than specific behaviors.

Specific behaviors performed by nursing staff did not guarantee that they were actually person-centered. For example, if a nursing staff member didn't express a statement of approval for every 30 seconds of interaction, it did not necessarily mean the staff member was not being person-centered. It just may not have been appropriate to praise a resident at every given moment. However, by offering an empathic statement in the absence of many other person-centered behaviors, the nursing staff member may have been behaving in a person-centered manner. Based on performing a set number of behaviors, the nursing staff member would be given a low person-centered score for the person-centered behavioral inventory, whereas the global behavior scale may have been able to adjust to the context of the interaction and rate the nursing staff member appropriately.

Second Hypothesis: The person-centered behavioral inventory was consistently positively related to the global behavior scale across residents' behaviors and types of tasks. This suggests strong concurrent validity for the person-centered measures. The person-centered behavioral inventory and global behavior scale somewhat consistently related significantly to the task-centered behavioral inventory.

Third Hypothesis: The items for the global behavior scale were significantly related. This suggests strong evidence of internal consistency and is consistent with the previous study (Grosch, Medvene, & Wolcott, 2008).

Emergent Findings: The nursing staff's age was a strong predictor of residents' resistive behaviors. The length of time they spent in their specified role was the second biggest predictor of residents' resistive behaviors followed by the length of time the nursing staff member's tenure at the facility. Therefore, the older the nursing staff member and the longer they had been in the role, the less resistive the resident was to their care. The older the nursing staff member and longer the time spent in their role was positively related to their scores on the global behavior scale. Nursing staff members' age was a greater predictor of residents' resistive behaviors than either tenure or length of time spent in a specified role. If you consider the high turnover rates that exist in long term care, nursing staff could have been in the caregiving field longer than in one specific role or at one facility. This could suggest that the experience nursing staff members gained on the job helped them to better relate to residents. Perhaps what is not being taught to the nursing staff in training, particularly nurse aides, could be learned on the job over time by working with residents. Also, with the negative association found between nursing staff members age and residents resistiveness to care scores, it is possible that older nursing staff members were able to better relate to residents than younger staff. Residents may have been more comfortable receiving care from staff who were older because they felt they shared more in common than with staff who were younger. Older staff members may have been better at relating to residents because they were better able to deal with the continued stress of their work and relate to residents. The life experience gained by older staff may have helped them to do so. Further research would be necessary to better identify key elements associated with staff member's age and how they relate to residents.

Patterns of correlation coefficients for the subscales were similar for the nurses and nurse aides. Non-significant correlations between subscales for the nurses were likely due to their

small sample size. The patterns of correlations for subscales for the Caucasian variable and African American variable were also very similar.

Interpretations of findings were based on correlations between variables. Therefore, causality between variables cannot be implied. For instance, a negative correlation between scores for the person-centered measures and scores for the resistiveness to care scale does not indicate that the nursing staffs' use of person-centered behaviors reduced residents' resistive behaviors. It could be that residents lack of resistive behaviors allowed nursing staff to use person-centered behaviors.

Measurement Limitations and Challenges

Adapting the person-centered behavioral inventory to code unscripted interactions was challenging. As mentioned previously, several behaviors were eliminated (e.g., greetings, closing, appropriate use of information, instrumental touch, and assessing medical condition). The person-centered behavioral inventory and the task-centered behavioral inventory were limited in that there were many occasions when nursing staff appeared to be behaving in a person-centered manner, as recorded by the global scale, but would have low scores on the measures of specific behaviors. This is limiting in that if a nursing staff member did not use every specific behavior for the person-centered behavioral inventory, it would be impossible to score highly on the measure. The task-centered behavioral inventory categories were used infrequently during this study to rate nursing staff members and was not a good predictor of residents' resistive behaviors. This could indicate that extreme task-centered behaviors were unusual for the caregiving interactions scored for this study. Its most likely because the task-centered measure did not capture fully task-centered behavior. Looking back, instrumental touch should have been included in the task-centered behavioral inventory. This could have offered a

better comparison for the person-centered behavioral inventory. The task-centered behavioral inventory may have been a poor predictor due to the limitations of the person-centered behavioral inventory. For instance, just because a nursing staff member scored poorly on the person-centered behavioral inventory didn't necessarily mean they were behaving in a manner consistent with task-centered care. As for the global behavior scale, adjustments regarding the context of interactions were needed. For example, positive affect was used more in terms of appropriateness for the interaction in that smiling and being upbeat wasn't always necessary. Sometimes being more somber and matching the resident's emotional state was more appropriate. The global behavior scale was a better predictor of resident's resistive behaviors than the person-centered behavioral inventory. However, the person-centered behavioral inventory was useful in this study in terms of being able to more fully assess staff members' behaviors. Coding nursing staff's specific behaviors helped coders to focus on the caregiving interaction and gain a fuller appreciation for the overall encounter. Therefore using the person-centered behavioral inventory first helped coders to obtain global behavior scores more easily and maintain consistent inter-rater agreement rates. Another limitation was that residents' resistiveness behaviors were relatively minimal.

Future Research: Implications for Training

Studies in the future could focus on using other measures of residents' behavior. Cohen-Mansfield (2001) has developed and used the Cohen Mansfield Agitation Inventory (CMAI) to code residents' behaviors, such as kicking, screaming, pacing, etc. Coding caregiving interactions for nursing staff and residents' who are experiencing different stages of dementia and correlating the person-centered measures with resistiveness to care may also be of interest.

Further development of the person-centered measures should also be considered. The person-centered measure should be examined to determine other types of behaviors for inclusion or existing ones for exclusion. The task-centered behavioral inventory was not of much use in this study and would likely need much improvement to be considered of use in the future.

Ultimately, based on results of this study, the global behavior scale was much more useful in predicting resident's resistive behaviors than either of the specific behavioral scales. Future work should consider tailoring the global behavior scale more to the context of interactions. For example, when a resident is upset it may not be appropriate for the nursing staff member to refrain from using affirmative statements. Some residents may find those statements comforting, if so, the nursing staff member should not be penalized by a low rating. More development of the measurements in the future should focus on the emotional tone of caregiving interactions and take into account perceptions of both the nursing staff and residents.

These findings could also help to guide future efforts to train nurse aides to use person-centered caregiving skills to care for residents. Training efforts could introduce nurse aides to specific types of person-centered behaviors (e.g., giving choices, showing approval, smiling, etc.), but should also focus on emphasizing the important role of emotional tone. Differences between residents' preferences for care could make it difficult for nurse aides to use a one size fits all approach to caregiving. However, teaching nurse aides basic person-centered skills and giving them examples of how nursing staff members tailor their caregiving approach to individual residents could be beneficial. Perhaps identifying resident behaviors that could indicate their preferences for care could also help nurse aides to learn how to respond to the residents' preferences.

Conclusion

Overall nursing staffs' scores on the global behavior scale marginally predicted residents' scores for the resistiveness to care scale. The person-centered behavioral inventory was negatively correlated with resistiveness to care, but not significantly and the task-centered behavioral inventory was positively correlated with resistiveness to care scale, but not significantly. However, the person-centered measures showed strong concurrent validity across residents' varying behaviors and tasks. The measures also showed good interrater reliability and the global behavior scale had high internal consistency. Given that more older adults will be going to assisted living facilities and various nursing homes in the near future, it is important that researchers find effective ways to increase the quality of life for residents and enhance the skills of nurse aides.

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APPENDICES

APPENDIX A

INSTRUCTION MANUAL FOR THE RESISITIVENESS TO CARE SCALE
(RTC-DAT)

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INSTRUCTIONS FOR THE RESISTIVENESS TO CARE SCALE (RTC-DAT)

What is resistiveness to care?

Resistiveness to care is operationally defined by Mahoney et al. (1999) as behaviors to withstand or oppose the efforts of the caregiver during the provision of care. Thirteen observable behaviors matching this definition range in intensity, frequency, duration and pattern. Behaviors identified as resistive include: clenching the mouth, turning away from the caregiver, pushing/pulling, pushing away from the caregiver, grabbing a person, grabbing an object, screaming/yelling, crying, threatening, hitting/kicking/spitting, saying no, and adducting a body part.

Using the resistiveness to care scale

The purpose of the Resistiveness to Care Scale (RTC-DAT) is to assess the frequency, type, duration and pattern of resistive behaviors in elderly persons. The resistiveness to care scale was developed in a long-term care setting for use with persons with Alzheimer's Disease (AD) and related dementias. Originally, trained research staff used the instrument to evaluate the behaviors of long-term care residents with AD by observing behavior during care activities. Although originally developed for research purposes, the instrument can be used for clinical purposes, such as evaluating the efficacy of different interventions to decrease resistiveness to care in this population. The RTC is an observer's rating tool consisting of 13 resistive behaviors, each rated for duration and intensity.

Instructions for training the rater

1. Memorize definitions of the resistive behaviors. Make sure that you are very familiar with the descriptions of the items that constitute the RTC-DAT. Be able to define the 13 items from memory so that while scoring the behaviors you will be able to concentrate on observing and rating the phenomena by looking at the patient's body language.
2. Any single behavior should be rated only once. For example: A loud "no" screamed by a patient can only be called a high intensity "say no" and not also a "scream/yell".
3. Watch a sample video with the rater and have them call out behaviors as they see them. This gives the trainer an idea of areas that need improvement or clarification.
4. Encourage the rater to ask questions.
5. Compare a sample tape rated by the trainer and the rater to determine areas that need further improvement.
6. Explain how to score the scale.
7. Place a slash in the visual analogue scale to show your personal assessment of the overall degree of resistiveness.
8. Do not make value judgements about the behavior underlying the resistiveness. For example, "S/he didn't mean it" or "S/he does that because . . ." Just code the behaviors as observed.

Scoring the RTC-DAT

The rating scale for resistive behaviors is divided into duration and intensity columns, with the 13 resistive behaviors listed vertically. The score in the duration columns ranges from 0 to 4 for each resistive behavior as follows:

- 0 - does not occur during observation
- 1 - < 16 seconds of behavior noted
- 2 - 16-59 seconds of behavior noted
- 3 - 1-2 minutes of behavior noted
- 4 - > 2 minutes of behavior noted

The intensity ratings are determined through application of the definitions found later. These ratings are from 1 to 3 as follows:

- 1 - mild
- 2 - moderate
- 3 - severe/extreme

Place a check mark in the 0 column if no behavior is noted. Check the appropriate intensity of observed behaviors only. Look at the overall intensity of each behavior if it occurs more than once, and score the highest intensity that occurs. For example, if the patient adducts 6 times during a bath (5 at a low intensity and 1 at a high intensity), it would be rated as a high intensity behavior. For behaviors that are present, place a check mark to indicate the length of time the behavior was present in a 5-minute observation period*. Once a score has been tabulated for the duration of a behavior, it is then multiplied by the intensity score for that behavior. The scores for all of the behaviors are summed for a total resistiveness score between 0 and 156.

* The 5-minute observation was originally established based on use of the RTC-DAT during a range of ADLs, some of which are short (e.g. toileting). If you are using the instrument during longer ADLs (e.g. bathing), a longer observation of 10-minutes is recommended.

Psychometric Properties

In a long term care setting:

Reliability:

Internal consistency: Cronbach's alpha in 2 studies of long-term care dementia patients was .82-. 87.

Inter-rater reliability: kappa in good to excellent range.

Validity:

Criterion-related: Correlation was .76 when using the discomfort scale (DS-DAT) as an outcome of resistiveness to care. (Hurley, Volicer, Hanrahan, Houde & Volicer, 1992)

Construct validity was obtained using principal components factor analysis. A 3-factor solution which accounted for 52.3 % of the total variance was found. However, it is not recommended that the factor scores are used because individual factors did not have satisfactory reliability to be used as subscales. The results empirically verify that the total scale should be used to assess resistiveness and further confirm that it is a unitary concept.

For additional information on reliability and validity, please see:
Mahoney, E. K. et al. (1999). Development and testing of the Resistiveness to Care Scale. Research in Nursing and Health, (22), 27-38.

Citing the RTC-DAT:

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Definitions of resistive behaviors and intensity

Turn away: The patient moves away from the caregiver. Escape, which includes turning of the head by a patient or trying to get out of a chair when the caregiver approaches. Physical contact distinguishes turn away from pull away. In turn away there is no physical contact. The turn away can occur in either direction (either the patient has to go past the caregiver, or turns in the opposite direction of the caregiver). Intensity is based on the speed and force involved in turning away.

Mild-turning head when attempting to give meds (up to 45 degrees from starting point); comes to door of bathroom, turns and walks away, the pace in which the person walks away is similar to the pace in which he/she approached; slightly twists upper body as caregiver approaches with facecloth, facial expression may change slightly or not at all.

Moderate-turns head away (45-90 degrees from midpoint)-rapid turn of head; grimaces when turns away; stops abruptly when reaches bathroom door, turns and walks quickly away-faster pace than when approached door; quickly twists body away from caregiver, facial expression may indicate distress or anger

Extreme-Turns away from caregiver with rapid jerking motion, turns and runs from caregiver, ducks or darts around caregiver, body position tense.

Pull away: Involves direct contact between caregiver and patient. The patient attempts to disengage from the caregiver with any part of the body. Some of the behaviors will be similar to those seen in a turn away but call it pull away if there physical contact between the two when the resistive behavior starts. To distinguish pull away from a push/pull, the use of equal force should be the deciding factor. In the pull away the action of the caregiver is more passive than the action of the patient. Intensity is based on speed and force of the action.

Mild-The caregiver is putting a sweater over the head (has made contact) and the patient pulls back or turns head away. The caregiver takes the person's hand to lead them to the tub and the person pulls hand gently away. The strength behind the movement matches the rest of his or her body movements. While escorting the person to the bathroom the caregiver is holding the person under the elbow, the person pulls elbow away but may continue to walk next to the caregiver or a step or two ahead; resident pulls lower body away as caregivers attempt to perform perineal care.

Moderate-The caregiver is holding the patient's foot, while attempting to put on shoes and the patient quickly pulls foot back away from caregiver. Two caregivers have their hands on the patient's elbows while escorting the patient to

the bathroom the resident pulls arms away from both caregivers--the resident's elbows move forward and then backwards in the attempt to disengage or elbows are pulled away with enough force that the resident's hands cross in front;
Extreme-Caregiver is holding foot to put on socks and the patient rapidly pulls foot away and continues to twist foot and leg to keep out of the reach of the caregiver; the caregiver is holding the person by the hand at hip level the patient pulls arm away-the arm arches back more than 90 degrees (past head); the caregiver is holding the wrist of the resident who then pulls arm away horizontally across his or her own body with enough force to make contact with the opposite side of own body. Clenching fist is another criteria to use when rating the intensity of the pull away.

Push Away: Attempt by the patient to move the caregiver away. May use any body part to push away. Rather than trying to escape from the caregiver as in turn away, the patient is trying to push the caregiver away. The action is aimed at stopping the caregiver's action. Physical contact is not necessary but may be part of the intensity. Again, intensity is based on the speed and force of action.

Mild-Caregiver approaches with facecloth and the patient attempts to push caregiver away with hand but does not actually make physical contact; patient pokes caregiver in chest with fingers; uses tongue to push away medication or food; when the caregiver places arm around patient to lead to the tub, the person pushes caregiver away with shoulder.

Moderate—Patient pushes caregiver away with hand that is fully open and the movement is quick and forceful; When caregiver is trying to put pants on patient, he forcibly moves both legs out to side pushing caregiver away; when caregiver is holding foot and attempting to put shoes on the patient, he extends a leg and pushes caregiver away; patient is seated on the toilet and the caregiver approaches to lift him/her, and the patient bends head and neck then pushes head into caregiver to push away.

Extreme-Patient places elbow against caregiver's body then exerts force to push caregiver away; to distinguish between an extreme push away and a hit—in a hit the movement started before contact was made with the caregiver's body, ~~in push away the patient touched caregiver's body then exerted force to push away.~~
 The patient puts both hands on the caregiver's chest and pushes away, or uses both feet to push caregiver away.

Push/pull: (EFOD- equal force opposite direction) Movement of the patient in a direction opposite that of the caregiver. There is physical contact with this behavior. The factor that distinguishes push/pull from any other behavior is equal force—for example when the patient and the caregiver are holding each other—pull away if the patient exhibits force to pull away (but caregiver is passive), grab person if caregiver is attempting to remove patient's hand and patient is exhibiting greater force to hold on and push/pull if the force of the caregiver and patient are equal. A patient's grunting can assist to clarify the intensity.

Mild-Caregiver is holding the patient's hand and the patient attempts to remove it with equal force; caregivers attempt to walk person to bathroom person with

dementia holds body back and resists moving forward, as caregiver tries to move patient along.

Moderate-Caregiver is attempting to put on a shoe and the patient firmly plants foot on the floor, so caregiver is unable to lift the foot; Caregiver is attempting to instill eye drops and the resident squints and tightly keeps eyes closed; Two caregivers are attempting to assist a patient from the chair and patient is exerting equal force to remain in chair.

Extreme-Person is sitting on side of bed caregiver is attempting to get him/her to stand and person with dementia throws self backwards onto the bed-caregiver is still holding on to the person with equal force.

Grab Object: A grip on an object that is not released on command. The key is the patient does not release the object when it is evident that the caregiver wants him or her to—clarifies the differences between tightly holding on to an object during care and a resistive behavior. Objects may include siderails, bedclothes, clothing, or other items that can be held in the hands. Use time elapsed to help determine intensity, as well as facial expression of the patient.

Mild-grabs cup when caregiver is trying to provide fluids; grabs facecloth as caregiver tries to wash face; grabs arm of chair as caregiver tries to have person stand up. Mild grabs also include attempts to grab an object (even if not actually held)—grabbing at shirt as caregiver attempts to put it on. If the fingers of the hand are moderately or loosely around object it is a mild grab even if he or she holds on to the object for a short time, or the fingers may be clenched on the object but are released quickly.

Moderate-patient grabs object and attempts to keep it out of reach of caregiver (holds facecloth over head or behind back); Uses more than hands to grab object—folds arms across chest to keep object away from caregiver; bends body over to keep caregiver from reaching object

Extreme-Uses both hands to grab object, holds on tightly, moves hands back and forth to keep caregiver from attaining object; grabs stethoscope from caregiver's neck forcibly pulling caregiver forward. Holding onto an object for a prolonged period of time.

Grab Person: A grip on a caregiver that is not released on command. Grabbing a person includes holding onto the caregiver's clothing, or attempting to grab the caregiver but not physically holding on. Patting the caregivers arm or poking the caregiver to get attention is not grab person. Holding onto caregiver who is assisting with ambulation is not grab person. The key is that the caregiver's intention is for the patient to release the grip. Intensity is measured by the length of time of the grab and number of times that the caregiver attempts to disengage from the patient.

Mild- Patient reaches out and holds onto to caregiver as he/she tries to sit patient into chair; grabs caregiver's wrist as he/she tries to wash body for short period of time.

Moderate- Grabs front of caregiver's uniform and twists clothing around fist; grabs any part of caregiver's body and twists; grabs caregiver's arm and jerks back and forth.

Extreme-Grabs caregiver around throat; grabs caregiver, pushes and holds against wall; grabs caregiver's hair and pulls it; grabs caregiver's arm with both hands-twists arm in opposite directions.

Adduct: Holding the arm or legs tight against the body. This includes movements that prevent access to the axilla or groin when washing.

Mild-Patient holds arms tightly against body as caregiver tries to wash underarms, or legs tightly together as caregiver tries to wash perineum. Patient pulls arms in when caregiver attempts to take off a shirt.

Moderate—Patient crosses arms and legs and holds in adducted position with feet and hands separated more forcefully.

Extreme—Patient crosses arms or legs or both; arms or legs locked around each other in more extreme attempt to maintain adduction-scissored position.

Hit/Kick: Actions of the extremities that are directed outward toward caregiver. Actual physical contact is made which distinguishes this from push away. Intensity is measured by force of contact and facial expressions of patient.

Mild-Slaps with open palm, strikes with back of hand with motion that initiates from wrist or elbow; Uses washcloth to slap caregiver.

Moderate—Patient uses both hands open palms to hit; kicks foot out with force of body

Extreme--Pulls arms backwards beyond midpoint of body and slaps with motion starting at the shoulder; hits with closed fist; uses more than two extremities to strike at caregiver; uses repeated flailing movements of arms or legs to hit or kick caregiver.

Say No: Verbalization of the words "no", "I don't want to", "don't do that", "stop", "go away", or "leave me alone", or nonverbal shaking of the head back and forth where the connotation is one of refusal. Holding the hand up in front of the mouth when caregiver is attempting to give pills. Whatever words are used, the connotation is one of refusal. Intensity is measured by tone of voice, affect, and gestures, as well as words used.

Mild-Uses word "no, stop, don't, get away, go away, don't do that, let me alone" or any word denoting no but tone is normal or moderate; puts hand up nonverbal symbol for stop; raises finger and waves in front of caregiver's face. Says please when using no.

Moderate—Tone is raised, angry or loud still using forms of no; uses body language such as hand up in addition repeatedly stating no; jaw clenched, hands in fists at side while saying no; glares at caregiver while saying no; growls at caregiver when saying no.

Extreme-Screams some form of no—what distinguishes a high intensity "say no" from "scream/yell" is the presence of some connotation of the word "no"; teeth bared while saying no.

Cry: Tears or weeping which seems to indicate sadness or distress. There do not have to be actual tears. The voice becomes high pitched as if crying. Intensity is measured by the loudness of the crying, and the amount of bodily motion associated with the crying.

Mild- whimpers; a few silent tears fall down face; soft sounds of weeping without tears

Moderate- tears continually fall; tears are accompanied by sounds of weeping; hands covering eyes while crying

Extreme-sobbing; body bends over—clutches and holds on to self or caregiver while crying, crying loudly/wailing in a loud tone of voice.

Threaten: Words or motions that signal a belligerent or menacing theme. If the threat occurs with physical action (i.e. hands on throat, pulls hair) it is a high intensity grab person rather than a threat.

Mild-Threat is spoken in normal or low tone—the words used are coded as a threat not the tone or inflection; fist raised but held close to patient's body. Examples include "I'm going to get you" or "don't you dare".

Moderate-inflection is harsh and tone loud; threat accompanied by eye contact with caregiver; fist raised, shaken at caregiver or moves close to caregiver's face; the person provides detail in the threat "I am going to hit you then have you arrested".

Extreme-Patient leans body close to caregiver, makes intense eye contact and delivers verbal threat; raised fist very close to caregiver's face; threat is delivered in a loud tone of voice.

Scream/yell: A high pitched or loud noise. There is a change in the tone of the vocalization from the patient's normal vocal response.

Mild – Voice is raised louder than normal, no words are distinguishable; yell is short in duration; yell cannot be heard by anyone more than 20-feet away.

Moderate-Yell is loud, harsh and can be heard outside of room.

Extreme -Yell is very loud heard 100 feet away, head may be thrown back during yell; scream builds to crescendo, tapers off and escalates again.

Clench Mouth: The patient closes the teeth or jaw in a manner that interferes with inserting a toothbrush or eating utensil. Patient does not open mouth when asked to do so.

Mild-closes lips when caregivers attempt to give food or meds

Moderate-clenches teeth

Extreme-clenches teeth with lips closed and facial muscles tensed

References

Hurley, A. C., Volicer, B. J., Hanrahan, P.A., Houde, S. & Volicer, L. (1992). Assessment of discomfort in advanced Alzheimer patients. Research in Nursing and Health, 15, 369-377.

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Mahoney, E.K., Hurley, A.C., & Volicer, L. (2000). Management of Challenging Behaviors in Dementia. Baltimore, MD: Health Professions Press.

Resistiveness to Care Scale

Directions: Rate the duration and intensity of each behavior based on a 5 minute observation, while care is being provided. Do not leave any item blank.

Participant Number _____

Observer: _____

Date: _____ Observation B1 B2 P1 P2 F1 F2
Introductory Observation _____ Water Observation _____

RESISTIVE BEHAVIORS

Frequency	Behavior	Duration					Intensity			
		None	<16s	16-59s	1-2m	>2m	mild	mod	ext	
		0	1	2	3	4	1	2	3	
	Turn away									RTC1
	Pull away									RTC2
	Push away									RTC3
	Push/pull									RTC4
	Grab object									RTC5
	Grab person									RTC6
	Adduct									RTC7
	Hit/kick									RTC8
	Say no									RTC9
	Cry									RTC10
	Threaten									RTC11
	Scream/yell									RTC12
	Clench mouth									RTC13

Place a vertical slash along the line, between the anchors 'none' and 'extreme', to show your personal assessment of the overall degree of resistiveness.

None

Extreme

Additional Observations/Comments:

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Resistiveness to Care Scale – Abridged directions

Resistiveness to care is operationally defined by Mahoney et al. (1999) as behaviors to withstand or oppose the efforts of the caregiver during the provision of care.

- Any single behavior should be rated only once. For example, a loud “no” screamed by a person can only be rated as a high intensity “say no” and not also a “scream/yell”.
- Rate the intensity according to the most intense behavior observed. The most extreme behavior supercedes, therefore if there are several incidents of “say no” at an intensity level of 1 and one episode at a level 3, the intensity score for that behavior should be recorded as 3.
- Refrain from making value judgments; just record the behavior as observed. For example, “she didn’t mean it...” or “he did that because...” should not influence the scoring.

Turn Away: Person moves away from the caregiver; escape. This may include turning of the head, walking away (forward or backward), moving of the body or limbs away from the caregiver where there is not physical contact.

Pull Away: Attempt by the person to disengage from the caregiver with legs, arms, upper body or head. Person must have physical contact for “pull away”.

Clarification: If a caregiver is attempting to brush someone’s teeth and the caregiver is holding that person’s head and the person pulls his or her head back, that is pull away. If there is no contact and the caregiver approaches the person with the toothbrush and the person pulls his or her head back, that is turn away.

Push Away: Attempt by the person to move the caregiver away; behavior is directed toward the caregiver. Person usually pushes away with hand or arm. Physical contact is not necessary, but may be part of the intensity.

Push/Pull: EFOD (equal force opposite direction)- movement by the person in a direction opposite to that of the caregiver. For example, the person presses his or her foot to the floor while the caregiver is attempting to lift the foot to wash it, pressing the arms down while the caregiver tries to lift them to wash the upper body. Intensity is measured by the force required by the caregiver to go against the action of the person.

Grab Object: A grip, which is obstructing care, that is not released on command. Objects may include rails, towels, clothing, or other items that can be held in the hands.

Grab Person: A grip onto the caregiver that is not released on command. Grabbing is done with the palm of the hand, and may include the caregiver's clothing.

Adduct: The person holds his or her arms tight in against the body, including voluntary movements which prevent access to the axilla or groin.

Hit/ Kick: Actions of the extremities that are directed outwardly. Actual physical contact is made, which distinguishes it from "push away".

Say No: Verbalization of the words "no", "don't", "stop", "I don't want to". Also, non-verbal shaking of the head back and forth, or holding up the hand as if to say stop. Other examples include "I'm not coming", or putting hand in front of mouth when caregiver advances toward person with toothbrush.

Cry: Tears, weeping, crying which seems to indicate sadness or distress. There do not have to be actual tears.

Threaten: Words or motions that signal a belligerent or menacing theme. Intense eye contact and a menacing tone of voice indicate threatening behavior even if the words are undistinguishable.

Scream/Yell: A high pitched or loud noise, hollering in which words are not distinguishable. There is a change in the quality of tone from the person's normal vocal response.

Clench Mouth: Person closes teeth or jaw in a manner that interferes with inserting a toothbrush or eating utensil, for example. Person does not open mouth when requested to do so.

APPENDIX B

Person-Centered Behavioral Inventory

A checklist of Certified Nurse Aide behaviors during caregiving interactions with residents in long-term care facilities. This includes 11 verbal items and 8 non-verbal items to be checked off for occurrence during 30 second intervals throughout a caregiving interaction. The number of items checked off for that given time period will be divided by the total number of units to ascertain the proportion of person-centered caregiving behaviors performed.

Verbal Behaviors

Shows approval: Showing the other gratitude or appreciation (e.g., “I really appreciate what you’re doing” “I don’t know how I’d manage without you”). Any expression of approval, praising, rewarding or showing respect or admiration directed to the other. (e.g. “Please,” “Thank-you”, “You’re welcome,” “You’ve been trying very hard”, “That’s a good idea”). This category also includes giving compliments (e.g. “That’s fine,” “Good,” “You’re looking good today,” “That was terrific”; “I like your shirt”).

Back-Channel Responses: Indicators of sustained interest, attentive listening or encouragement emitted by the nurse aide when he or she does not hold the speaking floor (e.g. “Mmm-huh”, “Yeah”, “Right”, “Is that right”). These responses are differentiated from others in that they do not serve to “take the floor” from the speaker. They are usually the almost inaudible “under-talk” that encourages the speaker to continue talking or signifying the listeners continued interest in what the resident is saying. This also includes statements that acknowledge that the resident said something, for example, “okay.” This could serve as a way to encourage the resident to continue speaking.

Empathy: Statements that paraphrase, interpret, name or recognize the emotional state of the other person present during the visit, however the statements do not try to fix or change it. (e.g. “This is distressing for you, I understand,” “The pain must be very upsetting for you,” “You seem to be a little bit tense,” “You must be worried” or “I understand how you must be feeling,” “It’s not just you, everyone is a little slow today,” or “I know, it’s okay”).

Asks Permission: Before the nurse aide begins a task or makes orientation statements about the task, he or she first asks the resident for permission. Examples, “Are you finished?” This statement was made in reference to whether or not the nurse aide should take the resident’s food plate away.

Orientation: Orientation statements tell the other person what is about to happen during task. These statements guide the resident in terms of what to expect

and help the resident cooperate with the nurse aide.

Giving Choices: Questions that ask for the patient’s opinion, point of view or perspective relating to a caregiving task. Includes questions that invite the resident’s judgment, or asks for the resident’s preferences (e.g., “Would you like your shoes on or off?”, “Does this look good?”, or “Do you want to lay down in your room?”). This could also include verbal prompts that are aimed at sharing control with the resident (e.g., “Pull ‘em up?” The nurse aide asks the resident if he would like to pull his pants up.)

Assessing Comfort: The nurse aide asks the resident if he is comfortable and takes steps to make the resident more comfortable (e.g. the nurse aide notices asks the resident if his glasses are comfortably positioned, if his shoes are tied too tightly, or notices that the resident’s pants are not pulled up all the way and pulls them up for the resident). This does not include instrumental tasks such as moving a walker closer to the resident or helping them out of bed. These behaviors are required in order to ensure the resident’s safety therefore should not be included in this category.

Assessing Medical Condition: Verbal statements the nurse aide makes that are aimed at assessing the condition of the resident. (e.g. “How are you feeling today?”, “Does your stomach hurt?”, “Is your leg hurting?”).

Show’s Interest: Friendly conversation that conveys an interest in the resident, (e.g. “Did you have a good nap?”)

Cooperatively Negotiating: The nurse aide works to complete a task (e.g. brushing teeth) and allows the resident some control by reasoning with the resident and allowing the resident to talk about his/her perspective. With state laws that require certain tasks be completed so often and with little flexibility, the nurse aide is often placed in a situation where she/he must complete the task even if the resident prefers not to. However, if the nurse takes steps to reason and share control of the task with the resident, the nurse aide is working to cooperatively to negotiate the task with the resident. To be coded as *cooperative negotiating*, there must be a conflict between the resident and the nurse aide regarding the task. If the nurse aide shares control with the resident without their being a conflict present, then it should be coded as *giving choices*. For example, during a dressing task, the resident tells the nurse aide she would like something different from the task at hand and the nurse aide says, “Let’s wait,” or “Let’s put your pants on first.”

Non-verbal Behaviors

Resident Directed Eye Gaze: Involves the nurse aide making direct eye-contact with the resident. This could involve kneeling down in order to be eye level with the resident.

Affirmative nodding: Nurse aide nods head as a sign of approval, encouragement, or

interest in the resident. If the resident begins to nod his head first, then the CNA student nods, this should be coded as affirmative nodding.

Appropriate use of Affective Touch: This is touch that is not necessary for the completion of a task (e.g. a pat on the back, a hug, or a smile). Appropriate touch should be received well by the resident. For example, if the nurse aide rubs the resident's back and the resident grimaces or tells the nurse aide to stop, and the nurse aide continues, this is not appropriate affective touch.

Assessing Comfort: The nurse aide notices that a resident is experiencing discomfort and without verbally telling the resident, takes steps to make the resident more comfortable (e.g. the nurse aide notices that the resident's shirt is bunched up, so will straighten up the shirt, or the resident's glasses are smudged so the nurse aide cleans them, or adjusts shirtsleeve).

Voice Quality: The nurse aide speaks in a calm voice that is audible and respectful of the resident.

Adjusting to the Resident's Pace: The nurse aide adjusts to the resident's pace physically and verbally during the caregiving interaction rather than hurrying the resident along. This is different from assessing comfort (nonverbal), for example, if a nurse aide notices that the resident is uncomfortable or in pain, then slows down the pace, this should be coded as *Adjusting to the Resident's Pace*.

Proximity: The nurse aide understands and respects the residents needs related to proximity (e.g., The nurse aide helps the resident to feel secure by being close to the resident or understands the resident's need for distance).

Positive Gestures/Facial Expressions: The nurse aide uses positive gestures (e.g. waving, or blowing a kiss) and facial expressions (e.g. smiles). This category could also include laughter.

Person-Centered Behavioral Inventory

Verbal Behavioral Checklist	Time 1 0-:30	Time 2 :30-1:00	Time 3 1-1:30	Time 4 1:30-2	Time 5 2-2:30	Time 6 2:30-3	Time 7 3-3:30	Time 8 3:30-4	Time 9 4-4:30	Time 10 4:30-5
Shows Approval										
Back-Channel Responses										
Empathy										
Asks Permission										
Orientation										
Giving Choices										
Assessing Comfort										
Assessing Medical Condition										
Show's Interest										
Cooperative Negotiating										
Cooperative Overlapping										
Total										

Verbal Total

Nonverbal Behavioral Checklist	0-:30	:30-1:00	1-1:30	1:30-2	2-2:30	2:30-3	3-3:30	3:30-4	4-4:30	4:30-5
Resident Directed Eyegaze										
Affirmative Nodding										
Appropriate use of Affective Touch										
Assessing Comfort										
Voice Quality										
Adjusting to the Resident's Pace										
Proximity										
Positive Gestures/Expressions										
Total										

NV Total
 Combined V/NV
 Total Units

% PCC

APPENDIX C

Task-Centered Behavioral Inventory

This is a checklist of specific behaviors that focus solely on the task rather than the person during a caregiving interaction . *This measure includes two verbal items and two non-verbal items to be checked off for occurrence during 30-second intervals and scored in the same way as the Person-Centered Behavioral Inventory.*

Verbal Behaviors

Verbally Controlling: The nurse aide makes statements that can be considered dominating or controlling (e.g. with a raised voice, “come here now, go sit down.”) This could also include bossy remarks towards the resident.

Interrupting/Changing topic: The nurse aide appears to ignore statements made by the resident by responding with an unrelated statement or question (e.g. “I haven’t been able to sleep lately”, and nurse aide responds, “I see, okay, we need to get you to the toilet”). This could take place by interrupting the resident mid sentence and changing the topic.

Non-verbal Behaviors

Ignores: The nurse aide ignores a request or question offered by the resident. This could also include statements the resident makes and the nurse aide does not acknowledge (e.g. resident asks if she can return to her room and the nurse aide does not respond). This does not include statements the nurse aide makes to other residents or staff that don’t include the resident of focus for the task. However, if the resident makes a statement or request that the nurse aide does not respond to doesn’t acknowledge, this would be coded as ignoring.

Physically Controlling: The nurse aide physically forces the resident to do something (e.g. pulls resident into bathroom for bathing).

Task-Centered Behavioral Inventory

Verbal Behavioral Checklist

Verbally Controlling
Interrupting/Change Topic
Total

	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7	Time 8	Time 9	Time 10
	0-0:30	0:30-1	1-1:30	1:30-2	2-2:30	2:30-3	3-3:30	3:30-4	4-4:30	4:30-5
Verbally Controlling										
Interrupting/Change Topic										
Total										

Verbal Total

Non-Verbal Behavioral Checklist

Ignores
Physically Controlling

	0-0:30	0:30-1	1-1:30	1:30-2	2-2:30	2:30-3	3-3:30	3:30-4	4-4:30	4:30-5
Ignores										
Physically Controlling										
Total										

NV Total
 Combined V/NV
 Total Units
 % TCC

APPENDIX D

Global behavior scale

This is a seven point semantic differential measure intended to capture overall person-centered caregiving. Scores for each of the 11 subscales will be added and divided by the total number of points possible for the GBS (total=77) to determine the proportion of time each nurse aide engages in person-centered caregiving.

Treating like a person-respecting personhood versus Treating in stereotyped way

The nurse treats the resident as an individual with his or her own unique personality, needs, and expectations. The nurse aide is non-judgmental and open-minded. To preserve personhood, the nurse aide takes steps to strengthen the resident's sense of self. This is in contrast to treating the resident like an object. This could include behavioral incidents of treating the resident in a stereotypical manner such as being frail or incompetent.

Treating as worthy of a relationship versus Indifferent to bond or connection

The nurse aide spends time with time with the resident and learns about the resident. This could include being friendly during task as well as engaging the resident about things unrelated to the task. This is in contrast to statements or behaviors exhibited by the nurse aide that don't strive to validate the resident's feelings. Being indifferent to a connection or bond could also involve excluding the resident from conversations or withholding asked-for attention by the resident.

Respecting Dignity versus Not Respecting Dignity

The nurse aide recognizes that the resident is in a vulnerable state at which he or she must accept help to complete the daily task of living that was once possible to complete on his or her own. Specific behaviors could include covering up the exposed resident during a task such as toileting or bathing as much as possible and keeping doors or curtains closed. This is in contrast to ignoring the resident's need for privacy and respect.

Put person before the task versus Put the task before the person

The nurse aide places the needs of the resident above the requirements of the task, such as placing less emphasis on time restrictions. Additionally, the nurse aide attempts to consider the perspective of the resident, including their experience during the task. This is in contrast to rushing through the task regardless of the resident's feelings or comfort.

Providing positive social environment versus Not providing positive social environment

The nurse aide makes statements that are upbeat and promote a positive environment. This could involve joking and laughing **with** the resident or creating a calming environment for the resident. This is in contrast to being negative or detached from the resident. For example, it's possible that during a bathing task a resident could become upset due to over

stimulation. To help prevent this from occurring, the nurse aide could create a calm environment by offering reassuring statements, providing eye contact, or smiling.

Working Cooperatively versus Working in a directive manner

Interactions reflect an interdependent relationship between the nurse aide and the resident. In other words, the resident is viewed as a team member with whom the nurse aide shares control of the task. This is in contrast to barking orders at the resident, such as “come here, sit down, comb you hair!”

Affirming versus Over nurturing

The nurse aide communicates messages that are appropriately directive, familiar, respectful, and acknowledging of the resident’s competence. This is opposed to directive messages, which are interpreted as overly sympathetic, superficially respectful, and inappropriately intimate.

Tolerates frustration versus intolerant

The nurse aide does not appear to be irritated or angered by set backs that occur during the caregiving interaction. Instead, the nurse aide is patient, calm, and accepts that tasks are not always completed smoothly. This is contrast to being impatient, annoyed or making statements that mock the resident.

Takes likes and dislikes into account versus ignores likes and dislikes

Learns what the resident likes and dislikes then will use this information to care for the resident. For example, giving the resident choices can help the nurse aide to learn more about the resident and at the same time help the resident to feel valued and respected. This is opposed to making decisions for the resident or ignoring their requests.

Responsive to spontaneous needs versus unresponsive to spontaneous needs

The nurse aide is attentive to the resident’s physical and emotional needs that arise during the caregiving interaction. This could also include tolerating the resident’s expression of emotion even if it is disturbing or if the resident spontaneously begins to hum or sing, this is acknowledged and accepted into the interaction.

Positive affect versus Negative affect

The nurse aide expresses observable affection for the resident through positive facial expressions and other emotional signs (e.g. smiling, laughter, showing affection through eye-contact), rather than expressing negative emotions (e.g. disgust, rolling eyes, sighing). The nurse aide’s emotions appear to be sincere as opposed to being superficial.

Global Behavioral Scale

Treating in Stereotyped Way	1	2	3	4	5	6	7	Treating like a person-respecting Personhood
Indifferent to Connection or Bond	1	2	3	4	5	6	7	Treating Like Worthy of Relationship
Not Respecting Dignity	1	2	3	4	5	6	7	Respecting Dignity
Put Task Before the Person	1	2	3	4	5	6	7	Put Person Before the Task
Not Providing Positive Social Environment	1	2	3	4	5	6	7	Providing Positive Social Environment
Working in Directive Manner	1	2	3	4	5	6	7	Working cooperatively
Over Nurturing	1	2	3	4	5	6	7	Affirming
Intolerant	1	2	3	4	5	6	7	Tolerates Frustration
Ignore Likes and dislikes	1	2	3	4	5	6	7	Takes Likes and Dislikes Into Account
Unresponsive to Spontaneous Needs	1	2	3	4	5	6	7	Responsive to Spontaneous Needs
Negative Affect	1	2	3	4	5	6	7	Positive Affect

Total % PCC

Total Possible 77

APPENDIX E

Table 13

Intercorrelations between subscales for Caucasians

Subscale	1	2	3	4
Caregiving Interactions (n=51)				
1. RTC	--	-.14	.15	-.21
2. PCBI		--	-.13	.69**
3. TCBI			--	-.39**
4. GBS				--

** correlation is significant at the .01 level (2-tailed)

* correlation is significant at the .05 level (2-tailed)

Table 14

Intercorrelations between subscales for African Americans

Subscale	1	2	3	4
Caregiving Interactions (n=18)				
1. RTC	--	.06	.19	-.18
2. PCBI		--	-.66**	.69**
3. TCBI			--	-.79**
4. GBS				--

** correlation is significant at the .01 level (2-tailed)

* correlation is significant at the .05 level (2-tailed)