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Measuring the Person-Centeredness of Caregivers Working With Nursing Home Residents With Dementia

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Abstract

There is increasing interest in promoting person-centered caregiving within gerontology. However, few observational instruments have been developed to measure person-centered caregiving behaviors. In the present study, two innovative coding instruments—the Person-Centered Behavior Inventory (PCBI) and the Global Behavior Scale (GBS)—were used to test the hypothesis that caregivers' person-centeredness would be negatively correlated with residents' resistiveness to care. The study hypothesis was based on the need-driven dementia-compromised theory of behavior. It was expected that person-centered caregiving would better meet residents' needs and be associated with less resistiveness to care. This hypothesis was tested by coding 70 videotaped interactions between 54 caregivers and 20 residents diagnosed with dementia. Resistiveness to care was measured by behaviorally coding residents' resistive behaviors based on the Resistiveness to Care scale. The study hypothesis was supported when the GBS was used to measure person-centeredness, but not when the PCBI was used. The findings provide preliminary support for the predictive and construct validity of the GBS and the PCBI.

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 the year 2030 (Centers for Disease Control, 2008). Projections also indicate that a greater number of older adults will be in need of long-term care. A high portion of those in need of care will be 85 years of age or older. The number of people in this category of the "old-old" is expected to double to 8.9 million by 2020; approximately half of this group is expected to experience some form of dementia (National Institute of Aging, 2007). Although most long-term care is provided in home or in community settings, a large number of the elderly live in nursing homes (Health Resources and Services Administration, 2004). In 2004 it was estimated that 1.3 million older adults were living in nursing homes, a slight decrease from 1999 (Jones, 2002; Jones, Dwyer, Bercovitz, & Strahan, 2009). Given that 51% of older adults living in nursing homes were 85 years of age or older in 2004 (Jones et al.), it is likely that currently at least half-a-million nursing home residents suffer from some form of dementia.

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One of the challenges of caring for persons with dementia is the occurrence of disruptive or problematic behaviors, many of which are labeled as “resistiveness to care.” These include behaviors such as agitation, aggression, vocal outbursts, wandering, and withdrawal. It is estimated that these behaviors occur in at least 75% of persons with dementia at some point in the disease and usually become more severe over time (Talerico, Evans, & Strumpf, 2002). Problem behaviors commonly are the reason a family member with dementia is placed in a nursing home. In long-term care settings, resistive behaviors contribute to staff burnout and turnover and increase the cost of care by an estimated 30% (Beeri, Werner, Davidson, & Noy, 2002). Past theory and research about caring for people diagnosed with dementia suggests that “person-centered” caregiving would be expected to reduce resistiveness to care (Rader et al., 2006; Sloane et al., 2004). The present study is based on the assumption that “person-centered” caregiving is desirable for people with dementia and, using two innovative observational measures developed by the authors, tests the hypothesis that person-centered caregiving is associated with a reduction in resistiveness to care. This study was also conducted to obtain psychometric information and to make improvements in the observational measures.

Person-Centered Caregiving

Ideas about person-centered caregiving have been discussed by several authors within the gerontology literature. In the United Kingdom and elsewhere, Kitwood’s work with residents with dementia has been influential (Kitwood, 1997). Kitwood’s research places an emphasis on the belief that older adults should be treated as social beings worthy of relationship. Within each human being, regardless of cognitive impairments, is the desire to be respected and connected with others. Elaborating on Kitwood’s work, McCormack (2004) identified four concepts that are essential to person-centered caregiving in gerontology: (a) being in relation, which refers to the importance of promoting the resident’s relationships, especially with caregivers; (b) being in a social world, which refers to the importance of recognizing and affirming the resident’s “goals in life,” which are often embodied in her/his life history; (c) being in place, which refers to the context of caregiving, including organizational aspects; and (d) being with self, which refers to the importance of recognizing the resident’s values. These concepts call attention to the importance of the quality of resident-caregiver relationships and of communication, which refers to the resident’s personal life, history, and values.

Kitwood and colleagues developed Dementia Care Mapping (Thornton, Hatton, & Tatham, 2004) as an observational method for guiding clinical work. The DCM instrument is used to evaluate the quality of care received by residents with dementia and is also being used as a quality-of-care outcome measure in intervention studies. The DCM technique includes two coding systems that trained observers complete: (a) a Behavioral Category Code (BCC), identifying caregiving activities with high potential for well-being (Type I) or low potential for well-being (Type II); and (b) a Well/Ill Being (WIB) score, describing the affective state experienced by the person with dementia. Dementia care mappers differentiate between high potential for well-being events and low potential for well-being events by observing the resident’s body language and facial expressions. For example, during a food event, if a resident exhibits positive facial expressions and body language (e.g., smiling and actively eating), a +5 rating could be assigned. Conversely, if the resident exhibits negative facial expressions or body language (e.g., grimacing and turning away) a –5 rating could be assigned (Mansah, Coulon, & Brown, 2008). Some researchers believe that WIB scores may come closer to viewing quality of life from the perspective of the person with dementia than many other available measures (Sloane et al., 2007). However, the DCM technique has some limitations. It has been used exclusively with dementia residents and generally requires a five to six hour period of observation with multiple residents. Although Kitwood reported

good reliability—85% for mappers rating up to five residents—researchers have noted some limitations in the method’s generalizability and validity (Beavis, Simpson & Graham, 2002; Sloane et al., 2007; Thornton et al., 2004).

Recent changes within gerontology in the United States have also informed person-centered caregiving practices. Significant improvements have occurred in the quality of long-term care (LTC) over the last two decades, stirred by factors such as the quality improvement reforms in the Omnibus Budget Reconciliation Act (OBRA) of 1987 and “culture change” efforts to reshape the philosophy of LTC (McCormack, 2004). The current “culture change” movement is intended to move the field away from institutional provider-driven models to more humane consumer-driven models that embrace flexibility and self-determination (www.pioneernetwork.net/aboutus). The new paradigm seeks to provide care within the context of cooperative, interdependent relationships based on caregivers’ knowledge of the residents’ personality, as well as their personal history and values.

Need-Driven Dementia-Compromised Behavior Model

The need-driven dementia-compromised behavior model provides a theoretical rationale for why person-centered caregiving would benefit residents with dementia. 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. Symptoms experienced by older adults with dementia could be mild (e.g., memory loss, confusion), intermediate (e.g., difficulties with activities of daily living), or severe (e.g., loss of speech). On average, older adults live 8 to 10 years after diagnosis; however, some live up to 20 years, with a gradual progression of symptoms (Penrod & Yu, 2007).

Behaviors associated with Alzheimer’s disease include aggression, agitation, withdrawal, and resistiveness to care. Approximately 75% to 90% of individuals with Alzheimer’s disease exhibit some form of these behaviors (Volicer & Hurley, 2003). Resistiveness to care and agitation are two separate behaviors. Agitation is defined as behaviors associated with dementia that are not the result of caregivers’ actions and is unrelated to any known physical need of the resident. Resistive behaviors are viewed as residents’ resistance to unwanted care. This resistance can often be combative, leading caregivers to label the resident as “aggressive.” However, these behaviors may actually be the residents’ attempt to fend off caregivers, if they perceive the caregivers’ behavior as intrusive or unwanted (Volicer & Hurley).

The need-driven dementia-compromised behavior model (Algase et al., 1996) views resistive behaviors—e.g., aggressive behaviors, withdrawal, crying or screaming—as a response to unmet needs. These problem behaviors are often the result of interactions between the characteristics of an individual and their environment. Individual characteristics tend to be rigid or relatively stable whereas environmental factors tend to change frequently. By manipulating environmental factors, it may be possible to better meet residents’ needs and reduce their resistive behaviors. For example, studies have shown that residents engage in wandering more when they are unfamiliar with their environment or overstimulated (Cohen-Mansfield & Werner, 1997; Kolonowski, Richards, & Sullivan, 2002).

Caregivers’ Communication Skills and Person-Centered Caregiving

Caregivers’ communication skills are an aspect of residents’ social environment that can be changed (Burgio et al., 2001). Kitwood’s (1997) emphasis on “personhood” and Algase et al.’s (1996) need-driven dementia-compromised behavior model suggest that caregivers who

communicate in “person-centered” ways would be expected to better meet residents’ needs and reduce residents’ resistiveness to care. Yet, as White and others (White, Newton-Curtin, & Lyons, 2008) have noted, a cohesive definition of “person-centered caregiving” has yet to emerge. Apparently, distinctive terms are used interchangeably: person-centered planning, person- or resident-centered care, and individualized care. In an effort to develop instruments that measure the relationship-based aspects of person-centered caregiving, the authors reviewed several literatures on caregiver/patient interactions and carried out preliminary studies.

There is a small but growing gerontology literature that has focused on communication in nurse aide–resident interactions. In an observational study, Carpaic-Claver et al. (2007) distinguished several categories of affective communication, including: (a) “personal conversation,” which involved conversation about the resident’s personal life; (b) “checking in,” which involved asking the resident about their comfort or their eating preferences; and (c) “providing emotional support and praise.” Several intervention studies have demonstrated that it is possible to increase the amount of social conversation and positive statements made by nurse aides to residents (Burgio et al., 2001; McGilton et al., 2003; Williams, 2006; Williams, Ilten, & Bower, 2005). Additionally, Sloane et al. (2004) demonstrated that giving residents choices around bathing and soliciting their cooperation and feedback decreased their resistiveness to care significantly (i.e., less biting, kicking, shouting and turning away). Additionally, Williams demonstrated that elderspeak, a form of speech that is infantilizing and may be threatening to positive self-concept and personhood, is associated with resistiveness to care (Williams, Herman, Gajweski & Wilson, 2008). Williams has also demonstrated that communication training can reduce elderspeak (Williams, Kemper, & Hummert, 2003).

The authors drew on these literatures in an exploratory qualitative study in which they developed a set of categories to code socially skilled nurse aides’ descriptions of their caregiving interactions with residents (Medvene & Lann-Wolcott, 2010). The novel finding was that all of the aides used a communication strategy that could be characterized as “giving positive regard,” defined as acknowledging the resident and treating the resident with respect (Rogers, 1961). In a second study the authors developed two observational instruments to operationalize and measure the person-centeredness of caregivers’ behaviors. These two instruments were the Person Centered Behavior Inventory (PCBI), which is a behavioral measure, and the Global Behavior Scale (GBS), which is a global rating scale (Grosch, Medvene, & Wolcott, 2008).

The Present Study

The primary research hypothesis of the present study is that by engaging in person-centered communication, caregivers will be more likely to satisfy residents’ needs for personhood and that there will be a negative correlation between caregivers’ person-centeredness and residents’ resistiveness to care. The present study involved secondary analysis of an existing data set comprised of video-recorded caregiving interactions between caregivers and nursing home residents with dementia. In a previous study, Williams et al. (2008) behaviorally coded residents’ resistiveness to care based on the Resistiveness to Care scale (RTC). In the present study, a different and independent set of researchers coded the person-centeredness of caregivers’ behaviors using the PCBI and the GBS (Grosch, Medvene & Wolcott, 2008). Caregivers’ scores on the PCBI and the GBS, as assessed in the present study, were correlated with the proportion of time residents were resisting care as measured by behavioral coding based on the RTC scale (Mahoney et al., 1999).

In summary, the goal of this study was to assess, in a preliminary way, the predictive and construct validity of the GBS and PCBI. Based on the need-driven dementia-compromised theory of behavior, it was expected that the PCBI and the GBS would be negatively correlated with residents' resistive behaviors: the more person-centered the caregivers' behaviors, the less resistive residents were expected to be. The PCBI and GBS were also expected to have high interrater reliability, and the GBS was expected to have high internal consistency.

Methods

This study used a correlational design to test the predictive validity of two behavioral measures of person-centered caregiving. The data set from which materials for the present study were drawn consisted of 80 videotaped interactions between caregivers and 20 nursing home residents with dementia, residing at one of three nursing homes (Williams et al., 2008). Each resident was videotaped during four different caregiving routines: bathing, oral care, dressing, and a miscellaneous task. Williams and colleagues used behavioral coding to measure the RTC behaviors that occurred during the interactions. Noldus Observer Pro software was used to code each frame of the caregiving interactions for the behaviors included in the Resistiveness to Care Scale (Mahoney et al., 1999). The present study relied on this prior coding of residents' resistive behaviors.

Additionally, the researchers in the present study, independently of Williams et al., coded the person-centeredness of caregivers' behaviors using two behavioral scales developed in earlier research: the PCBI and the GBS. Caregivers' scores were then correlated with residents' resistiveness to care to test the research hypothesis that the two would be negatively correlated.

Participants: Residents and Caregivers

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 Scale with scores ranging from 7 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 4 to 9 ($M = 6.4$, $SD = 1.4$), indicating that participants were in the moderate stage of dementia (see Table 1).

Certified Nursing Assistants 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 staff participants was 31.6 years ($SD = 10.96$), with a range of 21 to 54 years. The mean years of experience in patient care 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 to 18 years, as seen in Table 1.

Procedures

Williams et al. (2008) videotaped interactions using a handheld recorder. In an effort to reduce reactivity, Williams spent a day in the residents' dementia care facilities prior to recording. Williams followed a resident for one shift in order to record activities of daily living (ADL) interactions as they happened. However, ADLs that required closed door or curtain were not taped to preserve the resident's privacy. Activities that were not recorded (due to Human Subject Protections that specified maintaining privacy and dignity) primarily

included nudity during bathing, toileting, and dressing. 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 chose to do so. Bathing tasks generally involved undressing the resident and bathing the resident in a bathtub. Sometimes toileting would accompany the task depending upon the resident's 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. Miscellaneous tasks involved activities such as helping residents to their room, to their meal, or just talking with them.

Several steps were taken to allow staff and residents to habituate (i.e., adjust) to the presence of the researcher and the camera. The protocol followed was based on standards for the collection of videotaped data designed to measure verbal and nonverbal conversation in nursing homes (Carpac-Claver & Levy-Storms, 2007). As noted above, in the initial study, prior to actual recording, the third author spent a day on the resident's unit to allow participants to get used to her presence and to the camera. Additionally, the first 10 minutes of footage on the day of recording were deleted in order to give the resident and staff further opportunity to adjust to the videotaping procedures (Williams et al., 2008). This refers only to the start of each day. Later in the day, caregiving activities were videotaped and coded and these constituted new interactions between residents and staff. Ten minutes of ADL care have been established as reliable representations of verbal ($r = .80-.93$) and nonverbal ($r = .61-.92$) behaviors in complete interactions (Caris-Verhallen, Kerkestra, & Bensing, 1999) and other researchers have used this interval in dementia care research (Beck et al., 2002). Therefore, in the initial study (Williams et al.) only the first 10 minutes of caregiving episodes were coded. Criteria used for selecting the videotaped interactions included in the present study were: (a) making sure the staff and residents could be seen during the interaction, (b) interactions had to last at least 30 seconds, and (c) recordings were sufficiently understandable for transcription. The length of recordings ranged from .5 to 10 minutes ($M = 4.58$). Ten videotaped interactions were excluded because they were too short, so 70 of the original 80 video-recorded caregiving interactions were used.

Measures

Resistiveness to Care—The Resistiveness to Care (RTC) scale measures the duration and intensity of dementia patients' resistive behaviors during ADLs. The RTC scale measures 13 behaviors, including saying "no," adduction (holding the arms or legs tight against the body), clenching teeth, crying or hitting/kicking. These problematic resistive behaviors are viewed as a sign of a need. Mahoney et al. (1999) report the interrater reliability for the RTC scale at 95% within two long-term care dementia populations and also found the RTC scale to have excellent internal consistency (Cronbach's alpha = 0.82–0.87). Content validity was reported at 1.0 ($p < .05$) and was established a priori by direct observation of behaviors identified in the literature and verified by nursing staff. In addition, seven clinical experts judged the 13 items using the Waltz, Strickland, and Lenz (1991) method and determined the behaviors to be relevant to the definition of resistiveness to care. Criterion validity was reported at .76 and was established by correlating the Discomfort Scale for Dementia with RTC scores.

Williams and colleagues (2008) developed a behavioral coding scheme based on the RTC scale to code resistive behaviors using the Noldus Observer Video Pro Program. Computer keys corresponding to each resident behavior were pushed when the behavior state was present. Williams et al. coded each second of an interaction for a resident behavior state (resistiveness to care, cooperative, neutral). Williams' team used operational definitions of the behaviors in the RTC scale for several months to achieve acceptable reliability for

coding (Mahoney et al., 1999). The RTC scores correlated with nursing staff reports of the resident's frequency of resistiveness, as reported on the MDS ($r = .67, p < .001$).

The proportion of time a resident spent in a resistive state was used as the measure of resistiveness to care in the present study. The proportion of time residents were coded as being resistive ranged from 2.6% to 99.8% of the total interaction ($M = 43.4\%$).

PCBI—The PCBI was created in an earlier study to evaluate a 2-hour educational training program to teach nurse aide students person-centered caregiving skills (Grosch et al., 2008). The evaluation involved video-recording and coding interactions between nurse aide students and “standardized residents” following the training. The interaction was “scripted” to the extent that the aide was instructed to carry out a prescribed series of caregiving tasks which began with waking up the resident and putting on the resident's shoes, and ended with getting the resident up and walking towards the dining room for a meal. Pilot work was required for the present study in order to adapt the original version of the PCBI so that it could be used to code spontaneous, nonscripted interactions between caregivers and residents with dementia. The revised PCBI used in the present study included 11 verbal categories (e.g., shows approval, back-channel responses, and giving choices) and 8 nonverbal categories (e.g., resident-directed eye gaze, adjusting to resident's pace, and proximity). Coders of the PCBI were required to determine, within 30-second intervals, whether or not the target behaviors occurred. The proportion of time nurse aides used those behaviors was then determined by dividing the total score by the total number of units.

The first author was the primary coder, and the second coder was a master's student in the nursing department at a university in the midwest. These coders were blind to the residents' RTC scores. Interrater reliability was established by coding an interaction from each caregiving category until .80 or higher Cohen's kappa was achieved. After adequate interrater agreement was achieved, the second coder was responsible for coding 23% ($N = 16$) of the videos in order to check reliability. This allowed the researchers to establish reliability for each resident. The first author coded all 70 interactions and was blind to the RTC scores to prevent biasing results.

Task-Centered Behavior Inventory—A Task-Centered Behavioral Inventory (TCBI) was created for this study in an effort to capture a more complete picture of the caregiving interaction. The TCBI included two verbal categories: (a) caregiver's use of “verbally controlling” statements, such as ordering a resident to do something; and (b) caregiver's statements that served to take the speaking floor from the resident, labeled “interruption/ changing topic.” Nonverbal behaviors included nursing staff “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 member's person-centered caregiving behaviors.

Global Behavior Scale—The Global Behavior Scale (GBS) was developed in an earlier study to be used in sequence with the PCBI and is an 11-item measure (Grosch et al., 2008). Each item is constructed using a 7-point semantic differential scale. Sample items include, “treating the resident like a person” (7) versus “treating the resident in a stereotyped way” (1); and, “treating the resident like he or she is worthy of a relationship” (7) versus “being indifferent to bond or connection” (1). Most of these items were inspired by the work of Kitwood (1997) and the scale was developed to operationalize caregiving behaviors which were respectful of personhood. Cronbach's alpha was .95, demonstrating excellent internal consistency. Concurrent validity was determined by comparing the PCBI to the GBS. A significant positive correlation between the two was found, $r(21) = .49, p < .02$.

Statistical Analysis

Predictive validity for the person-centered caregiving behavioral inventory and GBS was determined by using Pearson's r correlation 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 RTC scores.

Exploratory Analyses

The association of caregivers' characteristics, such as age, were correlated with their caregiving behaviors as well as with their residents' resistiveness to care. An additional area of interest concerned analyzing groups of residents identified by Williams et al. (2008) 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. In a series of exploratory analyses carried out in the present study, the authors tested the research hypothesis—that person-centered caregiving would be negatively correlated with resistiveness to care—separately in each of these three groups of residents.

Results

Descriptive Data

Residents' RTC scores (i.e., the proportion of time residents displayed resistive behaviors) ranged from 0% to 99.8%, and overall residents exhibited resistive behavior during 78% of their interactions with caregivers. Residents behaved in a resistive manner an average of 43.9% of the time during caregiving interactions.

Caregivers' scores on the PCBI ranged from exhibiting person-centered behaviors 4% of the intervals to 54%. Based on their scores on the PCBI, caregivers behaved in person-centered ways 27% of the intervals, on average. Caregivers' scores on the GBS ranged from 2.0 to 7.0, on a 7-point scale. On average, the coders gave the caregivers a rating of 5.5 on the GBS scale. Caregivers' scores on the TCBI ranged from exhibiting task-centered behaviors 0% to 1.7% of the intervals. Based on their scores on the TCBI, caregivers behaved in task-centered ways an average of .4% of the intervals (see Table 2).

Caregivers' age was significantly correlated with their tenure at the facility: $r(68) = .55$, $p < .01$, $r^2 = .30$. Age was also significantly correlated with the length of time caregivers spent in their role as a caregiver: $r(68) = .60$, $p < .01$, $r^2 = .36$.

Hypothesis Testing

There was support for the hypothesis that person-centered caregiving would be negatively correlated with residents' resistiveness to care. The correlation between the GBS and resistiveness to care was significant: $r(68) = -.26$, $p < .05$, $r^2 = .06$ (see Table 2). Although caregivers' scores on the person-centered behavior inventory were negatively related to resistiveness to care, the correlation was not significant: $r(68) = -.08$, ns .

It was also hypothesized that the two instruments measuring person-centered caregiving—the PCBI and the GBS—would be positively correlated, demonstrating their convergent validity. This hypothesis was supported: $r(68) = .67$, $p < .01$ (as shown in Table 2). It was expected that both of the instruments used to measure person-centered caregiving would be negatively correlated with the TCBI, demonstrating their discriminant validity. These hypotheses were supported. The TCBI correlated negatively with both measures of person-centered caregiving: $r(68) = -.35$, $p < .01$ with the Person-Centered Behavior Inventory, and $r(68) = -.56$, $p < .01$ with the GBS.

Exploratory Analyses

Residents' Patterns of Behavior—Also of interest for this study was how residents' scores for the RTC and caregivers' scores for the PCBI, GBS, and TCBI differed by residents' patterns of behavior. Residents were categorized as being “dynamic” or “consistently cooperative” or “consistently resistive,” based on their pattern of behavior with caregivers. Correlation coefficients were computed between RTC, PCBI, TCBI, and GBS, separately for each type of resident.

RTC scores did not correlate significantly with either of the measures of person-centered caregiving among residents who had been characterized as being either dynamic, or consistently cooperative, or consistently resistive. Given the small sample sizes, however, statistical significance should not be the sole criterion for meaningfulness. Of interest was the finding that among the “dynamic” group of residents, RTC correlated with the GBS: $r(26) = -.25, p = ns$. This correlation explained approximately 6% of the variance but was not significant, probably due to the low sample size.

Caregiver's Age—As can be seen in Table 2, the caregiver's age was negatively correlated with RTC: $r(68) = -.37, p < .01, r^2 = .14$. In addition, caregivers' length of time spent in their specific roles was significantly correlated with their GBS scores, $r(68) = .35, p < .01, r^2 = .12$. Caregivers' length of time spent in their role was also significantly related to resident's RTC scores, $r(68) = -.26, p < .05, r^2 = .07$. In order to determine if length of time in a caregiver role was correlated with GBS scores independent of age, a partial correlation was calculated. When age was controlled, the partial correlation between length of time in caregiver role and GBS scores was greatly reduced: $r(70) = -.06, ns$ (see Table 2).

Multiple Regression Analysis—Given the additional finding that age was negatively correlated with resistiveness to care, a standard multiple regression was performed using resistiveness to care as the dependent variable and the GBS and nursing staff's age as the independent variables. The linear combination of independent variables was significantly related to the RTC measure, $F(2, 67) = .34, p < .01$. The sample multiple correlation coefficient was .39, indicating that approximately 15% of the variance of the RTC measure in the sample can be accounted for by the linear combination of the independent variables.

A mediation hypothesis was tested to determine whether the GBS scores mediated the relationship between age and RTC scores. R was significantly different from zero at the end of each step. Age when entered in Step 1 explained 13% of the variance in RTC scores. When age was entered along with GBS scores in Step 2, age still explained approximately 7% of the variance. After Step 1, $R = .26 (R^2 = .07), F(1, 67) = 5.1, p < .05$. After Step 2, with the GBS scores entered into the equation, $R = .40 (R^2 = .16), F(1, 67) = 6.5, p < .05$. Addition of the GBS scores did not change the amount of variance accounted for by age. Therefore, the Global Behavior Scale scores did not reliably mediate the relationship between resistiveness to care and caregivers' age.

Discussion

This observational study was intended to assess, in a preliminary way, the predictive validity of two measures of person-centered caregiving: the PCBI and the GBS. This study tested the hypothesis that caregivers' person-centeredness would be negatively correlated with residents' resistiveness to care. This hypothesis was supported when the GBS was used to measure person-centeredness, but not when the PCBI was used. Consistent support was found regarding concurrent validity for the PCBI, the GBS, and the TCBI across varying types of resident behaviors and caregiving tasks. There was also preliminary evidence for the discriminant validity of the PCBI and the GBS, as both measures were negatively

correlated with the TCBI. Additionally, the GBS had good internal consistency, as indicated by a Cronbach's $\alpha = .95$.

Measuring Person-Centered Caregiving

Developing valid, reliable, and user-friendly measures of person-centered caregiving is important for promoting this kind of care. The findings here indicate that the GBS and the PCBI have potential as valid and reliable measures that might be used with staff who care for residents who are diagnosed with dementia, as well as higher-functioning residents.

The finding that the GBS was significantly negatively correlated with the RTC provides support for the predictive validity of the GBS. Resistiveness to care is likely one of the best criteria that can be used to make inferences about the reactions of residents with dementia to caregiving. However, future research could also use other measures of the behaviors of residents with dementia, such as the Cohen Mansfield Agitation Inventory (CMAI; Cohen-Mansfield, 1991), to see if these measures correlate negatively with the person-centeredness of caregivers' behaviors. Additional research needs to be conducted with samples of higher-functioning residents to test associations which would be predicted between GBS and other variables such as residents' judgments of caregivers' interest in and understanding of them.

The finding that a global measure was more sensitive than a strictly behavioral measure is not unusual in observational research. Behavioral measures are useful in recording specific behaviors, but global, affective measures are often more sensitive in measuring the manner in which behaviors are enacted—to which residents may be especially sensitive (Cairns & Green, 1979). For example, caregivers can give residents a choice, but can do so in ways that communicate genuine interest or in ways that are mechanical and rote. The GBS was intended to assess the manner in which caregiving behaviors are enacted. Additionally, not all behaviors included in the PCBI are relevant to every caregiving interaction. Caregivers could behave in person-centered ways 30% of the time, but still receive high GBS scores. This is because not all of the 19 verbal and nonverbal behaviors that comprise the PCBI are necessarily relevant every time a caregiver interacts with a resident. Finally, future research ought to include the TCBI as well to more fully capture both person-centered and task-centered caregiver behavior.

Regarding construct validity, both the PCBI and the GBS were developed based on previous theory and research on person-centered caregiving in gerontology, as well as the broader literatures in medicine and nursing. As noted above, additional research with higher-functioning residents in nursing homes and assisted living facilities will be necessary to provide additional evidence of the validity of these measures, as well as their convergent and discriminant validity. Regarding convergent validity, future research should explore the association between scores on the PCBI and the GBS with scores derived from the coding categories used in Dementia Care Mapping, especially with Well/III Being scores. It would be expected that there would be a positive correlation between scores on the GBS and Well/III Being scores.

Whether important caregiving behaviors indicative of person-centered caregiving will need to be added is a matter for future observational research. For example, the categories of “cooperative negotiating” and “cooperative overlapping” were added to the original PCBI based on the videotaped interactions coded in the present study. Additional observational research should be carried out in a variety of long-term care settings to determine if additional person-centered behaviors need to be included.

Predicting Resistiveness to Care

Both caregivers' person-centeredness as measured by the GBS and their age predicted residents' resistiveness to care in this study. The results of regression analyses showed that these two factors operated independently. The finding that caregivers' age was a significant predictor is relatively novel in the research literature. Possible explanations include factors related to older caregivers and to residents. Older workers may have more emotional maturity and be less needy than younger workers and cope with the stresses of work more effectively. Older workers may also be more familiar with the generation represented by residents in LTC facilities, because many LTC residents may belong to their parents' cohort. For these and other reasons, older caregivers may also have more positive attitudes toward residents and be better able to relate to them. Alternately, residents may react more positively to older caregivers: they may feel more comfortable depending on them and may be more trusting of them. Future research ought to explore whether older workers, who are also more experienced, provide care in different ways than younger workers. Additionally, if attitudinal and behavioral factors can be identified on the part of older aides, these might be taught to younger aides. These possibilities should be explored in future research.

Only 16% of the variance in residents' resistiveness to care was explained. Future research should identify additional explanatory factors, some of which may include residents' characteristics—e.g., lack of sleep, pain, the nature of caregiving activities, and the conditions of LTC facilities. In addition, future studies should consider ways to prevent participant reactivity. Even though efforts were made to overcome participants' reactivity in the current study, it is possible that video-recording may have led caregivers and residents to modify their behavior. Most importantly, this study involves a correlational design: it may be that less resistiveness to care on the residents' part allowed caregivers to be more person-centered. Given the correlational nature of the data analysis, it is not possible to infer a causal relationship; future research will be necessary to provide evidence for a causal relationship.

Implications for Training and Promoting Person-Centered Caregiving

Prior research has established that different residents define quality of care differently. Some residents define quality in terms of their friendship and reciprocity with caregivers. Others define quality in terms of the efficiency of the services provided by caregivers, or in terms of the degree to which caregivers make them comfortable (Bowers, Fibich & Jacobson, 2001). Several studies have emphasized the importance of nursing staff members' attitudes (McGilton & Boscart, 2007; McGilton et al., 2003; Williams et al., 2003) in reference to residents' perceptions of quality care. For example, McGilton and Boscart interviewed residents and found they valued nurse aides whom they perceived as having their best interests at heart. They also valued nurse aides who were dependable. Arguably, then, caregivers' communication skills and their ability to establish relationships with residents are one of several important criteria to use in judging quality of care. The findings here suggest that teaching person-centered communication and relationship skills would likely be useful for caregivers to learn as they work with a wide variety of 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 providing care in a way that is respectful and promotes cooperative relationships. Differences between residents' preferences for care could make it difficult for nurse aides to use 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.

Future training should explore the usefulness of videotaping caregivers' interactions with residents as teaching materials. Watching videotapes of themselves would allow caregivers to observe their own behaviors and help them to develop self-awareness and self-reflective capacities. These training techniques are used in medicine and nursing and could be used more widely in gerontology.

Conclusion

Findings from this preliminary study suggest that the GBS is a reliable and valid instrument for measuring the person-centeredness of caregiving with residents with dementia. Though the PCBI was reliable, its validity is not as certain. The global measure of caregivers' behaviors was the most sensitive measure of caregivers' person-centeredness and could be used in future research as an indicator of quality of care. These and other findings ought to be applied in training workers to provide care in more person-centered ways.

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References

- Algase DL, Beck C, Kolanowski A, Whall A, Berent S, Richards K, Beattie E. Need-driven dementia-compromised behavior: An alternative view of disruptive behavior. *American Journal of Alzheimer's Disease and Other Dementias*. 1996; 11:10–19.
- Beavis D, Simpson S, Graham IW. A literature review of dementia care mapping: Methodological considerations and efficacy. *Journal of Psychiatric and Mental Health Nursing*. 2002; 9:725–736. [PubMed: 12472826]
- Beck C, Vogelpohl T, Raisin J, et al. Effects of behavioral interventions on disruptive behavior and affect in demented nursing home residents. *Nursing Research*. 2002; 51:219–228. [PubMed: 12131234]
- Beeri MS, Werner P, Davidson M, Noy S. The cost of behavioral and psychological symptoms of dementia (BPSD) in community dwelling AD patients. *International Journal of Geriatric Psychiatry*. 2002; 17:403–408. [PubMed: 11994927]
- Bowers BJ, Fibich B, Jacobson N. Care-as-service, care-as-relating, care-as-comfort: Understanding nursing home residents' definitions of quality. *The Gerontologist*. 2001; 41:539–545. [PubMed: 11490052]
- Brown SJ. Patient-centered communication. *Annual Review of Nursing Research*. 1999; 17:85–105.
- Burgio LD, Allen-Burge R, Roth DL, Bourgeois MS, Kijkstra K, Gerstle J, Jackson E, Bankester L. Come talk with me: Improving communication between nursing assistants and nursing home residents during care routines. *The Gerontologist*. 2001; 41:449–460. [PubMed: 11490043]
- Cairns, RB.; Green, JA. How to assess personality and social patterns: Observations or ratings?. In: Cairns, RB., editor. *The analysis of social interactions: Methods, issues, and illustrations*. Hillsdale, NJ: Lawrence Erlbaum; 1979. p. 209-226.
- Caris-Verhallen WCM, Kerkestra A, Bensing JM. Non-verbal behavior in nurse-elderly patient communication. *Journal of Advanced Nursing*. 1999; 29:808–818. [PubMed: 10215971]
- Carpiac-Claver ML, Levy-Storms L. In a manner of speaking: Communication between nurse aides and older adults in long-term care settings. *Health Communication*. 2007; 22:59–67. [PubMed: 17617014]
- Centers for Disease Control. Healthy aging: Preserving function and improving quality of life among older Americans, 2008. 2008. Retrieved August 8, 2008, from <http://www.cdc.gov/nccdphp/publications/aag/aging.htm>

- Cohen-Mansfield, J. Manual of the Research Institute of the Hebrew Home of Greater Washington. 1991. Instruction manual for the Cohen-Mansfield (CMAI).
- Cohen-Mansfield J, Werner P. Management of verbally disruptive behaviors in nursing home residents. *Journal of Gerontology*. 1997; 52A:369–377.
- Epstein RM, Franks P, Fiscella K, Cleveland SG, Meldrum SC, Kravitz RL, Duberstein PR. Measuring patient-centered communication in patient-physician consultations: Theoretical and practical issues. *Social Science & Medicine*. 2005; 61:1516–1528. [PubMed: 16005784]
- Grosch K, Medvene L, Wolcott H. Developing and evaluating person-centered caregiving instruction for geriatric nurse aide students. *Journal of Gerontological Nursing*. 2008; 34:23–31. [PubMed: 18714603]
- Health Resources and Services Administration. Nursing aides, home health aides, and related health care occupations: National and local workforce shortages and associated data needs. 2004. Retrieved from <http://newsroom.hrsa.gov/NewsBriefs/2004/healthcareaid.htm>
- Jones AL. The National Nursing Home Survey: 1999 summary. National Center for Health Statistics. *Vital Health Statistics*. 2002; 13(152)
- Jones AL, Dwyer LL, Bercovitz AR, Strahan GW. The National Nursing Home Survey: 2004 overview. National Center for Health Statistics. *Vital Health Statistics*. 2009; 3(167)
- Kitwood T. The experience of dementia. *Aging & Mental Health*. 1997; 1:13–22.
- Kolanowski AM, Richards KC, Sullivan SC. Derivation of an intervention for need-driven behavior: Activity preferences of persons with dementia. *Journal of Gerontological Nursing*. 2002; 28:12–15. [PubMed: 12382454]
- Mahoney EK, Hurley AC, Volicer L, Bell M, Gianotic P, Hartshorn M, Lane P, Lesperance R, MacDonald S, Novakoff L, Rheume Y, Timms R, Warden V. Development and testing of the resistiveness to care scale. *Research in Nursing and Health*. 1999; 22:27–38. [PubMed: 9928961]
- Mansah M, Coulon L, Brown P. A mapper's reflection on Dementia Care Mapping with older residents living in a nursing home. *International Journal of Older People Nursing*. 2008; 3:113–120. [PubMed: 20925900]
- McCormack B. Person-centeredness in gerontological nursing: An overview of the literature. *International Journal of Older People Nursing*. 2004; 13:31–38.
- McGilton KS, Boscart VM. Close care provider-resident relationships in long-term care environments. *Journal of Clinical Nursing*. 2007; 16:2149–2157. [PubMed: 17931310]
- McGilton K, O'Brien-Pallas L, Darlington G, Evan M, Wynn F, Pringle M. Effects of a relationship enhancing program of care on outcomes. *Journal of Nursing Scholarship*. 2003; 35:151–156. [PubMed: 12854296]
- Medvene LJ, Lann-Wolcott HR. An exploratory study of nurse aides' communication behaviors: Giving positive regard as a strategy. *International Journal of Older People Nursing*. 2010; 5:41–50. [PubMed: 20925756]
- Muller N, Guendouzi JA. Order and disorder in conversation: Encounters with dementia of the Alzheimer's type. *Clinical Linguistics & Phonetics*. 2005; 19:393–404. [PubMed: 16019783]
- National Institute of Aging. 2007 progress report on Alzheimer's disease: Discovery and hope. 2007. Retrieved October 7, 2008, from <http://www.nia.nih.gov/Alzheimers/Publications/ADProgress2007/>
- Penrod J, Yu F. Reframing person-centered nursing care for persons with dementia. *Research and Theory for Nursing Practice: An International Journal*. 2007; 21:57–72.
- Rader J, Barrick AL, Hoeffler B, Sloane PD, McKenzie D, Talerico KA, Glover JV. The bathing of older adults with dementia: Easing the unnecessarily unpleasant aspects of assisted bathing. *American Journal of Nursing*. 2006; 106:40–49. [PubMed: 16575237]
- Rogers, CR. On becoming a person. Boston: Houghton Mifflin; 1961.
- Sloane PD, Brooker D, Cohen L, Douglass C, Edelman P, Fulton BR, Jarrot S, Kasayka R, Kuhn D, Preisser JS, Williams CS, Zimmerman S. Dementia care mapping as a research tool. *International Journal of Geriatric Psychiatry*. 2007; 22:580–589. [PubMed: 17173340]
- Sloane PD, Hoeffler B, Mitchell CM, McKenzie DA, Barrick AL, Rader J, Steward BJ, Talerico KA, Rasin JH, Zink RC, Koch GG. Effect of person-centered showering and the towel bath on bathing-

- associated aggression, agitation and discomfort in nursing home residents with dementia: A randomized, controlled trial. *Journal of American Geriatrics Society*. 2004; 52:1795–1804.
- Talerico K, Evans L, Strumpf N. Mental health correlates of aggression in nursing home residents with dementia. *The Gerontologist*. 2002; 42:169–177. [PubMed: 11914460]
- Thornton A, Hatton C, Tatham A. Dementia care mapping reconsidered: Exploring the reliability and validity of the observational tool. *International Journal Geriatric Psychiatry*. 2004; 19:718–726.
- Volicer L, Hurley A. Management of behavioral symptoms in progressive degenerative dementias. *The Journals of Gerontology*. 2003; 58A:837–846.
- Waltz, CF.; Strickland, OL.; Lenz, ER. *Measurement in nursing research*. Philadelphia: F. A. Davis; 1991.
- White LD, Newton-Curtis L, Lyons KS. Development and initial testing of a measure of Person-Directed Care. *The Gerontologist*. 2008; 48:114–123. [PubMed: 18694992]
- Williams KN. Improving outcomes of nursing home interactions. *Research in Nursing & Health*. 2006; 29:121–133. [PubMed: 16532478]
- Williams KN, Herman RH, Gajewski B, Wilson R. Elderspeak communication: Impact on dementia care. *American Journal of Alzheimer's Disease & Other Dementias*. 2008; 24:11–20.
- Williams K, Ilten T, Bower H. Meeting psychosocial needs of older adults: Topics of nursing home talk. *Journal of Psychosocial Nursing and Mental Health Services*. 2005; 43:38–45. [PubMed: 16116925]
- Williams K, Kemper S, Hummert ML. Improving nursing home communication: An intervention to reduce elderspeak. *Gerontologist*. 2003; 43:242–247. [PubMed: 12677081]

Table 1

Demographic Information of Nursing Staff

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

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	-.26*	-.37**	-.26*	-.20+
2. PCBI		--	-.35**	.67**	.16	.18	-.02
3. TCBI			--	-.52**	-.15	-.27*	-.07
4. GBS				--	.28*	.35**	.14
5. Age					--	.60**	.55**
6. Length of Role						--	.66**
7. Tenure at Facility							--
Mean	43.4	26.9	.35	5.5	32.0	2.2	1.6
SD	36.9	11.2	.50	1.4	10.6	1.2	.92
Range	0–99.8	4–53.9	0–40.0	2.0–7.0	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 $p < .08$.