

MEASUREMENT OF INTERPERSONAL COGNITIVE COMPLEXITY
AS A TOOL FOR DISCERNING BETWEEN
EXEMPLARY AND ADEQUATE CAREGIVER QUALITY

A Dissertation by

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Submitted to the Department of Psychology
and the faculty of the Graduate School of
Wichita State University in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy

December 2008

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The following faculty have examined the final copy of this dissertation for form and content and recommended that it be accepted in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

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DEDICATION

This dissertation is dedicated to my three children, who gave up countless evenings and weekends of playtime and companionship with me as I finished homework, studied for exams, and conducted my research: The books are on shelves; the stacks of paperwork are (mostly) sorted, filed, or tossed away. Our time has come!

In addition, this is dedicated to an infinitely wise and loving constant in my life, Grandma H. – whose move to Kansas was instrumental in redirecting my graduate focus toward efforts to preserve dignity and improve the quality of care provided to our aging elders. You deserve nothing less!

Finally, this is dedicated to a very special friend, Gary Llamas, who waited years for me to finish school. He ran out of time days before I defended my dissertation, passing away on Oct. 18, 2008. He taught me perhaps the most *invaluable* lesson: Make time for play; tomorrow is never promised.

ACKNOWLEDGEMENTS

First, I owe much gratitude to the members of my dissertation committee: Dr. Lou Medvene, Dr. Don Nance, Dr. Barbara Chaparro, Dr. Nancy McKellar, and Dr. Rhonda Lewis-Moss. I appreciate your sage advice, support, and reassurance in guiding me through this process. A special “thank you” goes to Nancy – my former McNair mentor, years-long sounding board, and dear friend. I learn from our every encounter! Don, you (and Pennie) were a true blessing in keeping me grounded and forward moving at times this past year when I was ready to give up. And Lou, I’ve grown immeasurably under your meticulous and well-meaning tutelage. I feel privileged to be your first Ph.D. graduate here at WSU. It was harrowing at times, but we survived each other! You’ll never know how much your kind words of pride mean to me!

Second, this research would not have developed as smoothly as it did without the insight and hands-on involvement of Diane Walker of Griswold Special Care. Diane, your insider’s vantage, dedication, and strong research-based drive were critical to this project. I could not have done this without you! You made this such a pleasurable experience!

Third, I’m grateful to my coders: Katie, Marissa, Liz, John, and especially Mindy (who scored nearly all of these instruments). Each of you took your role very seriously, and you contributed generously in both time and talent to see this project through to its completion. You were very competent and professional. What a team! Thank you!

A number of published researchers gave freely of their wisdom and support as I revised my RCQ codebook for scoring instruments for this dissertation. I’m especially appreciative of the detailed assistance provided by Dr. Adrienne Kunkel of the University of Kansas.

Accommodations through the Office of Disability Services were pivotal to my success in all coursework leading to my opportunity to complete this dissertation, and I would be remiss in

not expressing my thanks. I couldn't have digested years of required readings without the staff enlarging text (14-point font, wow!) and putting books on audiotape as my vision fluctuated between surgeries. Test-taking accommodations were equally as important. Your office truly makes a college degree attainable for all students, regardless of their challenges or circumstances! Karolyn Kellogg (and Jan), I landed in college directly because of your VR assistance and encouragement, as well. You knew me way back when – what a journey we've taken!

Finally, I'm grateful to the university TRIO programs – especially, the staff of Student Support Services and the McNair Scholars Program. Deema DeSilva, Larry Ramos, and LaWanda Holt-Fields, your programs open doors! Who would have ever thought I'd land in graduate school, let alone complete a dissertation and earn a Ph.D.? You saw my potential, and I'm forever indebted to you for pressing me onward.

ABSTRACT

This study tests the usefulness of a measurement of interpersonal cognitive complexity, the Role Category Questionnaire (RCQ, Crockett, 1965), for differentiating between home health aides who demonstrate exemplary versus marginal interpersonally-oriented caregiving skills with elderly and disabled individuals living independently at home. It also advances the literature by exploring whether interpersonal cognitive complexity is related to caregiver skill differences, as opposed simply to communication skills. This research is built upon the interest of an international home health care referral organization in using this instrument in employment screening practices. Furthermore, it is an outgrowth of earlier work with students undergoing nurse aide training, in which this instrument was used to measure estimates of the complexity of students' interpersonal perceptions of others (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006).

Working with Griswold Special Care staff, caregivers were screened to create exceptional (*Category A*) versus marginal (*Category B*) skill categories. Hypothesized was that RCQ measures of interpersonal cognitive complexity among exceptional caregivers would be higher than those of caregivers least recognized by supervisors for care quality. An RCQ-based measure of interpersonal cognitive complexity was taken of 117 caregivers and compared with their categorization to demonstrate a significant relationship between RCQ scores and person centeredness. For non-native English speakers, the hypothesis did not hold true; however, RCQ scores for each category were in the expected direction, and the subsample size was small. A logistic regression model was significant; 65.5% of caregivers were correctly identified in *Category B*, whereas 61% were correctly placed in *Category A*.

This research adds support for a relationship between RCQ-based measures of interpersonal cognitive complexity and measures of person-centered care among home health care providers. It additionally expands the use of this instrument to non-native English speakers, and it demonstrates that the RCQ can differentiate between exceptional versus marginal caregivers, although there are likely other influences not captured in the predictive model. This study suggests that the RCQ may be used to differentiate between quality and marginal caregivers; however, additional research is needed before considering its endorsement for employment screenings, particularly with respect to non-native English speakers.

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LIST OF ABBREVIATIONS

Category A	The group of caregivers recognized as excellent in person centeredness
Category B	The group of caregivers recognized as marginal in person centeredness
CNA	Certified nurse aide
CMA	Certified medication aide
GSC	Griswold Special Care
HHA	Home health aide
PST	Participant Screening Tool
RCQ	Role Category Questionnaire

CHAPTER 1

INTRODUCTION

Individuals differ with respect to their social-cognitive abilities, and one way of describing these differences is in terms of interpersonal cognitive complexity (Burleson & Waltman, 1988). An outgrowth of Kelly's (1955) personal constructs theory, interpersonal cognitive complexity suggests that interpersonal perception "templates" form and develop cognitively through interaction experiences, and that these templates enable the perceiver to understand, make inferences, predict, and negotiate his or her social world (O'Keefe & Sypher, 1981).

A measure of a caregiver applicant's interpersonal cognitive complexity could conceivably be useful to employers within the gerontology field: There is a moderately strong relationship between complexity and the ability to communicate in highly person-centered ways – e.g., to be able to take others' perspectives into account, to empathize and comfort, to attribute negative behaviors to temporal circumstances, to decline requests, to persuade and to gain cooperation in a pro-social, face-saving manner (Burleson & Caplan, 1998; Kline & Ceropski, 1984).

Instruments that measure cognitive complexity typically are used for estimating and predicting an individual's potential for communication skills. However, such an instrument might also serve as a measure of caregiving ability, given this correlation. Knowledge of a prospective caregiver's potential for engaging in person-centered social interaction while engaging in caregiving tasks would be particularly advantageous, as there is a growing nationwide demand for the delivery of individualized, person-centered care to seniors in need of

health-related (e.g., long-term care, home health care) services (McCormack, 2004; Pioneer Network, 2007; Weiner & Ronch, 2003).

The Role Category Questionnaire (Crockett, 1965), or RCQ, is an established and well-reputed instrument (Burlison & Caplan, 1998; O'Keefe & Sypher, 1981) for estimating interpersonal cognitive complexity. This study seeks to determine whether a measure of interpersonal cognitive complexity – vis-à-vis the RCQ – can be used to distinguish between high and low quality caregivers affiliated with Griswold Special Care, an international employer of healthcare workers based in the greater Philadelphia, PA, region. Supervisors at Griswold will identify two groups of caregivers: those who are exemplary in their delivery of responsive, individuating interpersonal care or, conversely, those who are in need of skills development in the interpersonal realm, to see if these two worker types can be distinguished in terms of their cognitive complexity.

Of additional interest is that a significant portion of this organization's staffing population is of a non-native English speaking background, whereas the RCQ has been used almost exclusively with native English speakers. The impact of English language fluency on an RCQ-generated measure of interpersonal cognitive complexity is essentially unknown. This study extends the use of the RCQ as a measure of interpersonal cognitive complexity to a population that includes a substantial portion of caregivers for whom English is not their native language.

CHAPTER 2

LITERATURE REVIEW

Theoretical Basis for the RCQ

Cognitive Complexity

The RCQ is a free-response instrument developed by Crockett (1965) and associates for measuring interpersonal cognitive complexity – the concept of individual differences in person perception (Burlison & Waltman, 1988). The notion of cognitive complexity is an outgrowth of Kelly's (1955) theory that the world is perceived and comprehended indirectly through the mediation of cognitive structures. As described by Delia (1977), these constructs may be thought of as the basic socio-cognitive structures underlying all social perception processes (e.g., perceiving, storing, recalling, inferring, producing messages). Following Kelly's theoretical introduction of cognitive constructs, Bieri (1955) introduced the term "cognitive complexity" by defining the concept in terms of the number of unique constructs (i.e., differentiation) within a person's interpersonal cognitive system (O'Keefe & Sypher, 1981): "Cognitive complexity refers to the degree of differentiation in an individual's construct system, i.e., the relative number of different dimensions of judgment used by a person" (Tripodi & Bieri, 1964, p. 122; see also Bieri, 1955, and Bieri et al., 1966, p. 185).

There are many cognitive construct system types beyond the interpersonal realm (Burlison & Caplan); the concept of cognitive complexity is content free and thus applicable to any domain (e.g., interpersonal, architecture, vehicles, even chess playing). However, of relevance to this study is the construct system pertaining to interpersonal perception, estimates of which are measurable through Crockett's RCQ.

Giles and Applegate (2007) envision interpersonal cognitive constructs as being anchored in terms of structures of opposites. It is through a sieve of the number, type, and level of integration among these available and accessible bipolar constructs that the perceiver may “interpret, anticipate, evaluate, and understand aspects of the world” (Burlison & Caplan, 1998, p. 236). A person with very low interpersonal complexity may, for instance, perceive and subsequently describe “Mary” based on an extremely limited number of concrete “either/or” terms, such as being friendly with a nonstop smile on her face. Conversely, a more interpersonally complex person may consider a richly varied set of abstract qualities during the perception and judgment process involving this same person (Burlison & Caplan), ultimately forming an impression of Mary as friendly, outgoing, a softhearted and passionate child and animal rights activist who is considerate and will “go the extra mile for just about anyone,” but who also can be a bit obnoxious, stingy, and conceited at times – particularly when stressed or tired. Although in the end, both perceivers may ultimately form an overall sense of Mary as a good (or bad) person, the richly complex perceiver’s formulating impression is more likely to recognize and contemplate a variety of her qualities before arriving at this summative interpretation (Giles & Applegate). This complex perceiver is also more likely to take into account and make allowances for Mary’s dispositional and behavioral “inconsistencies” that are attributable in part to situational factors.

According to Werner’s orthogenetic principle, development in general progresses from a relatively global, undifferentiated state to one of integrated complexity and abstractness (Moore, 2007). Along a similar vein, each person’s interpersonal construct system becomes more expansive, systematically organized, and interrelated (i.e., cognitively complex) with increasingly advanced development (Burlison & Caplan, 1998; O’Keefe & Sypher, 1981).

Development is in part advanced through successive and varied interactions with others, as well as through the maturational process. Early influences in such development and integrated expansion are a child's parents and other significant caregivers; specifically, the extent to which these key influential sources nurture and discipline the child (Applegate, Burlison, & Delia, 1992), as well as discuss internal states and feelings of self and others (Dunn, Brown, & Beardsall, 1991; Dunn et al., 1991). Researchers also attribute individual differences to frequency and quality of social interactions, particularly those involving peers (Crockett, 1965; Strayer & Mashal, 1983).

As participants in an inherently social world, it is reasonable to assume that all typically functioning persons possess at least a basic (i.e., global) level of interpersonal cognitive complexity. Some never develop and refine their cognitive systems beyond a rudimentary (e.g., undifferentiated, limited in number) level throughout the lifespan. Alternatively, others advance and progressively hone rather sophisticated interpersonal construct systems, as evidenced by measures of their perceptions that are extensively abstract, differentiated, and integrated in the number and types of personal constructs they may avail (Burlison & Caplan, 1998). In short, it is through interpersonal exposure, modeling, and opportunities for refining practice with skilled others that a person's interpersonal cognitive complexity becomes more abstract, differentiated, and hierarchically integrated as a system, manifesting itself as an ability for highly skilled interpersonal perception and social engagement.

Individual complexity differences may be thought of as analogous to comparing a novice with an expert within the relevant domain – in this case, with respect to social-cognitive perception skills (Burlison & Waltman, 1988). Individuals with more developed interpersonal cognitive complexity also demonstrate greater information-processing abilities (e.g., to acquire,

organize, store, and produce relevant information) with respect to the social interpersonal realm (Burlison & Waltman), much like other types of skills may be improved and enhanced to a level of expertise and automaticity. However, possessing the ability for complex perception does not necessarily mean a person will actually choose to engage these capabilities in any given social episode, and the intent to engage such capacities is not determinable directly through a measure of someone's cognitive complexity (Burlison & Waltman). As is the case with other types of expertise, an individual may choose to use his or her social information processing capacity for varied ends, or choose not to use it at all (Burlison & Caplan, 1998). Characteristically, though, more complexly (i.e., expert) perceiving persons should be expected to spontaneously and routinely use the enhanced processing capacities at their disposal, without creating an undue cognitive-perceptual burden (Burlison & Caplan). Bereiter and Scardamalia (1993) have demonstrated in research on expert-novice differences that using advanced capacities is not especially burdensome for experts, within reason.

The Role Category Questionnaire as a Measurement Instrument

Determining an exhaustive (i.e., complete) measure of an individual's interpersonal cognitive system is unfathomable in that it would require the identification of every interpersonal construct ever in use by the person (Crockett, 1965). Fortunately, there are varied means for obtaining an estimated measure of someone's cognitive complexity with respect to persons (see Bieri, 1955; Bieri et al., 1966; Burlison & Caplan, 1998; Burlison & Waltman, 1988; O'Keefe & Sypher, 1981). However, this study used the Role Category Questionnaire (Crockett, 1965), or RCQ, as a tool because it is a standout along several criteria for gauging interpersonal cognitive complexity with respect to communication processes (Burlison & Caplan; O'Keefe &

Sypher), and because it has been used extensively in the communication and social science fields (Burleson & Caplan; Burleson & Waltman). Additionally, this instrument has long been recognized for its measurement association with person-centered communication, including in studies involving children and adults, in assorted communicative settings, and within the general socio-cognitive field (O'Keefe, Shepherd, & Streeter, 1982). Finally, the RCQ has been used within the health care industry (e.g., Kline & Ceropski, 1984; Zimmermann, 1994), including with respect to geriatric caregiver populations (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006), as well as this dissertation.

RCQ Format

Crockett's original version of the RCQ involved having participants write descriptions of eight known peers, spending three minutes on each person's description (Burleson & Caplan, 1998). Their descriptions were then analyzed for the number, types, and potentially, levels of integration, of unique constructs to arrive at a general index of interpersonal cognitive complexity. Subsequent research demonstrated that reliable estimates of a person's estimated level of interpersonal cognitive complexity may be obtained by having the person simply describe two well-known peers, as opposed to eight, and by spending five minutes, as opposed to three, on each of the two descriptions (Burleson & Waltman, 1988). Another RCQ variation involves describing more than two others, which may be useful when researchers suspect this method will produce more reliable measurements (Burleson, 1984). Yet another variation of the instrument involves loosening the five-minute time limit to an approximation. When comparing strictly timed and untimed versions, however, O'Keefe, Shepherd, and Streeter (1982) found a high correlation ($r = .84$) between the number of constructs produced with the RCQ, indicating

little practical difference between the two methods (Burleson & Waltman). The most widely used version of Crockett's (1965) RCQ involves writing descriptions of two peers of about the participant's same age – one of whom is liked and the other, disliked (Burleson & Caplan). The use of this version was applied for this dissertation.

RCQ Administration

Typically, participants read RCQ instructions telling them to describe each individual in as much detail as possible, including with respect to habits, beliefs, traits, personality characteristics, mannerisms, and ways of treating others (Burleson & Caplan, 1998).

Administration is flexible in allowing participants to respond by providing descriptions orally or in writing, which increases its utility with populations unable to write, such as with children, the elderly, or those with developmental or physical limitations that might impact their ability to communicate in writing (Burleson & Caplan; Burleson & Waltman, 1988). Instructions may be orally administered, and a minimum number of basic prompts is allowed to encourage the participant to describe each person as fully as possible (Burleson & Waltman). Administration may take place individually or within a group setting, although orally provided descriptions necessitate individualizing administrative practices, with subsequent transcription of all responses prior to coding and scoring (Burleson & Waltman).

Instrument Scoring

For coding and scoring purposes, interpersonal constructs are operationally defined as “any characteristic, quality, trait, motivation, belief, habit, mannerism, or behavior attributed by the subject to the described person” (Burleson & Waltman, 1988, p. 7). In general, participants’

impressions are scored by summing the number of unique interpersonal constructs contained within the descriptions (Burlison & Caplan, 1998). Specific scoring procedures depend on the research purposes and will result in estimates – rather than an exhaustive list – of interpersonal construct system differentiation (Burlison & Waltman), abstractness (Applegate, 1990; Burlison, 1984; Delia, Clark, & Switzer, 1974), or overall hierarchical organization (Crockett, 1965, 1982; Crockett et al., 1974).

Differentiation. Differentiation refers to the quantity of parts of the whole (Crockett et al., 1974). Obtaining an estimate of interpersonal construct differentiation is straightforward, which may contribute to its popularity as a scoring method among researchers; it essentially involves counting the total number of unique constructs contained in elicited impressions (Burlison & Caplan, 1998). Rules assist the coder with determining whether an entry is countable, such as to score identical words or word phrases only once, to score adverbial or adjective qualifiers of nouns as a single construct phrase (rather than as separate, independent constructs), and to score idiomatic phrases as a single construct (Burlison & Caplan).

Descriptive aspects such as appearance, physical or demographic characteristics, or social roles are typically not scored, although the given population may justify such inclusion. For instance, children typically construe others from within more concrete dimensions, necessitating their inclusion (Burlison & Waltman, 1988).

According to Burlison and Waltman, the differentiation scoring method consistently has high levels of inter-coder reliability, commonly exceeding .90 for formally trained coders. Beatty and Payne (1985) report acceptable inter-coder differentiation scoring reliabilities among

even non-expert trained coders, ranging from .86-.88. The differentiation method is most frequently used in research.

Abstractness. Abstractness represents a more advanced psychological functioning mode because abstract construals “provide a better basis for understanding and anticipating the actions of others than do concrete construals” (Burlison & Waltman, 1988, p. 9). This assumption is supported by a well-documented shift through the progressive developmental process, from reliance on concrete constructs to relatively abstract ones (Barenboin, 1981; Burlison & Waltman; Scarlett, Press, & Crockett, 1971).

Scoring of elicited impressions for interpersonal construct abstractness is more complex, and although methods vary, they in general pertain to examining descriptions of others for the extent to which the constructs involve psychological characteristics, such as motives, traits, and dispositions (Burlison & Waltman, 1988). Crockett (1965) details a series of rules for determining whether an entry is countable as an abstract construct (e.g., not a duplicate; a description of a personality characteristic, rather than a behavior, role, or physical characteristic; the writer’s general statements about mankind are excluded). An algorithm is then applied to calculate an estimate of overall construct system abstractness, such as a frequency sum or proportion of abstract constructs (with constructs dichotomized as either abstract or concrete descriptors); a total abstractness score; or a mean construct abstractness score, calculated by dividing a total abstractness score by a differentiation score (Burlison & Waltman). Delia, Clark, and Switzer (1974), for instance, scored descriptions using five hierarchically-ordered categories: physical, role (e.g., name, age, gender), general and specific behaviors and actions,

general and specific beliefs and attitudes, and abstract dispositional and personality. Inter-coder reliability for this scoring method typically exceeds .90, according to Burleson and Waltman.

Hierarchical integration. Scoring elicited descriptions for hierarchical construct integration is rather complex and far less commonly used in research with the RCQ (Burleson, B., personal communication Sept. 13, 2007; Burleson & Waltman, 1988). In essence, it involves coding respondents' descriptions of others within a hierarchy of types of attributes, and then summing abstract-related attributes with an algorithm based on the hierarchy level from which they are derived.

All three scoring measures – differentiation, abstractness, and hierarchical integration – have been found moderately to highly associated (O'Keefe & Sypher, 1981). The scoring approach should be selected based on the theoretical purposes of the given study (Burleson & Caplan, 1998; Delia, Kline, & Burleson, 1979; O'Keefe, D., personal communication Sept. 4, 2007). Given that mastery of any new skill (e.g., a second language) generally involves increases in complexity and refinement through the developmental process, it would be reasonable to expect that a bilingual individual might possess a more concrete non-native language base for describing others, at least early within the language learning process.

A native German-speaking caregiver might, for instance, avail a rich vocabulary base for person description in his or her native tongue, yet an impoverished one for describing others in non-native English. A description under such circumstances may depress the person's differentiation score on the RCQ, at least when compared with the same type of measure in his or her native language (O'Keefe, D., personal communication, Sept. 4, 2007). This study scored

written impressions on the RCQ for overall differentiation – without inclusion of the number of concrete constructs.

RCQ Reliability and Validity

Multiple researchers have presented evidence in support of the RCQ as a reliable instrument, and studies have generally demonstrated evidence supporting its validity – with stronger validity coefficients found with this instrument than with alternative measures of interpersonal cognitive complexity (Burlison & Caplan, 1998).

Test-retest reliability. O’Keefe, Shepherd & Streeter (1982) conducted a study ($N = 103$) with undergraduate volunteers to test the reliability and comparability of the RCQ to other measures of interpersonal cognitive complexity. The researchers administered the two-known-peers version of the RCQ in timed and untimed circumstances for comparative purposes. A third condition involved having one session timed and the other session untimed, with the order of administration type varied. Scoring consisted of counting the number of constructs that described aspects of personality and behavior, but not physical characteristics, across each participant’s two descriptions. There were no requirements to describe the same two persons in both testing sessions.

One-month test-retest reliability for the differentiation scoring method of the RCQ was acceptable, $r = .84$ ($p < .001$) for the five-minute timed administration (O’Keefe, Shepherd, & Streeter, 1982). Similar results were found with the untimed version, $r = .86$ ($p < .001$), collectively indicating stability in RCQ-generated estimates of cognitive complexity. Overall,

the results of O'Keefe et al. support the notion that the conceptualization of construct differentiation is a fairly stable individual difference in adulthood, as measured by the RCQ.

Instrument validity. The RCQ has been used in a number of studies to support construct validity, as demonstrated by significant correlations between the RCQ and several indices of theoretically-related socio-cognitive and communicative functioning (Burlison & Caplan, 1998). For instance, more cognitively complex individuals are also able to infer multiple causes for the actions of others, as well as for the consequences of such actions, when compared with less complex persons (e.g., Clark, Willihnganz, & O'Dell, 1985; O'Keefe et al., 1989). More complex individuals make dispositional attributions that are more flexible, situationally sensitive (e.g., Wilson, Cruz, & Kang, 1992; Wilson & Kang, 1991), and dispositionally and motivationally oriented, which presumably enables more complex perceivers to anticipate and understand others' behaviors across situations (e.g., Delia, Clark, & Switzer, 1974).

The RCQ has been demonstrated repeatedly as being predictive of an individual's ability to recognize, reconcile, and integrate potentially inconsistent information about others (e.g., Delia, Gonyea, & Crockett, 1971; McMahan, 1976; O'Keefe, Delia, & O'Keefe, 1977; Rosenbach, Crockett, & Wapner, 1973). Cognitively complex individuals depend less on evaluative consistency, and they are less reliant on and dominated by global evaluations (Burlison & Caplan, 1998). For instance, Shepherd and Trank (1989, 1992) found that more complex students conveyed more varied evaluations of their teachers, whereas O'Keefe and Brady (1980) demonstrated that more complex perceivers exhibited less attitude polarization after short periods of thought, when compared with less complex peers.

RCQ measures of cognitive complexity have been found to be associated with perspective-taking skills in samples of both adults and children (Burlison & Caplan, 1998). Beatty and Payne (1984), Hale and Delia (1976), and Kline, Pelias, and Delia (1991) have all found RCQ differentiation scores positively correlated with concurrent adult performance on Hale and Delia's Social Perspectives Task. Burlison (1982) and Clark and Delia (1977) similarly have found concurrent positive associations between construct differentiation and abstractness, as measured using the RCQ, and Rothenberg's (1970) affective role-taking measure.

The ability to produce person-centered messages – or messages that reflect adaptation to subjective, affective, and relational aspects of the context – has been found to be positively associated with cognitive complexity (Burlison & Caplan, 1998). For instance, several researchers (e.g., Applegate, 1982; Leichty & Applegate, 1991; Piche & Roen, 1987; Shepherd & Condra, 1988) have demonstrated an association between cognitive complexity and the ability to persuade others, to resist others' persuasive attempts without causing embarrassment (e.g., Kline & Hennen-Floyd, 1990), to discipline or regulate others' actions (e.g., Applegate et al., 1985; Kline, 1991; Woods, 1996), to manage interpersonal conflicts (e.g., Carrocci, 1985; Saine, 1974), and to make abstract information more understandable (e.g., Rowan, 1990). These associations between interpersonal cognitive complexity and person-centered communication appear to hold across diverse populations (e.g., children, adults, mothers, teachers, nurses, counselors, police officers), different modalities (i.e., oral or written), different coding methods (i.e., differentiation, abstractness), and different instrumental speaker goals (e.g., persuading, regulating, informing) – even after controlling for potentially confounding factors such as age,

gender, social class, intellectual and verbal skill, personality trait or motivations (Burlison & Caplan, 1998).

Specific to the RCQ, Applegate, Kline, and Delia (1991) compared the predictive validity of this instrument with that of three other grid-based measures of construct development on indices of social reasoning and accommodative, person-centered communication quality. The researchers reported finding the RCQ to be a significant predictor of all criterion measures, as well as superior to other instruments for predictive purposes.

Finally, some have argued that RCQ measures can be altered based on substantial changes to administration (Allen et al., 1990; Beatty & Payne, 1985) and scoring (Allen et al., 1993) procedures. However, others (Burlison & Caplan, 1998; Burlison, Applegate, & Delia, 1991) counter that such challenges to RCQ validity are unproblematic because major modifications likely would change the values generated by *any* instrument.

Discriminant validity. Numerous researchers (e.g., Beatty & Payne, 1984; Powers, Jordan, & Street, 1979) have expressed concern that RCQ measures are confounded by other factors, such as intelligence and verbal or writing abilities. However, considerable research has demonstrated that this instrument exhibits good discriminant validity (Burlison & Caplan, 1998), with RCQ assessments generally unrelated to independent measures of loquacity (e.g., Burlison, Applegate, & Neuwirth, 1981; Burlison, Waltman, & Samter, 1987), general or verbal intelligence (Allen et al., 1991; Allen, Mabry, & Preiss, 1997), vocabulary, verbal fluency, and academic achievement (Allen et al., 1991), as well as to narrative writing ability (e.g., Burlison & Rowan, 1985) and writing speed (e.g., Burlison, Applegate, & Neuwirth, 1981).

RCQ-based measures of cognitive complexity appear to be uninfluenced by many personality traits (see Burlison & Waltman, 1988; O'Keefe & Delia, 1982). Furthermore, multiple studies (e.g., see Samter and Burlison, 1984) have demonstrated that controlling for the influence of a variety of personality traits appears not to attenuate associations between interpersonal cognitive complexity, as measured by the RCQ, and theoretically relevant criterion variables.

In summary and based on the literature to date, almost exclusively carried out with Euro-American Caucasian populations for whom English is their native language, the RCQ appears to generate a reliable estimate of interpersonal cognitive complexity. Within studies of primarily mono-linguistic populations, measures of complexity elicited by the RCQ are unconfounded by intelligence, verbal or writing abilities, or a variety of personality traits. Such measures also appear correlated with theoretically related indices of socio-cognitive and communicative skills, in support of validity for this instrument.

It is prudent to note that these findings may not generalize to foreign born and ethnically diverse populations, particularly those for whom English is not their language of origin. Yet, such diversity often creates the very fabric of geriatric nurse aide and home health based caregiver populations, and upwards of 70 percent of the anticipated population from whom participant samples would be drawn for this study were expected to have been born abroad (Walker, D., personal communication, Sept. 28, 2007). Given the language differences anticipated within this population, a search of the literature was conducted to try to identify research on cognitive complexity involving foreign born or ethnically and culturally diverse population samples.

Language Skills and the RCQ

Although the RCQ appears unrelated to many language-based variables (e.g., loquacity, general verbal and writing abilities), it is possible that a lack of mastery of the English language as a vehicle for fluent thought and communication may confound the use of this instrument as a measure of interpersonal cognitive complexity (Burlison, B., personal communication, Sept. 13, 2007; O’Keefe, D., personal communication, Sept. 4, 2007), such as with populations for whom English is their second language. Meyer (1996) suggests the possibility that RCQ-generated complexity estimates may not be impacted as much by individual differences in construct systems, per se, than by individual differences in the ability to translate trait concepts into words. This presumably would be more challenging for a non-native language speaker (O’Keefe; Zorn, T., personal communication, Aug. 24, 2007). After all, language is both a medium of communication and representation, a system for representing, recording, and reporting experiences, which differs across languages and cultures (Jankowicz, 2003):

The vocabulary will be different, and so some words will be missing and will not translate. The structure of the language, the rules by which phenomena are noticed and placed in relationship to each other, will also differ. Different cultures notice different things standing out as meaningful figures against the background of the phenomenal flow. Since meaning is a matter of associations and relationships between ideas, different cultures will give different meanings to events. Another way of saying this is that experience in one culture does not match experience in another. What are recognized as distinct, nameable events in one culture may be regarded differently, or even be unnoticed in another. As a system that encodes those events, the language of each of the two cultures will therefore slice up the phenomenal flow differently. When one language is translated into another, there may be nothing that can be transferred. Meaning evaporates in translation. (p. 360)

Research that specifically explores differences in interpersonal cognitive complexity by language of origin is largely void in the professional literature (Zorn, T., personal communication, Aug. 24, 2007). In one related study, Benet-Martínez, Lee, and Leu (2006)

examined the complexity of cultural representations in mono- and bicultural Anglo-American and Chinese American individuals, defining such representations as a shared cultural meaning socially created and maintained through language, images, and practices. Participant samples ($N = 440$) were comprised of native and non-native English speakers, with instructions and materials written in English.

However, the Benet-Martinez, Lee, and Leu (2006) complexity estimates were based on culture and landscape descriptions, rather than on the interpersonal realm, and although descriptions were coded for abstractness and differentiation, the researchers did not use the RCQ (Benet-Martínez et al.). A screening prerequisite for this study was that non-native English speakers must have resided in the U.S. for a minimum of five years. The researchers did not isolate and explore the impact of language mastery on the measure of cognitive complexity. Study outcomes supported the researchers' notion that participants with bicultural life experiences think about native and non-native cultures in more complex ways.

Hong et al. (2000) offered empirical evidence to support a possible explanation: cultural frame switching – i.e., that biculturals access and apply different cognitive meaning systems in response to cultural cues. Hong et al. demonstrated, using a Chinese-American sample, that biculturals make more internally-based attributions following American priming cues, but more externally-based attributions following Chinese priming cues. Contextual cues guide the individual's application of one framework versus another. Benet-Martinez, Lee, and Leu (2006) suggest that repeated cultural frame switching leads the bicultural to think in more complex ways.

Presumably, a minimum level of proficiency must exist (i.e., the perceiver accumulates practice in detecting and processing cultural cues) in order for cultural frame switching to take

place (Benet-Martinez, Lee, & Leu, 2006). Work by Feltovich, Ford, and Hoffman (1997) on expertise supports this notion, indicating that repeated exposure and practice in a particular domain leads to domain-relevant and complex schemas, which in this case would be more organized, abstract, and integrated cultural schemas (Benet-Martinez et al.).

Immigrants face varying degrees of uncertainty in all aspects of daily life as they are exposed to information and experiences contrary to their traditional language, culture, or value system (Ock-Yum, 1982), and their cognitive structure determines their informational capacity and level of tolerance for ambiguity (Crockett, 1965; Mayo & Crockett, 1964). Using a population of Chinese immigrants in Hawaii ($N = 401$), Ock-Yum studied the impact of their communication patterns on their knowledge about social agencies designed to help such persons adjust to life in Hawaii. Hypothesized was that immigrants who engaged in more diverse communication patterns (i.e., employed multiple communication channels across ethnicities) would have greater social (e.g., language fluency, occupational status) and cognitive (i.e., cognitive complexity, perceived locus of control) capacities.

Among factors contributing significantly to diverse communication patterns was English language fluency level, as well as interpersonal cognitive complexity (Ock-Yum, 1982). However, Ock-Yum used a construct repertory test fashioned after Bieri's (1961; Bieri et al., 1966) Role Concept Repertory Test, as opposed to the RCQ. This grid-like instrument involved participants judging five local ethnic groups (within whose neighborhoods they lived) on a series of evaluative bipolar scales, in which they assigned a numeric value to indicate strength of agreement with respect to the applicability of each descriptive scale. Complexity was then measured by the degree to which the scales were used as independent evaluative sources for each ethnic group. As measured in the Ock-Yum study, complex individuals were those who assigned

varying numeric values (representing agreement strength) to different evaluative scales when judging each ethnic group; conversely, individuals who gave the same rating across all scales for all ethnic groups were considered low in complexity.

Examining their inter-correlations and applying multiple regression to analyze the unique contributions of each independent variable, Ock-Yum (1982) reported that the strongest impact on communication diversity was duration of residence within the U.S., although as previously noted, fluency and cognitive complexity were also among other significant factors. Although significant, the correlation between cognitive complexity and English fluency was weak, $r = .19, p < .05$. Conversely, and as also relevant to this dissertation, the relationship between complexity and duration in the United States was not, $r = .06, p = ns$.

Ock-Yum's (1982) sample was comprised of first-generation Korean immigrant adults (older than 18) on the island of Oahu, with 93 percent chosen based on their surname listing in the local telephone directory, which likely would have excluded new arrivals and lower-income immigrants. As a result, this sampling method overrepresented middle and upper class Korean immigrants and underrepresented lower class ones.

Other Related Research

A search for other studies involving measurement of interpersonal cognitive complexity (using the RCQ) and any type of focus on language mastery or culture background resulted in identification of a limited few (e.g., study of "organizational culture," Coopman et al., 1997). An electronic search was conducted to identify studies addressing *any* measures of interpersonal cognitive complexity in non-native English speaking populations, using variations of relevant full-text keywords – i.e., language, bicultural, non-native, ESL, bilingual, immigrant, or fluency

and “Role Category Questionnaire” or “cognitive complexity.” Several comprehensive electronic databases were exhausted in this search (e.g., FirstSearch, InfoTrac Web, ProQuest, Silverplatter WebSPIRS, Cambridge Scientific Abstracts, WilsonWeb), without identification of any studies that specifically addressed this possible confound.

Focusing solely on “interpersonal cognitive complexity” and using only the Cambridge Scientific Abstracts electronic database to illustrate, 76 studies (published between 1974-2006) were identified in which the Role Category Questionnaire was used as a measurement instrument. A subset ($N = 20$, or 26.3% of the identified studies) was randomly selected to examine the participant demographic descriptions. In all, 2,798 participants were involved across the 20 studies. Most researchers described participants with respect to education ($N = 17$) or gender ($N = 15$). There were a limited number that described participant age ($N = 6$) or socio-economic status ($N = 3$). Only five (25%) of the 20 studies included *any* information about participant ethnicity – which generally was described as either “entirely” (or the “vast majority” of) participants who were Caucasian or Euro-American. In all, researchers who did address race or ethnicity only described an aggregate across all 20 studies of 10 out of 2,798 participants (.035 percent) who were described explicitly as something other than Caucasian. Virtually none of the studies included reference to English language mastery.

In summary, linguistic facility may be an important consideration with respect to cognitive complexity measures, potentially generating a differentiation score that may be constrained by the individual’s level of success toward mastering this secondary language (O’Keefe, D., personal communication, Sept. 4, 2007). Because the targeted population will be comprised of both native and non-native English speakers, this study expands the literature base by exploring the usefulness of the RCQ for differentiating between exemplary and marginal

caregivers within the geriatric home health field, involving a population of both native and non-native English language samples.

The Relevance of Interpersonal Cognitive Complexity for Geriatric Caregivers

More than 40 studies establish a significant link between interpersonal cognitive complexity and person-centered communication skills (Burlinson, 1987). Hale and Delia (1976) demonstrated that complexity is predictive of how well someone can take the perspective of others. Having insight into others' interests, feelings, and needs is at the core of person-centered communication, with other-focused messages becoming more reflective and adaptive based on such awareness.

Con conversationally, research has shown that highly person-centered individuals are apt to listen more attentively and with better comprehension (Burlinson & Caplan, 1998), and they are better able to communicate clearly (Giles & Applegate, 2007; Hale, 1982). Employees with more advanced person-centeredness are rated more likeable by peers and other staff (Burlinson, 1987), and they also tend to receive more favorable performance evaluations, making such skills highly desirable both in work and social settings.

A variety of related studies involving nurses, daycare workers, and mothers with high cognitive complexity and person-centeredness demonstrate they are better skilled at acknowledging and legitimizing others' distressed feelings, as well as at comforting and demonstrating emotional support (Burlinson & Caplan, 1998; Samter & Burlinson, 1984). All of these are ideal interpersonal skills among professional caregivers, such as geriatric home health and certified nurse aide (CNA) caregivers who provide services to the elderly and disabled who live independently within their own homes.

Person-Centeredness and Caregiving Communication

Person-centeredness is a recurring theme in contemporary gerontological literature, beginning with Kitwood's (1997) recognition of long-term care residents with dementia as human beings worthy of relationship, with implied recognition, respect and trust (McCormack, 2004). Person-centered communication is based on the notion of recognizing and supporting others' unique qualities and characteristics (Applegate et al., 1985; Samter, Burleson, & Murphy, 1987).

Nationwide, there is a movement in the eldercare field toward an emphasis on person-centered care, as opposed to the traditional institution-centered approach (Pioneer Network, 2007) that is perhaps most recognizable by an adherence to caregiving task schedules and impersonal, stereotyped interactions. As previously noted, research with other types of caregivers (e.g., nurses, physicians) has demonstrated a moderately strong relationship between interpersonal cognitive complexity and person-centered communication skills (Burleson & Caplan, 1998; Kline & Ceropski, 1984). The RCQ has been used extensively in the communication, social science, and health care fields in relation to measuring interpersonal cognitive complexity, including with students training to become geriatric caregivers (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006), with hospital volunteer workers (Adams & Shepherd, 1996), with health care teams (Zimmermann, 1994), and with hospice team members (Zimmermann & Applegate, 1992) – whose philosophical emphasis is on relieving symptoms, giving comfort and support (Zimmerman, 1986a), and alleviating and providing for the emotional, spiritual, and social concerns of the terminally ill (Zimmerman, 1986b).

Summarizing, interpersonal cognitive complexity is well established in the professional literature for its association with highly adaptive, individuating (person-centered) communication

skills, with individuals higher in complexity and person-centeredness demonstrating more sensitive and comforting communication skills in a variety of settings and populations, including with caregivers in the geriatric and hospice health care fields.

Study Purposes

The relationship between interpersonal cognitive complexity and person-centered communication skills is firmly established, and the RCQ is a well-respected instrument for estimating interpersonal complexity. Given these relationships and the increasing demand for highly person-centered caregiving experiences, it would be advantageous if such an instrument were useful for identifying applicants high in person-centered communication skills for open caregiving positions. Such an instrument could serve as an adjunct for health care providers seeking to hire only applicants most capable of providing sought-after interpersonal experiences to their clients.

After having read about research connecting the RCQ with geriatric caregiver students (Medvene, Grosch, & Swink, 2006), Griswold Special Care (GSC) administrative staff contacted Wichita State University about collaborating to explore the usefulness of the RCQ for identifying talented (e.g., empathetic, individuating) caregivers. GSC's goal was to explore whether the RCQ could differentiate between interpersonally exceptional and less desirous (i.e., marginal) caregivers. This is the first study to explore whether the RCQ might be appropriate for such use.

Evaluating the RCQ as a Caregiver Quality Indicator

Griswold Special Care is recognized as the world's oldest multi-national home health care organization, with franchises in 17 states and three countries. Based in the greater

Philadelphia area, GSC contracts with independent certified nurse aide and home-health related workers who provide a range of professional services to senior citizens and the disabled in their homes – e.g., personal assistance, household, and homemaking care, companionship, live-in, and supportive care services. With more than 7,000 independent referral caregivers in more than 85 franchises corporate-wide, this major organization is continually in search of more refined, predictive methods for screening potential applicants to ensure that their clients are referred caregivers most likely to deliver highly personalized and satisfactory care.

This study was an opportunity to collaborate with GSC to involve caregivers as research participants. The goal was to identify two extreme caregiver groups – one that was optimally person centered, and the other, least – to see if these groups differed with respect to their scores on the RCQ. Differences would help determine whether this instrument had merit for indicating caregiver quality (i.e., the ability to engage clients in highly satisfactory interpersonal exchanges, or person centeredness).

Study Hypothesis

The hypothesis in this study was that RCQ-generated measures of interpersonal cognitive complexity among exceptional caregivers would be higher than those least preferred (i.e., marginal) by supervisors for their caregiving skills.

Although there are multiple techniques of scoring the RCQ, this hypothesis was tested using the most common scoring method: differentiation of abstract psychological characteristics.

Data were also collected on several variables to explore their potential association with RCQ scores and caregiver quality, such as gender, age, race/ethnicity, education, caregiver training and experience, length of U.S. residency, and duration of English language use.

CHAPTER 3

METHODS

Research Design and Recruitment Procedures

Home health aides from five franchise offices affiliated with Griswold Special Care were recruited to participate in this research project. An extreme-groups design (Preacher et al., 2005) was employed to determine whether the most person-centered home health aides obtained higher RCQ scores than their least person-centered colleagues. Person centeredness was measured sample-wide through scores on the Participant Screening Tool, or PST (Appendix A). Prior to study onset, all procedures and materials were reviewed and approved by the Institutional Review Board through WSU.

Procedures

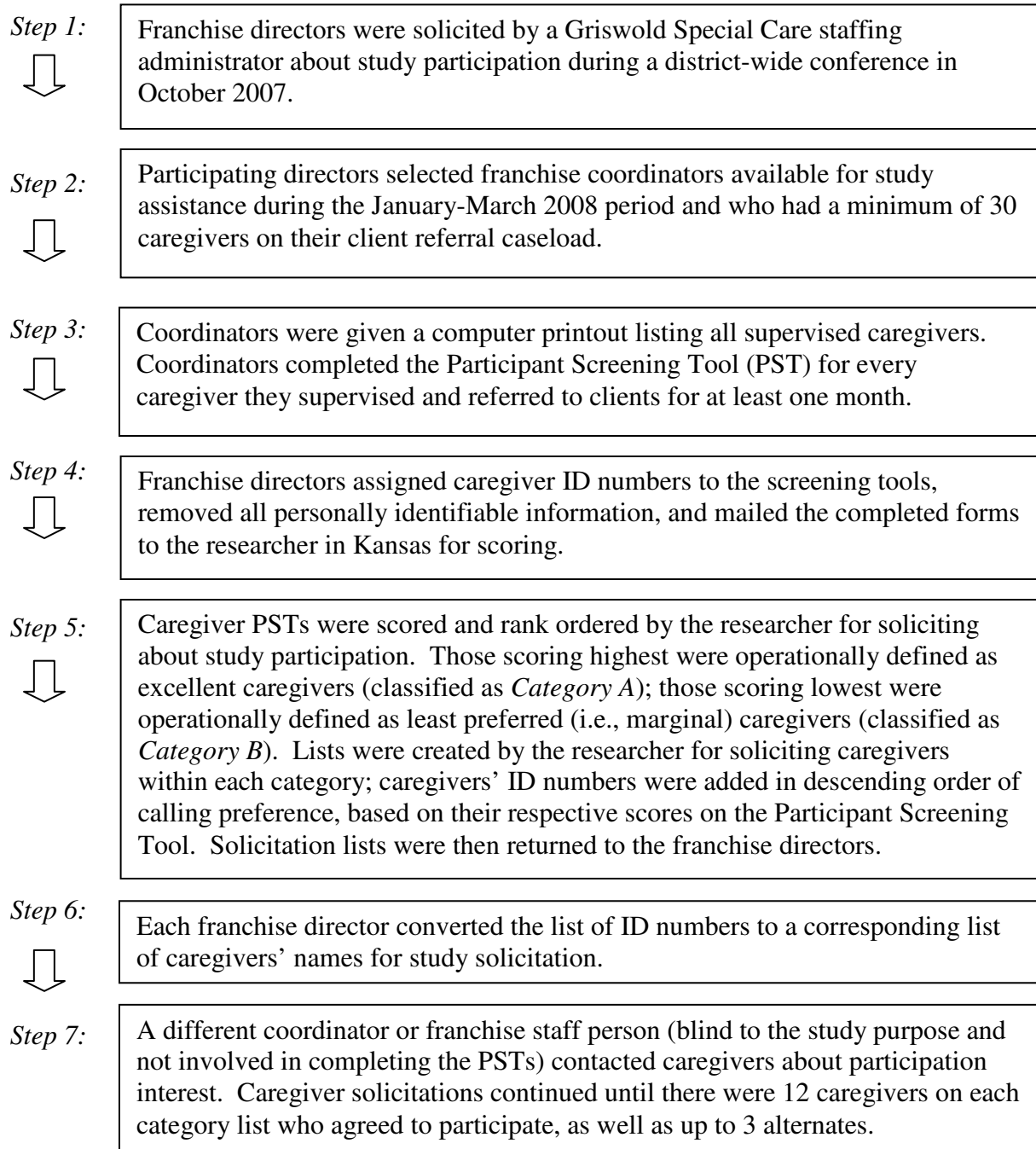
Selection of caregiver participants involved a seven-step process (See Figure 1) that began with a pool of at least 80 possible caregivers within each franchise and was winnowed down to $n = 23$ for three franchises and $n = 24$ for two. One franchise was short by a single caregiver, whereas outliers were removed from two other franchises (see data cleaning segment of Methods section):

Step 1

Franchise directors attending a corporate-wide administrative conference in October 2007 were solicited about this study, which was presented as a way to explore a potential new

Figure 1

Figure 1: Flow chart depicting the participant selection process for each franchise, from initial contact with directors to caregiver solicitation.



screening method for improving caregiver hiring practices. In exchange for their involvement, participating franchises received credit toward quality control requirement points for the year. Directors were encouraged to contact an administrator through the GSC corporate office for study participation, if interested.

Step 2

Each participating franchise director identified three coordinators who were likely to be available for the duration of their anticipated study involvement (i.e., not scheduled for maternity leave, surgery, or extended vacation from January-March 2008). Additionally, coordinators were selected on the basis of carrying a supervisory load of at least 30 referring caregivers.

Step 3

Selected franchise coordinators were provided a computer-generated list of all eligible caregivers (i.e., a member of the GSC referral registry for a minimum of six months, directly supervised by the evaluating coordinator for a minimum of one month). Blind to study details, coordinators were asked to rate all eligible caregivers on the Participant Screening Tool (PST), which included a series of interpersonal/behavioral skills, and to return these forms to the franchise director.

Step 4

The franchise director assigned a unique ID number to each eligible caregiver, labeled each caregiver's completed rating instrument with the ID number, and then forwarded all forms to the researcher for scoring. The franchise director maintained a list of caregiver names and

assigned ID numbers for tracking purposes in a confidential binder sent from the researcher to each franchise director.

Step 5

All Participant Screening Tools were scored (1 point for each rating number value) by the researcher and then rank ordered from highest (50) to lowest (10) in score. Among caregivers within the same franchise who received identical scores (e.g., eight instruments with a score of 50), a final rank sorting among those subsets was determined through random drawing.

Caregiving excellence was operationally defined as the maximum score possible on the screening tool (i.e., up to 50 points), whereas marginal caregiving, as the lowest (i.e., as low as 10 points). Caregivers in the top half of the distribution (up to $n = 40$) for each franchise were assigned to *Category A* in recognition of delivering exceptional care; those ranking in the bottom half for each franchise were assigned to the marginal caregiver group, or *Category B*.

The researcher then created a *Category A* list of caregiver ID numbers (in descending preferential score-ranking order) for soliciting their study participation interest. A comparable list was created for *Category B*, starting with the lowest scoring caregiver and rank ordering in an ascending (by score) fashion. Finally, the researcher submitted the lists of ID numbers to the applicable franchise director, with 40 caregiver ID numbers in *Category A* and 40 in *Caregiver B*. Caregivers scoring in the mid range were dropped from study consideration.

Step 6

Each franchise director converted the lists of caregiver ID numbers into corresponding lists of *Category A* and *Category B* caregiver names for study solicitation.

Step 7

A coordinator blind to the study purpose, the caregivers' rating scores, and categorizing purposes contacted the caregivers by telephone for study interest using a pre-written script (see Appendix B) and a protocol of four call attempts over three consecutive workdays. This same coordinator was used for all soliciting efforts within the same franchise and held no supervisory responsibilities over caregivers on the call lists. The director of each franchise not only selected this coordinator, but also monitored the process to ensure that the soliciting coordinator contacted caregivers in the order in which caregivers were listed in their respective categories. Token gift cards (valued around \$10) were offered to caregivers for their participation.

Procedurally, if a caregiver was contacted and declined the solicitation, his or her name was crossed off the solicitation list, and the coordinator moved on to the next name in order on the list. This process of contacting caregivers in listed order for study interest continued until each franchise identified 15 *Category A* caregivers recognized for their excellence, as well as 15 *Category B* caregivers who were least preferred by supervising coordinators for client referrals, based on their marginal care skills.

Of the 15 caregivers in each category, the 12 highest scoring caregivers would be used for this study; three caregivers were to serve as alternates, in case other caregivers did not honor their verbal commitment to participate. These additional caregivers also provided the researcher with replacement instruments, in the event that a preferentially ranked caregiver did not follow instructions correctly, or other unanticipated issues arose that would necessitate discarding a completed instrument.

Participants

Data for this study was generated from samples of GSC caregivers from five franchises ($N = 117$) in three eastern coastal states (Delaware, New Jersey, and Pennsylvania). The “typical” caregiver was a North American born (63%) black (61%) female (96%) with a minimum of a high school diploma (80%). Slightly more than half pursued technical training (54%) in the nurse aide field. Caregivers’ ages ranged from 20-84 years across franchises; most commonly, the participant was a Baby Boomer ($M = 51.14$ yrs., $SD = 13.16$ yrs.) with approximately 11 years of caregiving experience. Just over half of that work experience ($M = 5.77$ yrs., $SD = 5.24$ yrs.) was in affiliation with Griswold Special Care. See Table 1.

Franchises were quite varied in caregivers’ reports of their native homeland, although the majority (63%) was from North America. Other continents of birth (and their approximate percentages) included Africa (30%), Europe (5%), Asia (2%), and South America (1%). Despite this variety, English was not only the native language for most caregivers (74%) in the overall sample, but also their preferred language (85%). Other native languages included African based (10%), Spanish (5%), French (3%), Urdu (a Pakistani language, 2%), Finnish, German or Hungarian (1% each), or a mix of languages (3%).

Experience in English language use varied from 5-55 years among non-native speakers sample-wide. The average length of reported English language experience was 27 ($SD = 14.80$) years. Notably, however, 4 of the 30 non-native English speaking participants (13%) chose not to answer this question.

Table 1:

Demographic Characteristics of the Research Participants by Franchise, Overall

		Level of Analysis					
		<u>Franch. 1</u>	<u>Franch. 2</u>	<u>Franch. 3</u>	<u>Franch. 4</u>	<u>Franch. 5</u>	<u>Overall Sample</u>
		(n = 24)	(n = 24)	(n = 23)	(n = 23)	(n = 23)	(n = 117)
Gender (%)	Male	8.3	0.0	0.0	8.7	4.3	4.3
	Female	91.7	100.0	100.0	91.3	95.7	95.7
Ethnicity ^{a,*} (%)	Caucasian	52.2	12.5	57.1	0.0	0.0	23.9
	Afr./Black	34.8	62.5	33.3	91.3	81.8	61.1
	Other	13.0	25.0	9.5	8.7	18.2	15.0
Education ^a (%)	< HS	25.0	17.4	8.7	26.1	22.7	20.0
	HS/equiv.	41.7	34.8	30.4	30.4	22.7	32.2
	> HS	33.3	47.8	60.9	43.5	54.5	47.8
Technical training (%)	CNA/HHA/CMA	37.5	45.8	60.9	73.9	52.2	53.8
	Other medical	8.3	0.0	4.3	4.3	8.7	5.1
	Other	8.3	4.2	17.4	4.3	4.3	7.7
	None	45.8	50.0	17.4	17.4	34.8	33.3

Continent of origin ^a *(%)	N. America	87.5	56.5	69.6	25	71.4	63.1
	S. America	0.0	0.0	0.0	0.0	4.8	0.9
	Africa	0.0	39.1	26.1	75.0	14.3	29.7
	Europe	8.3	4.3	4.3	0.0	4.8	4.5
	Asia	4.2	0.0	0.0	0.0	4.8	1.8
Language of birth [*] (%)	English	79.2	41.7	87.0	78.3	87.0	74.4
	Non-English	20.8	58.3	13.0	21.7	13.0	25.6
Preferred language ^a (%)	English	91.7	65.2	91.3	87.0	87.0	84.5
	Non-English	8.3	34.8	8.7	13.0	13.0	15.5
Age ^a	<i>M</i> (SD)	55.33 (12.57)	48.30 (13.56)	48.3 (13.65)	48.91 (13.58)	54.57 (11.47)	51.14 (13.16)
English experience ^b	<i>M</i> (SD)	31.00 (10.98)	25.08 (15.46)	22.50 (24.74)	34.00 (13.92)	19.33 (16.28)	26.50 (14.80)
Years of caregiving ^a	<i>M</i> (SD)	14.71 (9.21)	8.09 (4.69)	8.50 (6.86)	11.54 (6.82)	13.75 (8.87)	11.27 (7.78)
Years at GSP	<i>M</i> (SD)	3.10 (2.18)	3.44 (1.73)	5.99 (4.86)	7.87 (5.90)	8.67 (7.13)	5.77 (5.24)

^a = Indicates missing responses:

Age: Franchise 2 ($n = 23$), Franchise 3 ($n = 20$), Franchise 5 ($n = 21$), Overall ($N = 113$).

Ethnicity: Franchise 1 ($n = 23$), Franchise 3 ($n = 21$), Franchise 5 ($n = 22$), Overall ($N = 113$).

Education: Franchise 2 ($n = 23$), Franchise 5 ($n = 22$), Overall ($N = 115$).

Continent of birth: Franchise 2 ($n = 23$), Franchise 4 ($n = 20$), Franchise 5 ($n = 21$), Overall ($N = 111$).

Preferred language: Franchise 2 ($n = 23$), Overall ($N = 116$).

Caregiver experience: Franchises 1 and 5 ($n = 22$), Franchise 2 ($n = 23$), Overall ($N = 113$).

^b = Indicates non-native English speaking subsample: Franchises 1 and 4 ($n = 4$), Franchise 2 ($n = 13$), Franchise 3 ($n = 2$), Franchise 5 ($n = 3$), Overall ($N = 26$).

* = Chi square indicates significant differences between franchises, $p < .01$.

Franchise Descriptions

Directors of six franchises expressed an interest in participating in this study. However, one director withdrew as the study initiated due to scheduling issues that he anticipated would conflict with key data collection deadlines. A seventh franchise director who had expressed participation interest was immediately added as a replacement, which restored the number of franchises to six at the study onset in mid January 2008.

Although supervising coordinators from all six franchises completed Participant Screening Tools for their eligible caregivers (as described subsequently), staff from one franchise failed to identify caregivers willing to participate in the core second segment of this study – i.e., they failed to draw caregivers to the franchise for administration of the RCQ. Reasons for lack of caregiver responsiveness, as reported by this franchise, were an influx of new client cases as caregivers were being contacted about their interest in study participation; as well as substantial fuel spikes in the region that would have made commuting cost prohibitive for caregivers, many of whom lived in excess of 10 miles from the franchise itself. Although “a few” RCQs reportedly were administered to caregivers through that franchise, no completed instruments were mailed to the researcher, despite having extended the submission deadline 2 ½ months for this franchise. Because of the lack of receipt of any completed instruments by the researcher, this franchise was dropped from the study, resulting in a final count of five participating franchises.

Location no. 1: The oldest participating office is corporately owned and was established in 1982 to serve the northwest suburbs of a major metropolitan city in eastern Pennsylvania. This office is staffed by 15 employees, in addition to management, and has more than 400

actively referred caregivers. This urban area has a primarily German, Dutch, and English heritage.

Location no. 2: This corporately-owned office is located in northeast Pennsylvania, within an ethnically diverse, rural community that has a strong Mennonite heritage. Staffed by five employees, the office has more than 165 actively referring caregivers and recently opened a satellite location.

Location no. 3: Established in 1984 to serve the western suburbs of a major metropolitan city in eastern Pennsylvania, this corporately-owned office is staffed by six employees and has more than 140 actively referring caregivers. This office is situated in the most affluent region, comparative to all other participating offices and franchises.

Location no. 4: Located in rural southern Delaware, this franchise has three employees and more than 140 actively referring caregivers. Since opening in 2004, the region has experienced a rapid influx of retirees looking for housing in relative proximity to ocean beaches in the area.

Location no. 5: Opened in 1993, the final franchise is based in a well-populated urban setting in New Jersey. This location has seven employees and more than 200 actively referring caregivers who provide services in two diverse environments – in several seaside townships predominantly populated by retirees, as well as in rural areas toward the west.

Study Procedures and Instruments

Protecting Confidentiality

Care was taken to ensure that supervisors and administrative staff remained blind to research details, beyond information necessary to engage in procedures for which the individual was directly involved. As previously noted, caregivers were assigned unique identification numbers within each franchise, and this identification number was used as a label for all materials completed by or about each caregiver. Coordinators in each franchise were assigned ID numbers to ensure their privacy, and materials from each franchise were labeled by a franchise-specific four-digit number, as well.

A single individual (i.e., the franchise director or manager) within each franchise maintained a confidential master list of ID number assignments in a designated study binder. Although each caregiver signed a cover page when completing his or her study materials, this cover page was removed from the materials and stored within the study binder, as a means for cross-checking the caregiver's name and ID assignment, if needed, and as evidence of the caregiver's study participation. Although the individual with access to this binder maintained the master list and had a role in converting ID numbers to names on the solicitation lists for that franchise, he or she was never provided access to caregivers' Participant Screening Tool scores. Finally, the purpose of each categorization (and the category labels themselves) was never defined for the franchise director or the soliciting coordinator.

Data collection procedures. These related procedures were followed when collecting caregivers' study data: The participant was asked to complete the RCQ after being told that this exercise would help Griswold Special Care learn about how the participant thinks about others,

which may be useful for hiring caregivers to work with clients. The participant additionally was asked to watch a brief DVD (described elsewhere) of an elderly person talking about several life experiences, with a rationale provided that the elderly person represents someone similar to a typical client through Griswold Special Care. The participant was then asked to complete a modified version of the RCQ with respect to the elderly person, as well. Finally, the participant was instructed to answer several demographic-related questions attached to the RCQ materials.

One coordinator administered the instrument and background materials to all participants at that franchise. This coordinator was responsible for handling materials, reading instructions aloud as the caregiver read along, operating the DVD player, answering general procedural questions, and monitoring the environment as the caregiver completed materials throughout the approximately 45-minute process.

After being completed, the caregiver's materials were given to the franchise director, who added the caregiver's ID number and removed the cover page prior to storing the materials in the study binder. Once a week, any accumulation of completed materials was mailed to the researcher for scoring and analysis.

Instruments

Franchise coordinators rated each caregiver on their interpersonal-behavioral skills using the Participant Screening Tool, or PST. Instrument components were derived as follows:

Global behavioral scale. Person-centered behaviors were explicitly identified to standardize the rating criteria used for selecting caregivers. (See Appendix A.) The global behavioral scale consisted of 9 items modified from an 11-item scale that was developed from

previous research on person-centered caregiving (Grosch, Medvene, & Wolcott, 2008) and interpersonal interactions between caregivers and long-term care residents (McGilton, 2003, 2004), as well as between physicians and their patients (Roter, 1989). An example of an item included in this scale is: “Treats the Client like he or she is worthy of a relationship” versus “Is indifferent to a connection or bond with the Client.” Cronbach’s alpha for the scale was $\alpha = .95$. Although items were originally created using a 7-point semantic-differential format, they were reformatted for a maximum of 5 points to simplify the rating process for coordinators.

After piloting the PST with Griswold coordinators and administrators not participating in this study, the researcher added brief definitions to each scale item to ensure that person-centered behaviors were interpreted identically across all franchises. For instance, “Is intolerant of frustration” was defined as “Loses patience, is irritated if tasks don’t go smoothly,” whereas “Tolerates frustration” was defined as “Maintains patience, accepts that tasks may not go smoothly.” Definitions were generated both from descriptions included in the original global scale training materials and from dictionaries, before being rewritten in lay terms. Finally, given its importance to both clients and coordinators in services provision, an item was added with reference to the caregiver’s reliability, for a total of 10 items on the scale. Cronbach’s alpha indicated strong internal reliability, $\alpha = .94$.

English fluency scale. Based on concerns expressed by Griswold administration about possible language barriers impeding caregivers’ performance in this study, three items were added to the PST to inquire of coordinators about caregivers’ basic speaking, reading, and writing skills. These items were derived from a modified version of a self-reported English fluency scale, as published by Yeh and Inose (2003); Cronbach’s alpha was assessed as $\alpha = .78$.

This method of fluency assessment was previously documented by Barratt and Huba (1994) and by Cross (1995). Dao, Lee, and Chang (2007) used the Yeh and Inose scale in additional published research, with good internal consistency (Cronbach's $\alpha = .81$).

The three items on the language scale involved a 5-point Likert scale that included an additional option for coordinators to respond that they didn't know about the caregiver's skill level in this domain. (See Appendix A.) The researcher used these responses as a means of identifying caregivers with extremely poor English language mastery (i.e., scores of 1 to indicate very poor speaking, reading, or writing skills). Responses to the speaking item also enabled the researcher to monitor whether a coordinator appeared to lack sufficient familiarity with a caregiver to complete the PST.

Scoring the PST. The structure of the PST made scoring a simple process: In all instances, higher behavioral ratings indicated more advanced person centeredness. As such, assessment of a caregiver's overall person-centered behavioral skills involved adding the rating value circled for each item. Because there were 10 behaviors, a caregiver's score could range from a low of 10 to a high of 50.

In all, 554 Participant Screening Tools were completed by franchise coordinators and scored by the researcher for categorizing and subsequent soliciting purposes. PST scores ranged from as low as 22 to as high as 50 ($M = 43.66$, $SD = 7.18$). The median score was 47.

As would be expected with an extreme-groups design, PST scores for all completed instruments were significantly different between the two categories, $t(324.45) = 23.72$, $p < .01$ (equal variances not assumed). Among those caregivers solicited for *Category A* (i.e., highly person-centered participating caregivers), scores ranged from 42-50, with a mean of 49.11

($SD = 1.79$); the group median was 50. Among those solicited for *Category B* (i.e., marginally person-centered participating caregivers), scores ranged from 21-49 ($M = 40.16$, $SD = 6.02$); the median was 41 for this group. (See Table 2.)

Among caregivers who agreed to participate in this study, PST scores ranged sample-wide from 22-50, with a mean of 43.7 ($SD = 7.24$). Exceptional caregivers' scores ranged from 43-50; scores for marginal caregivers ranged from 22-48. The average PST score for *Category A* was 49.31 ($SD = 1.78$), versus 38.00 ($SD = 6.14$) for *Category B*. Categorical differences were significant, $t(66.40) = 13.47$, $p < .01$ (equal variances not assumed).

The vast majority of caregivers participating in this study were rated by their coordinators as being accomplished at communicating in English. Sample-wide, in no instance was a caregiver rated as very poor (scored as 1) in speaking skills. Across all franchises, 94.8% were rated either as good or very good. Among those included in *Category A*, 94.9% were rated as good or very good at speaking in English. Caregivers in *Category B* scored virtually the same (94.9% rated as good or very good). A single caregiver – within *Category B* – was rated as poor in English speaking ability. In no instance did a coordinator not provide a rating in this domain.

Coordinators were less confident in assessing caregivers' reading and writing skills. Among study participants sample-wide, 82.2% were rated as good or very good at reading in English. However, coordinators reported another 17.1% ($N = 20$) of all caregivers had reading skills unknown to them. Among caregivers ultimately included within *Category A*, 86.5% were rated as good or very good at reading English, which compares to 77.6% within *Category B* on this dimension. Interestingly, coordinators were nearly twice as confident about caregivers classified within *Category A* than within *Category B*: 11.9% ($N = 7$) in *Category A* had English reading skills unknown to their coordinators, compared to 22.4% ($N = 13$) in *Category B*.

Table 2:

Participant Screening Tool, Role Category Questionnaire Scores by Franchise, Overall (raw data)

Demographic: <i>M</i> (<i>SD</i>)	Level of Analysis						
	<u>Franch. 1</u>	<u>Franch. 2</u>	<u>Franch. 3</u>	<u>Franch. 4</u>	<u>Franch. 5</u>	<u>Overall</u>	
PST	Category A	50.00 (0.00)	46.58 (2.58)	50.00 (0.00)	50.00 (0.00)	50.00 (0.00)	49.31 (1.78)
	Category B	39.17 (8.39)	34.75 (3.60)	36.09 (4.66)	43.58 (4.34)	36.09 (4.61)	38.00 (6.14)
	Overall	44.58 (8.02)	40.67 (6.77)	43.35 (7.77)	46.65 (4.49)	43.35 (7.76)	43.70 (7.24)
RCQ	Category A	22.5 (7.07)	20.92 (6.75)	18.33 (5.18)	21.73 (11.03)	28.67 (12.45)	22.44 (9.25)
	Category B	16.33 (6.18)	18.08 (10.72)	20.00 (5.27)	19.17 (9.49)	16.36 (4.93)	17.98 (7.63)
	Overall	19.42 (7.22)	19.50 (8.88)	19.13 (5.17)	20.39 (10.10)	22.78 (11.31)	20.23 (8.74)

Coordinators rated their caregivers as least skilled with respect to their English writing skills, if they were sufficiently familiar with caregivers' abilities to provide a rating.

Coordinators rated 73.5% of caregivers as good or very good at writing in English, but an additional nearly one-fourth ($N = 25$) as having written skills unknown to them. Within *Category A*, 79.7% of caregivers were rated as good or very good, and another 15.3% ($N = 9$) had unknown writing skills. This compares with 67.2% of caregivers in *Category B* who were rated as good or very good at writing in English. Coordinators reported not knowing the writing abilities of 27.6% of caregivers in this category ($N = 16$).

In no instance was a caregiver rated as very poor (i.e., score of 1) in reading or writing in English, provided that the coordinator was sufficiently familiar with the caregiver to assess his or her skills in these areas. The three language-related items had acceptable internal consistency; Cronbach's alpha was $\alpha = .78$.

Role Category Questionnaire. The Role Category Questionnaire (RCQ) instructs the writer to describe a liked (and then disliked) person as thoroughly as possible so that a reader could recognize this person, based on the written description. Prompts are provided to emphasize the desired types of information. For instance, the writer is encouraged to consider the person's likes and dislikes, value system, habits, behavior, and treatment of others. (See Appendix C.)

The original two-person version of this instrument was previously modified to clarify instructions for research participant samples drawn from geriatric nurse aide training classes through an area technical college (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006). The researcher collaborated with instructional staff at the technical college during the modifying and piloting process, and revisions accommodated a 6th grade reading ability. The same RCQ materials were used with caregivers across all franchise locations, which included a script that was read verbatim during instrument administration. (See Appendix D.)

DVD. An 11-minute DVD biography was shown to caregiver participants as part of the interpersonal cognitive complexity measurement process. This was a DVD of an elderly person ("Carl") who discussed experiences and favorite memories across his lifespan. Although the elderly person is now deceased, written permission for use of the DVD biography was obtained through contacting his closest surviving relative for signed consent.

Post-DVD RCQ. After watching his DVD, participants were asked to describe their impressions of Carl on a form very similar to that of the traditional RCQ (Appendix E). This component and the DVD were included to enhance face validity. Instructions were identical,

except that participants described Carl, as opposed to someone known whom they liked or disliked. After participants described Carl, they were asked to indicate how difficult it was to describe this unknown elderly person, as well as how likeable he seemed to them. Finally, they were asked to indicate how difficult it is to describe others in general. All three questions involved 5-point Likert style response options.

Demographic information. Additional demographic information was sought for exploratory purposes, including caregiver gender, age, race/ethnicity, education and technical training, professional caregiving experience (in general and at Griswold), location of birth, native language, and length of English language use (Appendix F).

RCQ Coding and Scoring Procedures

Data entry and processing of all materials was completed by the researcher, who maintained the categorization lists for each franchise in a separate location until after instruments were scored and all data were entered into a combined dataset for analysis. Caregiver categorizations were withheld from coders throughout their scoring involvement.

Procedurally, a package of completed instruments would arrive at the researcher's home, where written descriptions were input into an electronic Excel template that could be emailed to coders for scoring purposes. This method eliminated potential scoring issues based on coder differences in deciphering participants' handwriting (i.e., penmanship issues).

Entry unitizing. The purpose of unitizing was to ensure that multiple coders considered the same content within the same instrument during any single scoring instance. It also

established a consistent method of chunking similar types of entries across instruments sample-wide.

Unitizing began with the researcher literally deciphering a single written entry (i.e., an isolated adjective or adverb or logically grouped phrase or sentence). On the occasion that handwriting was exceptionally poor, the actual instrument (or a copy) was shown to other university graduate students, faculty, or the study coders (with the ID number obscured) for deciphering assistance. All but 2-4 single entries across all instruments were decipherable using this method. In instances in which the entry could not be deciphered into literal words, the researcher's best impression of the written letters was entered (i.e., a nonsensical entry was included in the template) for scoring consideration.

Once the literal words were deciphered, any misspelled words were entered into the electronic template "as is" but also accompanied by their correct spelling [e.g., boysterus (boisterous)] in parentheses for coder clarification, to remain true to the original entry. In instances in which the sentence was awkwardly worded or grammatically incorrect, which might have made understanding the writer's message more challenging for the coder, the sentence was rephrased (in parentheses) for clarification, as well. For instance, a written description of "She meen at others" would be entered into the template as follows: "She meen at others (She's mean to others)."

Although the two-column layout of the RCQ response page was designed visually to encourage the participant to use short phrases and sentences when describing others, it was not uncommon for a participant to include several adjectives or thoughts in a single phrase or sentence; alternatively, the participant would literally write in paragraph form across the page, disregarding the two-column format. For instance, a description excerpt may have read: "I lik

him becus hes good at standin up fer freinds and is a grate lisner. Hes also pertty funny and we have a good time togeter.” In such instances, in addition to correcting for spelling and basic grammatical errors, the final unitizing step involved the separation of words, phrases, or sentences into unique entries in the electronic template for scoring consideration. Thus, the example would be entered into the template on four separate lines for scoring purposes:

- I lik (like) him becus (because) hes (he’s) good at standin (standing) up fer (for) friends (friends). (I like him because he’s good at standing up for friends.)
- (I lik him becus hes good at standin up for freinds and) is a grate (great) lisner (listener). (He is a great listener.)
- Hes (He’s) also pertty (pretty) funny. (He’s also pretty funny.)
- (Hes also pertty funny, and) we have a good time togeter (together).

Coders scored the first sentence and then scored the remainder of the sentence in the subsequent entry, ignoring the portion repeated parenthetically at the beginning of the sentence. Previous portions of a sentence were always included parenthetically in subsequent entries for the coder’s reading clarification purposes, if needed, and when there were multiple spelling or grammatical errors, the overall sentence was rewritten as a whole, again for the coder’s reading benefit. This unitizing procedure is similar to previous published research (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006) involving this instrument.

The unitizing process also was carried out on the basis of a decisional rule to err on the side of the participant’s benefit. In other words, if a sentence could be broken into multiple entries for scoring consideration, it was. As such, an (extreme) example entry of “She’s really caring toward her family, her friends, and even strangers on the street” would be conceptualized (unitized) for scoring purposes as three separate entries:

- She's really caring toward her family
- (She's really caring toward her family), her friends (She's really caring toward her friends)
- (She's really caring toward her family, her friends,) and even strangers on the street.
(She's really caring toward even strangers on the street)

Culling separate possible constructs from this entry type is harmonious with Bronfenbrenner's theory of environmental systems, and it is similar to unitizing and coding systems involved in previous published research (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006). Finally, it is consistent with an inherent theme in Crockett's (1965) works to err toward the benefit of the writer.

RCQ codebook. Crockett (1965) provided a set of basic rules for scoring completed RCQ instruments, which the researcher used for developing an initial codebook in previous work (Grosch, Medvene, & Wolcott, 2008; Medvene, Grosch, & Swink, 2006). Prior to scoring instruments for this study, the researcher consulted with active researchers in the field, in addition to reviewing articles in the literature for exemplars and collaborating with coders (described subsequently) about final decision-making rules. (See Appendix G.)

In essence, the final product instructed coders to determine whether an entry represented a psychological characteristic or attribute or a recurrent behavior that was strongly descriptive of a psychological characteristic or attribute (scored as "1"); or whether it represented a description of a physical appearance or demographic, general or isolated behavior, social role, or other rule-based rationale for rejection (scored as "0"). Additionally, coders had to determine whether subsequent entries were duplicates of a previous entry (also scored as "0"). This codebook

reduced ambiguity by more explicitly defining psychological characteristics or attributes, general or isolated behaviors, physical appearance or a demographic, and social roles. It also highlighted the importance of degree of strength or intensity, when placed in conjunction with a noun as emphasis. Explicit rules were added for scoring each of the more challenging description types, with several examples and related rationales also included.

Coder Training

Five coders (4 females, 1 male) assisted with scoring all instruments for this dissertation. Coders included a Ph.D. graduate student, two advanced undergraduate students with extensive research background (one of whom had previously worked several semesters with the RCQ in a graduate research group), and two other college students who were taking a Research Methods course that included actual research assistance as a part of their course requirements.

In small groups, pairs, and then one-on-one, as needed, the coders worked through an extensive collection of sample instruments, initially identifying the relevant Crockett rule and providing personal rationale for every entry score. All scored instruments were then compared with identical ones scored by the researcher, and coders were given immediate individualized feedback about their progress and inter-rater reliability. This practice cycle continued at an individualized pace until each coder reached an inter-rater scoring consistency of at least 90% with the researcher. For most coders, inter-rater reliability with the researcher surpassed 96% with practice instruments designed to include multiple examples of previously challenging entry types.

Although coder scoring practice began with whole-group live training, it quickly switched to an individualized online system to mimic coders' eventual scoring experiences with

completed RCQ instruments. Actual coder practice times and individualized guided training varied by the level of acquired coder proficiency.

After reaching proficiency (defined by the researcher as a minimum inter-rater reliability of 90%), each coder typically received weekly emailed mock instruments for scoring and submission to the researcher for ongoing comparison and feedback – even during lulls when actual instruments were not received by the researcher for scoring. Additionally, all coders met twice between early March and late April, when the instruments arrived, to review all coding rules thoroughly as a group to avoid issues pertaining to score drifting. This was also a time during which the researcher provided examples of recent, actual instrument entries that were especially challenging, and during which she provided whole-group feedback about how these newer entries had been scored, to ensure consistency in scoring similar entries in the future. Finally, the researcher independently scored and monitored the scoring of every coder on every instrument, again to observe for signs of deviance from codebook decisional rules and procedures. This procedure helped coders maintain a very high level of inter-rater reliability throughout the duration of the scoring phase of the study.

Instrument assigning. Coders were asked to apprise the researcher of pending exams and major class project deadlines in an effort to structure instrument assignments in a student-centered manner. As a result, coders were assigned groups of 4-10 instruments at a time for scoring, based on their reported availability. The researcher's goal was to have as many instruments as possible scored by at least two coders (in addition to the researcher), wherever possible. Based on this assigning structure and students' availability, no two coders were paired consistently throughout the scoring of all instruments.

Inter-Rater Reliability

In all, 81 of 119 RCQs (68%) were scored by two or more coders. Virtually all instruments additionally were scored by the researcher. To calculate overall inter-rater reliability, the researcher randomly selected six scored instruments from each franchise across the entire sample and then compared two coders' scores within each of those 30 instruments. In instances in which there were more than two coders who scored the instrument, the researcher assigned each coder a unique ID number and then randomly drew ID numbers for inter-rater calculations for that particular instrument. Overall, inter-rater reliability was calculated as .94.

Data Analysis Plan

The researcher examined the variable of interest for extreme outliers and normalized it prior to all analyses. A section on data cleaning is included elsewhere in the Methods section to describe the processes undertaken. Because this study involved an extreme-groups design, Participant Screening Tool scores were considered categorical and left "as is."

Unit of Analysis

The next step was to determine the appropriate unit of analysis: either the individual caregiver or the franchise. Preferred was an analysis at the level of the individual caregiver, in order to maintain the highest possible statistical power. Justification for the individual caregiver as the unit of analysis would be a statistical determination that caregivers were similar in demographics across the entire sample, and that any franchise-level differences would be

unrelated to participants' RCQ scores. Findings regarding the unit of analysis are reported in the Results section.

Hypotheses Testing

The hypothesis was that RCQ-based measures of interpersonal cognitive complexity measures among exceptional caregivers – those placed in *Category A* – would be higher than those of least preferred caregivers, who were placed in *Category B*. Worded differently, there would be a main effect for caregiver skill. A differentiation method of scoring the RCQ that emphasized abstract psychological characteristics was used.

The study involved an extreme-groups design, which is frequently used in research as an alternative to random group assignment (Preacher et al., 2005), with the hypothesis tested with a t-test (and Analysis of Variance for calculating an effect size).

The researcher also explored whether RCQ scores and other demographic variable combinations might be related to whether caregivers were categorized into the *A* and *B* groups, using logistic regression.

Data Cleaning: Normalizing the Distribution of RCQ Scores

Distribution of RCQ Scores

Because this was an extreme-groups design (Preacher et al., 2005), the primary variable of analysis interest was the distribution of caregivers' RCQ scores. Sample-wide, scores were quite varied, ranging from as few as 8 constructs to as many as 56 ($M = 20.55$, $SD = 9.27$) constructs. The median was 18.00. The responses of three participants were discarded prior to

scoring due to incompleteness or misunderstanding of the instrument instructions (i.e., the individual described others in general, rather than two specific persons).

Initial examination of the variable for the overall sample ($N = 119$) showed a strong positive skew (5.88) and kurtosis (4.69), which suggested a nonnormal distribution. This was further indicated by a significant Kolmogorov-Smirnov test, as well as by visual examination of stem-and-leaf and boxplot outputs, which showed the presence of five outliers. There were no missing data.

Because this variable would be tested by PST categorical assignment (*Category A* versus *Category B*), raw scores were further examined for normality at this dichotomous grouping level (Mertler & Vannatta, 2002). Participant numbers were fairly comparable (i.e., 59 in *Category A*, 60 in *Category B*), with scores ranging from 8-50 constructs ($M = 22.44$, $SD = 9.25$) in *Category A* and from 8-56 constructs ($M = 18.68$, $SD = 8.97$) in *Category B*. *Category A* was positively skewed (2.93) with a positive kurtosis (1.45); *Category B* was severely positively skewed (6.16) with a severe positive kurtosis (8.00). Kolmogorov-Smirnov supported nonnormality ($p < .01$) within both categories, with stem-and-leaf inspections demonstrating existence of one outlier in *Category A* and four within *Category B* – one of which was very extreme.

Examination of this extreme *Category B* outlier (case no. 4239) indicated that the individual was ranked in the bottom 25th percentile (30th out of 40) in calling preference for the referring franchise, with a Participant Screening Tool score of 41 points (out of a possible 50). The RCQ score for this case was 56 constructs – i.e., the highest score sample-wide and nearly 4 standard deviations above the overall mean. Additionally, this score was more than 4 standard deviations above the caregiver's assigned category mean. In other words, this caregiver was rated more advanced than most caregivers for person centeredness within the marginal category,

and this caregiver scored higher on the RCQ than virtually anyone sample-wide. This case was dropped from the total sample, based on the concern that the individual was inappropriately assigned to this category.

After confirming that nonnormality persisted, the decision was made to undertake a log₁₀ transformation of the overall variable. A review of the transformed data ($N = 118$) demonstrated reasonable resolution of both skewness (.48) and kurtosis (-1.02) for an overall sample of this size (Mertler & Vannatta, 2002), with normality further supported by a nonsignificant Kolmogorov-Smirnov test and through visual inspection of stem-and-leaf and boxplots. At the categorical grouping level, skewness and kurtosis issues were resolved, as well; -.39 and .51 for *Category A* ($N = 59$), as opposed to 1.00 and -.28 for *Category B* ($N = 59$), respectively. The Kolmogorov-Smirnov test was nonsignificant for each group, and stem-and-leaf and boxplots showed further evidence of normality.

Preliminary analyses involving demographic variables suggested that education played a role in caregivers' RCQ scores. Because of its potential relevance, the RCQ variable was additionally screened at an educational grouping level (Mertler & Vannatta, 2002), which resulted in identification of two cases from different franchises within *Category A* in which the individuals did not disclose an education response. Boxplots and stem-and-leaf outputs also identified an extreme outlier within *Category B* (< HS).

Examination of this outlier (case no. 6343) indicated that the caregiver was ranked in the bottom 25th percentile (33rd out of 40) in contacting preference for the referring franchise, with a fairly high Participant Screening Tool score for a *Category B* classification, at 41 points. The RCQ score for this caregiver was 22, which was 2.64 standard deviations above the mean of this

group. The researcher dropped this case from the sample based on the potential for this caregiver to have been inappropriately assigned to *Category B*.

The transformed variable was reassessed at the education grouping level, and skewness and kurtosis were found to be reasonable across all levels within both categories. Stem-and-leaf and boxplot outputs identified three remaining outliers, all within the same grouping cell (*Category B*, < HS). However, none was extreme. Mertler and Vannatta (2002) suggest that a minimum number of non-extreme outliers is to be expected (and is acceptable) with sample sizes in excess of 100. Kolmogorov-Smirnov tests were nonsignificant across all grouping cells.

Based on concerns expressed by Griswold administration about potential language barriers affecting instrument performance, the researcher intended to split the RCQ dataset by language of origin for exploratory analyses involving participants with a non-native English language background. For this reason, the RCQ variable was additionally screened by this grouping level, as well.

Sample-wide, there were 87 native English speaking participants, of whom 44 were assigned to *Category A*, leaving 43 assigned to *Category B*. Within *Category A*, RCQ scores ranged from 10-50 constructs ($M = 23.36$, $SD = 9.64$); scores ranged from 9-37 within *Category B* ($M = 17.74$, $SD = 6.35$). Skewness and kurtosis were nonproblematic for this subsample, and stem-and-leaf and boxplot outputs indicated a lack of outliers. Kolmogorov-Smirnov results further supported normality.

Across all franchises, there were 30 non-native English speaking participants equally divided between *Category A* and *Category B*. Within *Category A*, RCQ scores ranged from 8-32 constructs ($M = 19.73$, $SD = 7.68$); *Category B* participants' scores ranged from 8-44 ($M = 18.67$, $SD = 10.75$). Skewness and kurtosis were reasonable, and stem-and-leaf and boxplot outputs

indicated the absence of outliers. Kolmogorov-Smirnov tests were nonsignificant across both categories, as well.

A final reassessment of the RCQ variable, both sample-wide and at the categorical level, verified normality for this critical variable. As such, the decision was made to make no additional alterations or transformations to the dataset. The reader is advised that reporting of frequencies and percentages (e.g., Table 1) is based on raw scores, whereas reporting of analyses (e.g., ANOVA, logistic regression, etc.) is based on transformed scores.

CHAPTER 4

RESULTS

Unit of Analysis

Table 1 shows that caregivers differed by franchise with respect to ethnicity (collapsed to Caucasian vs African American or Black vs Other), native language (collapsed to English vs Other), and continent of origin (collapsed to North America vs other), and differences approached significance with respect to preferred language (collapsed to English vs Other).¹ However, none of these demographic variables was significantly related to participants' RCQ scores: ethnicity, $F(2, 110) = .17, p = ns$; continent of origin, $t(109) = .47, p = ns$; native language, $t(115) = 1.10, p = ns$; and preferred language, $t(114) = .88, p = ns$. (See Table 3.)

Results from a one-way Analysis of Variance (ANOVA) demonstrated significant RCQ score differences based on caregivers' educational background, $F(2, 112) = 14.36, p < .01$: Dropouts had significantly lower RCQ scores ($M = 13.61, SD = 4.77$) than high school graduates ($M = 20.16, SD = 8.20$) and those who went on to college ($M = 23.04, SD = 9.09$). See Table 3. Although caregivers with college experience typically scored higher than high school graduates on the RCQ, mean differences were not significant. Regardless of this impact on RCQ scores, caregivers across all five franchises were comparable with respect to educational background, $X^2(8, N = 115) = 5.90, p = ns$.²

¹Minimum expected cell size violations suggest potentially less reliable chi-square outputs for ethnicity and preferred language, although this impact is controversial (Berry & Mielke, 1988; Bradley et al., 1979; Camilli, 1990; Camilli & Hopkins, 1978; Camilli & Hopkins, 1979; Collins & Morris, 2008; Delucchi, 1983; Overall, 1980; Overall, Rhoades, & Starbuck, 1987; etc.).

²Minimum chi-square cell violations of marginal deviation (4.4-4.8) are noted; further collapsing to address this violation would have reduced its meaningfulness with respect to possible research implications, as discussed later.

Table 3:

Association of Participant Characteristics with RCQ Scores and PST Categorizations

Demographic Variable:	RCQ		PST Category		
	Score	<i>p</i>	% A	% B	<i>p</i>
Gender: <i>M (SD)</i>					
Male	19.60 (5.98)	.87 ^a	6.80	1.70	----
Female	20.26 (8.86)		93.20	98.30	
Ethnicity: <i>M (SD)</i>					
Caucasian	19.04 (5.87)	.70 ^b	21.10	26.80	.77 ^c
Afr./Black	20.72 (9.39)		63.20	58.90	
Other	20.29 (10.31)		15.80	14.30	
Education: <i>M (SD)</i>					
< High school	13.61 (4.77)	.01 ^b	14.00	25.90	.28 ^c
High school	20.16 (8.20)		35.10	29.30	
Some college	23.04 (9.09)		50.90	44.80	
Technical Training: <i>M (SD)</i>					
None	17.82 (9.01)	.18 ^b	28.80	37.90	----
CNA/HHA/CMA	21.11 (8.66)		57.60	50.00	
Other Medical	22.17 (6.15)		6.80	3.40	
Non-Medical	23.22 (8.38)		6.80	8.60	
Continent of Origin: <i>M (SD)</i>					
North America	20.71 (9.43)	.71 ^b	57.10	69.10	----
South America	25.00 (0.00)		1.80	0.00	
Africa	20.00 (8.45)		32.10	27.30	
Europe	15.20 (3.03)		7.10	1.80	
Asia	19.00 (8.49)		1.80	1.80	
Native Language: <i>M (SD)</i>					
English	20.59 (8.61)	.46 ^a	74.60	74.10	.96 ^c
Other	19.20 (9.19)		25.40	25.90	
Preferred Language: <i>M (SD)</i>					
English	20.55 (8.65)	.54 ^a	84.70	84.20	.94 ^c
Other	19.17 (9.17)		15.30	15.80	
Age (Yrs)	-.16	.09 ^d	49.33 (13.74)	52.91 (12.43)	.15 ^a
Years of English Language Use (Non-Native Caregivers)	.29	.16 ^d	26.42 (16.07)	26.57 (14.24)	.98 ^a
Care Experience (Yrs)	-.01	.92 ^d	11.58 (8.24)	10.94 (7.33)	.66 ^a
GSC Experience (Yrs)	-.01	.98 ^d	6.53 (5.81)	5.00 (4.50)	.11 ^a

---- Nonreported significance levels are due to violations of minimum cell requirements for chi-square.

^a = Calculated with t-test.

^b = Calculated with ANOVA.

^c = Calculated with chi-square.

^d = Calculated with Pearson's Product correlation.

Other demographic variables (i.e., age, professional caregiver experience, and length of employment at Griswold Special Care) were continuous in nature. Analysis of Variance demonstrated much variation across franchises for caregiving background, but not age: Overall caregiving experience, $F(4, 108) = 3.64, p < .01$; and professional affiliation with Griswold Special Care, $F(4, 112) = 6.48, p < .01$. However, as with the categorical demographics, these continuous variables were not significantly correlated with RCQ scores.

Implications with regard to years of English language use are pragmatically relevant only to non-native English language speakers. As such, the dataset was split (native versus non-native English background) prior to analyses. English language use ranged from 5-55 years among non-native speakers sample-wide ($N = 26$), with a mean of 26.50 ($SD = 14.80$) years. Caregivers within both categories were comparable in English language use: 26.42 ($SD = 16.07$) years within *Category A* versus 26.57 ($SD = 14.24$) years within *Category B*, respectively. Non-native speakers had similar English use experience across the five franchises, as well, ($N = 26$), $F(4, 21) = .55, p = ns$. English language use was unrelated both to caregiver categorization, $t(24) = -.03, p = ns$, and to RCQ scores, $r(26) = .29, p = ns$. See Table 3.

With respect to more general English communicative skills development, three informal language-related items were included on the Participant Screening Tool, as previously described. These enabled coordinators to rate non-native caregivers' English speaking, reading, and writing skills (using a 5-point Likert scale). The three items were compared with RCQ scores for exploratory purposes through correlations, which demonstrated non-significant relationships for all items: Speaking, $r(30) = .24, p = ns$; reading, $r(21) = .19, p = ns$; and writing, $r(20) = .33, p = ns$. Additionally, none of the language variables was significantly related to caregiver categorization, as confirmed through t-tests.

In summary, caregivers across the three states differed by franchise with respect to ethnicity, continent of origin, native language, and preferred language. Importantly, however, these differences were not significantly related to the primary variable of interest – i.e., caregivers' RCQ scores. Although educational attainment was associated with scores on this instrument, caregivers across the sample were fairly homogeneous with respect to this characteristic. Griswold-related and overall professional caregiver experience varied by franchise, but these characteristics were not associated with RCQ scores. Exploratory questions related to language mastery failed to demonstrate significant categorical differences among caregivers, and furthermore, coordinator ratings were uncorrelated with participants' actual RCQ scores.

Based on the overall non-relationship of demographic differences with RCQ scores, data across franchises was combined for testing the hypothesis at an individual-based unit of analysis.

Testing the Hypothesis

Hypothesized was that RCQ measures of interpersonal cognitive complexity among exceptional caregivers (*Category A*) would be higher than those of caregivers least recognized (*Category B*) by their supervisors for their care quality. Sample-wide ($N = 117$), RCQ scores ranged from 8-50 ($M = 20.23$, $SD = 8.74$) constructs. Among participants in *Category A* ($N = 59$), scores ranged from 8-50 ($M = 22.44$, $SD = 9.25$) constructs, whereas they ranged from 8-44 ($M = 17.98$, $SD = 7.63$) constructs in *Category B* ($N = 58$).

A t-test was undertaken to evaluate this assertion, which resulted in confirmation of the tested hypothesis: $t(115) = 2.92$, $p < .01$, $\eta^2 = .07$.

Impact of Other Demographic Variables

Based on Griswold's interest in using this instrument for screening purposes with applicants of differing language backgrounds, the researcher re-examined this hypothesis for exploratory purposes, after splitting the dataset (native versus non-native English speaking status). T-test results held – and even strengthened – among native speakers ($n = 87$), $t(85) = 3.15, p < .01, \eta^2 = .11$. However, this was not the case for non-native English speakers ($n = 30$): $t(28) = .63, p = ns, \eta^2 = .01$. Nonetheless, RCQ scores were in the expected direction for non-native speakers, with caregivers in *Category A* scoring an average of 19.73 constructs ($SD = 7.68$), compared to those in *Category B* scoring an average of 18.67 ($SD = 10.75$).

Although information was collected on a number of other caregiver demographics, none was significantly related to RCQ scores – with the exception of education. To ensure that educational background was directly relevant to RCQ scores – and free of the influence of maturation – the researcher explored the impact of this variable with caregivers' age specified as a covariate through Analysis of Covariance (ANCOVA). Educational impact remained stable, $F(2, 105) = 12.42, p < .01, \eta^2 = .19$.

Exploring the RCQ as a Predictor of Categorization Membership

Because RCQ scores were significantly related to PST categorization, logistic regression was conducted (enter method) to explore the potential usefulness of this instrument for classifying caregiver quality (i.e., category membership). Considered independently for its impact, RCQ scores significantly predicted whether a caregiver was placed in *Category B*, the group indicative of a less than stellar caregiver, $\chi^2(1) = 8.31, p < .01$. The resulting model suggested that 65.5% of caregivers were correctly identified in this category, whereas 61% were

correctly placed in *Category A* (excellent caregivers) – for an overall accurate prediction of 63.2%. Cox & Snell and Nagelkerke calculations suggested that about 7%-9% of the variance could be predicted from this single variable.

Logistic regression was recalculated with the native English language subsample ($N = 87$) after parceling out the non-native subsample for which there was no demonstrated categorical relationship. The logistic model improved slightly on predicting whether a caregiver was placed in *Category B* (less than stellar caregiver), $X^2(1) = 9.54, p < .01$. The resulting model suggested that 65.5% of caregivers were correctly identified in this category, whereas 61% were correctly placed in *Category A* (excellent caregivers) – for an overall accurate prediction of 63.2%. These classifications are identical to the previous model involving the entire sample. However, Cox & Snell and Nagelkerke calculations were strengthened, suggesting that about 10%-14% of the variance could be predicted from this single variable.

Among the non-native English speaking subsample ($N = 30$), the model was not significant: $X^2(1) = .42, p = ns$. Although 60% of caregivers were correctly classified both in both categories, Cox & Snell and Nagelkerke calculations were minimal (1%-2%).

Exploratory analyses failed to identify significant relationships between categorization and any of the demographic variables. As such, no additions were made to attempt to improve the prediction model.

CHAPTER 5

DISCUSSION

The purpose of this research was multi-fold: One purpose was to advance the field of interpersonal cognitive complexity by exploring whether the RCQ was related to differences in home health aides' abilities to deliver person-centered care to an elderly population. A second was to administer the RCQ and explore its use with a population that includes non-native English speakers. A final purpose was to explore the potential usefulness of this instrument as a screening tool for identifying person-centered caregivers during the hiring process.

Purpose 1: RCQ Relationship to Caregiver Person Centeredness

Hypothesized was that RCQ-based measures of interpersonal cognitive complexity would be higher in excellent providers of caregiving services to the home-based elderly, when compared with marginally skilled caregivers. Overall sample results support this assertion, with caregivers recognized as exceptional by their supervisors scoring significantly higher than their lesser skilled colleagues. Sample-wide, less person-centered home health aides generated four fewer psychologically-oriented constructs, on average, when compared with their exemplary counterparts.

These general findings supplement more than 40 studies in the professional literature that demonstrate a strong relationship between interpersonal cognitive complexity and person-centeredness (Burlison, 1987). The results support the notion that cognitive complexity is about more than differentiated perception and verbal communication skills in the interpersonal realm. For aides who provide home-based health services to the elderly, this study suggests that

advanced interpersonal complexity manifests through the sensitive application of these individuating abilities in the caregiving transaction – i.e., interpersonally cognitively complex caregivers routinely engage in a variety of behaviors that embrace the core tenets of person-centeredness: listening attentively (Burleson & Caplan, 1998); taking others’ perspectives (Hale & Delia, 1976); legitimizing distressed feelings, comforting, and providing emotional support (Burleson & Caplan, 1998; Samter & Burleson, 1984); regulating behaviors (e.g., Applegate et al., 1985; Kline, 1991); persuading (e.g., Applegate, 1982; Leichty & Applegate, 1991; Piche & Roen, 1987; Shepherd & Condra, 1988); and even managing conflicts (e.g., Carrocci, 1985; Saine, 1974).

In addition, this research advances the literature by extending the use of the RCQ to multiple field settings. The majority of published studies on the RCQ involve populations of lab-based college samples. Participants in this research were employed caregivers with well-known performance histories. Furthermore, healthcare professionals with extensive supervisory experience evaluated these home health aides for their person centeredness using a consistent set of theoretically-rooted defining criteria.

Finally, this general outcome is consistent with previous research that provides supportive evidence of a positive association between person-centered caregiving and RCQ-generated interpersonal cognitive complexity scores (Grosch, Medvene, & Wolcott, 2008).

Purpose 2: Administer the RCQ to a Non-Native English Speaking Sample

The literature on interpersonal cognitive complexity is almost exclusively based on samples of native English-speaking populations, whereas this research involves a heterogeneous sample of home health aides. Approximately 41% of participants were born in substantially different regions of the world, and 26% of the total sample indicated that English was a secondary language. Collectively, caregivers brought to this study a background of seven native

languages other than English. If given the option, 15% acknowledged a preference for communicating in a language other than English. The inclusion of a sizable non-native subgroup in research with the RCQ is a further contribution to the field.

Although the study hypothesis that exceptional caregivers would have higher RCQ scores than their marginal colleagues was supported, this assertion did not hold for the non-native English speaking subsample: Non-native English speaking caregivers assigned to *Category A* had an average of 19.73 ($SD = 7.68$) constructs; those assigned to *Category B* scored an average of 18.67 ($SD = 10.75$) constructs. Although scores were in the anticipated direction, their categorical differences were statistically undetectable. Interestingly, RCQ scores were unassociated with any caregiver language characteristics – i.e., English language use experience, preferred language, speaking, reading, and writing skill ratings.

One factor in this exploratory finding may be insufficient sample size (i.e., lack of statistical power to detect significance). The samples for each category were minimal, at 15 apiece, with an observed power of only .09, as calculated through ANOVA (GLM).

An alternative (or contributing) explanation may be that the data inaccurately reflects any impact of language of origin – i.e., non-native participants may have been motivated to respond deceptively to demographic questions related to language or nationality: This is suggestive in that caregivers from two franchises voiced concerns to study administrators that this research may be a guise by immigration officials to verify their legal work status, particularly given that immigration was a sensitive political topic during this election year. As such, they may have indicated in their demographic responses that they were U.S. born (and native English speakers), which would have resulted in their being incorrectly sorted for language-related analyses. This is further suggested in that two native English language speakers reported having less than 10

years of English language use experience. Finally, an additional five native English speaking caregivers chose not to answer the question pertaining to English language use experience.

The scoring approach adopted in this research may further play a role in these findings with respect to categorization among non-native speakers. Many descriptions were challenging to decipher and interpret based on issues with penmanship, grammar, sentence structure, or uncommon phrasing. Although purposeful efforts were made to give native and non-native English participants the benefit of the doubt, it's possible that something inherent to the scoring guidelines used in this research impacted the outcomes for non-native speakers. See the limitations section for additional discussion of this concern.

It would be prudent to interpret these exploratory findings for non-native English speakers with a degree of caution – i.e., to reserve judgment on the appropriateness of the RCQ for non-native language speakers until further research can be undertaken with language mastery as a central focus. Such research would necessitate a change in study design (e.g., confirmation of language of origin, as the critical IV). Given its exploratory role, language-related data in this study were based on caregivers' self reports and coordinators' subjective ratings.

Future research should ideally involve more objective and validated performance-based measures of language mastery (e.g., the Test of English as a Foreign Language, relevant Woodcock-Johnson subtests, etc.). An alternative could be to administer the RCQ in the participant's native language and then translate the participant's descriptions to English for scoring purposes. However, not all concepts and phrases are directly translatable, which ultimately may adversely impact the participant's score.

Purpose 3: RCQ as a Screening Instrument among Caregiver Applicants

The demonstration of a significant relationship between RCQ measures and caregiver ratings is an indication of the possible utility of this instrument for organizations seeking to hire only the most personalizing applicants for servicing their clients. RCQ measures were far superior to any other explored characteristics for estimating the likelihood of how Griswold supervising staff would evaluate caregivers. Home health aides with lackluster supervisory evaluations were especially apt to be classified accurately from scoring low on the RCQ, with the overall model correctly identifying nearly 66% of all caregivers with poorer interpersonal performance habits. An estimated 61% of ideal caregivers across the entire sample were correctly classified based on their RCQ performance.

It is not clear from these results whether the RCQ has comparable merit with non-native speakers, unfortunately. Given that a substantial proportion of Griswold Special Care home health providers are reportedly from non-native English speaking origins, the value of this instrument for potential screening purposes for this organization remains unknown. Subsequent research that explicitly teases this out is warranted, given its commonness in Griswold applicants.

In addition to a more stringent examination of the potential relationship between the RCQ and caregiver performance in a more sizable sample of non-native speakers for increased statistical power, a logical next step may be to consider testing the predictive validity of this instrument: The RCQ could be administered to applicants upon hiring, and after a several-month span of demonstrated behavioral practices, these caregivers could be rated by supervisors for their person centeredness. Supervisory ratings could be compared with caregivers' RCQ score-based classification. If this instrument proves itself in a predictive way, Griswold staff could be

taught to score the RCQ and independently incorporate it as an adjunct to their screening practices.

Over and above the potential issue of language, a consideration that tempers the value of this instrument is its moderate variance in the logistic model, ranging from 6% to as high as 14% (parceling out non-native English speakers). Although this is encouraging performance for a single variable, even the most optimistic variance calculation is still moderate, suggesting that other factors are unaccounted for. Employment screeners with little else to go by may find this measure useful, but ideally, its use should be considered as an adjunct to other screening protocols (e.g., interview, caregiver references, previous work history, etc.). Sole reliance on it for hiring determinations would be ill advised.

Limitations

There are a number of limitations to this research, in addition to the variance and language-related issues previously addressed.

Extreme-Groups Design

First, this dissertation made use of an extreme-groups study design. This introduces a limitation by slightly inflating the likelihood of finding significant group differences (Preacher et al., 2005). Future research could involve a test of the hypothesis under a different design. For instance, the researcher might sort caregivers' scores by multi- rather than dichotomous groupings. An additional alternative may be to consider caregivers' RCQ scores along a continuum.

RCQ Scoring Challenges

Scoring methods are quite varied and somewhat complex with the RCQ, regardless of any particular researcher's approach. This is a major instrument limitation. Expert opinions vary regarding the depth of a description that is necessary to qualify it as a psychologically-oriented construct – as suggested through the researcher's contacts with previous researchers, as well as through the researcher's dissertation chair recoding the participants' responses to the RCQ using his own codebook, for comparative purposes. This recoding will involve the use of a less restrictive set of coding categories which include both concrete as well as more psychologically-oriented or abstract descriptions of others.

Penmanship and grammatical issues additionally complicate the utility of the RCQ for laypersons. Individual writing approaches vary considerably. The scorer must be able to focus on identifying the core, intended message, regardless of grammatical and structural issues that may technically make the entry a crude, incomplete sentence. For example, there were multiple instances in this study in which caregivers began a unit of thought on one line and then completed the rest of the thought in the space *above* the beginning of the sentence – as opposed to *below* it.

Consistency and fairness are additional scoring challenges. There is a fine line between a scorer being necessarily subjective versus excessively interpretative. Although an on-site scorer potentially could ask an applicant for clarification of a written entry, this would deviate from administration protocols.

PST Rating of Person-Centeredness

Overall caregiver quality was operationally defined for this research as a favorable

supervisor rating on the Participant Screening Tool. While this explicitly imposed a structure to help ensure that coordinators in multiple states used identical criteria for defining caregiver quality, rating scales are subjective and may or may not reflect true behaviors. While strongly theoretically driven, this instrument also is not yet well established.

While pragmatic for the purposes of this dissertation, PST scores may not be the best means of accurately gauging a caregiver's person centeredness. Evidence of this concern is that a substantial number of caregivers (41.9%) received 50-point maximum ratings from supervisors, a percentage that seems implausible (i.e., inflated). This is despite multiple attempts to discourage rater bias through both written (by the researcher) and overtly stated (by Griswold administration) reassurances at the study onset.

Impact of Education

Exploratory analyses suggested that education plays an important role on a caregiver's RCQ performance. Caregivers without a high school diploma or equivalent performed significantly worse on the RCQ, when compared with those who graduated or continued on to college. In fact, caregivers with a more advanced education scored nearly twice as high on this instrument as their dropout colleagues. This outcome appears to be over and above the developmental influence of age. Scoring differences between caregivers who stopped their formal academic training after high school and those who continued were not statistically significant. However, they followed a similar trend, with high school graduates performing better than dropouts, but not as well as those with post-graduation academic exposure.

It's not possible to parcel out whether education itself appears to influence RCQ performance, as opposed to these results instead reflecting other influences. For instance, it may

be that individuals who are exposed to higher academic settings perform better on the RCQ because of accumulated exposure to more heterogeneous others. Many college campuses – particularly public universities – are comprised of an eclectic collection of backgrounds, cultures, and belief systems.

Anomalous Franchise Categorization Finding

Interestingly, educational differences may help explain why caregivers' RCQ scores were unexpectedly reversed with respect to categorization for one franchise: *Category A* caregivers within Franchise 3 averaged 18.33 constructs ($SD = 5.18$), whereas those assigned to *Category B* averaged 20 constructs ($SD = 5.27$). While exploring the demographic characteristics for this particular location for possible explanations, the researcher observed that 66.0% of home health aides in *Category A* either dropped out or stopped their formal education after high school. This compares to 90.9% in *Category B* having gone on to college, with virtually all others in that same category having finished high school.

The other characteristic that stood out for that franchise was that virtually all caregivers in *Category A* were given a maximum score possible, which suggests a possible bias in the rating process that drove caregiver classifications. Otherwise, perhaps this difference may be attributable to an anomaly in how the coordinator administered the RCQ at this location. No other clearly apparent differences stood out that might otherwise explain this unexpected outcome, in relation to other franchises across the total sample.

Future Research

There are a number of ways in which future research may expand on these findings. With respect to the study findings between person-centered caregiver skills and interpersonal cognitive complexity, for instance, behavioral skills might be defined and quantified by other means for comparison. Other assessment means might include, for instance, direct (or videotaped) observations of care exchanges that could be analyzed for behaviors that exemplify person centered principles. Simulations could be employed for an alternative behavior sampling, as has been done in previous research. However, the trade-off is that these methods are rather labor intensive and technically challenging to perform. Interviews could be conducted with clients and/or family members who routinely witness care exchanges in order to supplement and validate supervisors' ratings. The field is in need of validated instruments that define, quantify, and measure such behaviors in less technically complicated and more time efficient ways. It would be interesting to see whether alternative measures of person centeredness would improve the variance accounted for in predictive analyses.

Given the coding and scoring variability with the RCQ, future research may want to standardize the general scoring process further by publishing clarification rules, such as those developed in the codebook for this dissertation. Examples of coding issues identified by the researcher prior to the study onset are commonly encountered when scoring this instrument (Kunkel, A., personal communication, Jan. 29, 2008). These types of rules could be refined and, if adopted by others, would further the literature through improving the standardization of RCQ scoring practices.

The publication of numerous explicit exemplars would also be useful to ensure that there is consistency in methodology with respect to rules interpretation, as was attempted with this

codebook. While the adaptability of the RCQ does enable the researcher to tailor scoring to his or her focus and design needs, this variability also may lead to subtle confounds when comparing study outcomes – even though approaches and scoring techniques are labeled as identical in the literature.

The developmental trend demonstrated in this research with higher education should be explored further, since this is counter to research that generally indicates that RCQ-based cognitive complexity measures are independent of academic achievement (Burleson & Waltman, 1988; Allen et al., 1991). Although acknowledged for its developmental growth nature in child and adolescent literature, interpersonal cognitive complexity is generally viewed as relatively stable and persisting across the life cycle (Crockett, 1965; O’Keefe, Shepherd, & Streeter, 1982). There are, nonetheless, occasional studies published on increases in RCQ measures in the aftermath of educational interventions (e.g., for examples, see Duys & Hedstrom, 2000; Little et al., 2005).

Relatedly, future research may focus specifically on the role of higher academic accomplishment versus exposure to more heterogeneous social and cultural experiences, given the importance of interpersonal experiences in development of interpersonal cognitive complexity. It might be interesting to tease the two apart for further exploration in adult populations. Future studies might compare the RCQ scores of individuals with different socio-cultural backgrounds yet identical college setting experiences and attainment, or it might compare samples from smaller private (e.g., faith-based, etc.) college settings, where students presumably are more homogeneous, with samples from larger state university settings, where there may be greater variety with respect to student backgrounds.

This study included a sizable subsample of non-native English speaking participants, for

whom the hypothesis results did not hold at a statistically significant level. Subsequent researchers may want to examine more explicitly the potential impact of language background on RCQ performance. This is especially advisable for Griswold Special Care, given the varied language backgrounds among its home health care providers. Research involving the RCQ is limited with respect to non Euro-American Caucasian participants with non-native English backgrounds. The RCQ literature in general is in need of expansion in areas of diversity.

Finally, with respect to the potential for predictive use of the RCQ for caregiver employment screening practices, much additional work is needed before screeners should consider such use of this instrument with confidence. If future research were to support generalizability through replication of these results with other groups, including larger non-native English language speaking populations, the RCQ may ultimately demonstrate utility for caregiver organizations seeking less overt means of weeding out applicants who are not as likely to deliver – or perhaps more accurately, less capable of delivering – intuitively individualized care. With additional corroborating evidence, the RCQ may serve as an adjunct toward this end.

As previously noted, however, the moderate variance estimated in the logistic regression model suggests there are other, unidentified factors influencing a caregiver's categorization placement. Although subsequent research could test its predictive validity, attention should also be given to looking for other potentially relevant factors not identified and measured in this research – e.g., cultural and eldercare belief differences, instrument measurement differences, etc.

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APPENDICES

Participant Screening Tool

Thank you for your assistance with this *formal study*. Your role is especially important; appropriate participant selection is critical to conducting valid research. This form will help ensure that a similar set of criteria is used by all Coordinators for selecting participants.

Caregiver's name: _____

Note: Do not complete this form on Caregivers you have referred to Clients for less than one month.

Instructions

Please reflect on all feedback you have received from this Caregiver's Client(s) over the past six months, or over as long as you have referred this Caregiver (if less than six months). Also consider what you know about this Caregiver, based on professional interactions you have experienced first hand with him or her during this same period. Once you have a clear sense of this Caregiver's typical style of interacting with and taking care of Clients, please proceed to **Step 1**.

Step 1 

Step 1:

Treats the Client in a stereotyped way

(i.e., does not individualize care or interaction with Client)

Is indifferent to a connection or bond with Client

(i.e., ignores Client's personhood, does not seek bond)

Does not respect the Client's dignity

(i.e., unaware of need to/doesn't preserve Client's dignity)

Does not provide a positive social environment

(i.e., tends to be negative or make hostile statements)

Works in a directive manner

(i.e., controls interaction, is commanding with the Client)

Is over-nurturing

(i.e., overly sympathetic/intimate, superficially respectful)

Is intolerant of frustration

(i.e., loses patience, is irritated if tasks don't go smoothly)

Ignores the Client's likes and dislikes

(i.e., ignores Client's likes/dislikes in care and interaction)

Has a negative affect

(i.e. shows negative facial expressions/feelings with Client)

Is unreliable

(i.e., is undependable, often late, lacks follow through)



1 2 3 4 5

Treats the Client like a person

(i.e., respects Client's personhood, includes unique care/interaction)

Treats the Client like he or she is worthy of relationship

(i.e., values the Client, seeks a bond or connection)

Respects the Client's dignity

(i.e., acts to preserve Client's dignity throughout care/communication)

Provides a positive social environment

(i.e., strives to make positive, upbeat statements)

Works cooperatively

(i.e., works WITH Client, shares control during tasks, conversations)

Is affirming

(i.e., communicates respectfully, acknowledges Client's competence)

Tolerates frustration

(i.e., maintains patience, accepts that tasks may not go smoothly)

Takes the Client's likes and dislikes into account

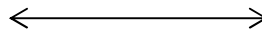
(i.e., learns what Client likes/dislikes, uses that in care and interaction)

Has a positive affect

(i.e. shows positive facial expressions and feelings around Client)

Is reliable

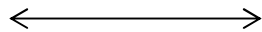
(i.e., dependable, punctual, follows through)



Step 2:

To the best of your ability, based on your interactions with this Caregiver and what you know of his or her interactions with Clients, please respond to the following items about this Caregiver's mastery and use of English language:

	Very Well			Very well		Don't Know
How well can this Caregiver <u>speak</u> in English?	1	2	3	4	5	6
How well can this Caregiver <u>read</u> in English?	1	2	3	4	5	6
How well can this Caregiver <u>write</u> in English?	1	2	3	4	5	6



Thank you for your assistance!

Appendix B

Caregiver Solicitation Script

As you know, *GRISWOLD SPECIAL CARE* is an industry leader in home care because of the outstanding professional Caregivers we refer. We continually seek to refine and improve the methods we use to select individuals that we recommend for referral. Your Office has agreed to try out a new process we may decide to include in our Caregiver selection process.

The Coordinators in the Office feel you would be a good person to help us test this exercise. Only about 150 individual Caregivers are being invited organization-wide to help with this research, so you are one of the selected few. You are being asked to participate because you are an established *GRISWOLD* Caregiver and have worked with *GRISWOLD* for more than six months.

Your participation would involve describing a person who could easily be a client you might take care of through *GRISWOLD*. You also would describe two people you know who are your age, someone you like a lot and someone you don't like very much. We're interested in how Caregivers describe people they know and work with. We think this will help us understand people's potential for caring for others.

In addition to describing clients and people you know, we will also be asking you for some background information about yourself, like your age, gender and level of education. That information will be kept confidential.

Participation is voluntary, confidential and will take about 45 minutes. You will receive a benefit for participation. Whatever you decide will not affect your relationship with *GRISWOLD SPECIAL CARE*.

(If Caregiver indicates willingness to participate, schedule a date and time for coming to the Office to participate in this study.)

Appendix C
RCQ Packet

Caregiver Name: _____

~ Stop! Please wait for instructions before turning page ~

This box completed by administrative staff:

Office ID No. _____ Staff/Coordinator ID No. _____ Caregiver ID No. _____

Exercise in Perceiving Others

Step 1

- A. A person your own age whom you like (*initials*): _____ Gender (*circle*): M or F
- B. A person your own age whom you dislike (*initials*): _____ Gender (*circle*): M or F

~ Stop! Please wait for instructions before turning page ~

Step 3

On the lines below, describe *person B (disliked)*, _____, as fully as you can. List the qualities or things that you feel describe this person. List as many as you can think of. Do not simply list words that make him/her different. Also list qualities this person has that are common to other people you know. For example, you could:

- * Describe what this person respects
- * Describe how this person treats others
- * Describe things you like or dislike about how this person treats others
- * Describe this person's values
- * Describe this person's habits
- * Describe how this person acts or behaves

Try to describe this person well enough that a stranger would recognize him/her based on your description. If you reach the last line in the first column and have more to write, begin listing more on the second column. Use the second page if you need more space. ***Please spend only about five (5) minutes describing him/her.***

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
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_____	_____
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_____	_____
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_____	_____
_____	_____
_____	_____

Script for Consent Form and RCQ Packet (“Exercise in Perceiving Others”)

Study Introduction

1. **“As you know, Griswold Special Care is an industry leader in home care because of the outstanding professional Caregivers we refer. We continually refine and improve how we select individuals for client referral. Your Office has agreed to try out a new process we may decide to use in our Caregiver selection process, and the Coordinators in the Office identified you as a good person to help test this exercise. Only about 150 Caregivers are helping with this research, so you are one of the selected few.”**
2. **“Because this is research, I need to go through a form with you that describes this study and your rights. We’ll read it together, and then I’ll need you to sign it, if you agree to participate. You’ll get a second copy that you can keep.”**

Script for Informed Consent Form

3. **“If you need glasses or contacts for reading and writing, please be sure you put them on.”** *(Give participants time to put on corrective lenses.)*
4. *(Hand out two copies of the informed consent form to each participant.)*
5. **“Let’s read through the informed consent form together.”** *(Read the informed consent form aloud as the participant reads along.)* **“Does anyone have questions before signing?”**
6. *(Prompt the participant to sign one copy, if the participant is willing to participate. Then, collect the signed copy.)*

Script for RCQ Packet (“Exercise in Perceiving Others”)

7. **“This exercise will help us learn about how you think about others. Knowing this may be helpful for hiring caregivers to work with our clients.”**
8. **“I am passing out a packet of forms on which you will describe two people you know, as well as an elderly person who is like someone you might take care of as a**

caregiver at Griswold Special Care. Please put your name on the cover sheet and wait to turn over to the next page. As soon as everyone has a packet, we'll read through the directions together." (*Pass out Exercise in Perceiving Others packets, and wait until everyone has signed their packet cover sheet before moving on.*)

9. "You will be asked to describe someone you like and someone you don't like. Focus on describing what each person respects, their values, their habits, and how they behave. This is NOT a spelling test. Don't avoid writing down a word just because you're not sure how to spell it. Go ahead and write it down; we'll figure out what you've written. Let's turn to page 2 and read the directions together now."
10. (*Direct them to the center of p. 2 to read Step 1 parts A and B. Instruct your students to write the initials of someone their own age whom they like, as well as someone whom they dislike, and then to wait to turn the page.*) "Be sure to circle whether the person is a male or female." (*If someone says they don't dislike anyone, tell them to write the initials of someone their own age who they perhaps like less than others.*)
11. "Let's turn to p. 3 and read the directions so we can begin." (*Turn to p. 3 and read the instructions out loud as the participants read along.*)
12. (*Read the instructions on p. 3 in the Step 2 box. Remind participants that if they run out of space, they can go on to p. 4 – but not to go beyond p. 4 until given the next set of instructions. Also, remind that this is NOT a spelling test, so don't worry about misspelling anything.*)
13. (*Give 5 minutes for Step 2, or until it's very clear that everyone has finished.*) Prompt after everyone stops writing by asking: "Please review what you've written and make sure you have described this person as fully as you can, so that a stranger would recognize the kind of person he or she is from what you've written." (*When it's clear that everyone is finished reviewing and writing, move on. Overall, don't spend more than 5 minutes total on Step 2.*)
14. "Let's move on to p. 5. Please read along with me."
15. (*Read directions on p. 5 for Step 3 of the form together. Remind them that if they run out of space, they can go on to p. 6 – but not to go beyond p. 6 until given the next set of instructions. Also, remind that this is NOT a spelling test, so don't worry about misspelling anything.*)
16. (*Give 5 minutes, or until it's very clear that everyone has finished.*) Prompt after everyone stops writing by asking: "Please review what you've written and make sure you have described this person as fully as you can, so that a stranger would recognize the kind of person he or she is from what you've written." (*When it's clear that everyone is finished reviewing and writing, move on. Overall, don't spend more than 5 minutes total on Step 3.*)

17. **“Before going on to the instructions on p. 7, I’m going to show you a video (DVD) about a senior citizen named Carl.³ Then, I’ll ask you to describe the person on the video (DVD). Do not worry about taking notes. After watching the video (DVD), I’ll ask you to describe Carl. Focus on describing what you think Carl is like as a person – what he respects, what his values are, his habits, what he believes, and how he behaves.”**
18. **“Let’s watch the video (DVD) of Carl now.”** *(Show the DVD of Carl. Do NOT react to the video as you watch it with the participants. Do NOT discuss the video afterward; go directly to the next step.)*
19. **“Let’s turn to p. 7 and read the directions for Step 4 together.”** *(Read the directions out loud.)*
20. *Before they begin writing:* **“You have five minutes to describe Carl as much as you can. It may help you to go over the statements again in Step 4, if you’re not sure about what to write. Put one word or word phrase on each line. If you run out of space, you can go on to the next page. When you have finished, wait for instructions before turning to p. 9 for the next step.”**
21. *(Give 5 minutes, or until it’s very clear that everyone has finished.) Prompt after everyone stops writing by asking:* **“Please review what you’ve written and make sure you have described Carl as fully as you can, so that a stranger would recognize the kind of person he is from what you’ve written.”** *(When it’s clear that everyone is finished reviewing and writing, move on. Overall, don’t spend more than 5 minutes total on Step 4.)*
22. **“Let’s move on to p. 9.³ Step 5 includes questions that will help us learn about your reactions to watching the videotape (DVD) and your reactions to describing Carl. There are also four questions about caregiving.”** *(Read the instructions and read each statement out loud, pausing for a few moments each time so participants can answer before moving on to the next statement or set of instructions on the page.)*
23. **“Let’s move on to the last section, Step 6 on pages 10-11. This final step provides basic information about you for the researchers. Your responses are private; Griswold Special Care will not see your responses because the forms will be mailed to Wichita State University.”** *(Read each question out loud and pause for the participant to write an answer. If someone is unsure about what is being asked, you may clarify – and encourage them to write down the question they were unsure about on the last page and then to describe what made it hard for them to answer it, so we can modify this form.)* **“Please turn over your packet when finished.”**
24. *Collect the completed packet, thank the participant and give out token of appreciation.*

³ The items to which this instruction refers are not a formal component of this dissertation.

About yourself

Please answer these questions about yourself.

1. **Gender** (*Check one*): Male Female

2. **What year were you born?** _____

3. **Race/ethnicity** (*Check all that apply*):

White Asian
 African American Native American/American Indian
 Hispanic/Latino Native Hawaiian or Pacific Islander
 Biracial or other: (*Describe*) _____

4. **Please circle the highest level of schooling you completed:**

Grade school (or equivalent)	1	2	3	4	5	6	
Junior or high school (or equivalent)	7	8	9	10	11	12	GED
College (including community college)	1	2	3	4	5		

Technical training (i.e., CNA, CMA, HHA) (please describe): _____

5. **Total number of brothers and/or sisters:** _____

6. **Country where you were born:** _____

7. **First language you learned:** _____

8. **What is your preferred language?** _____

9. **How long have you been communicating in English?** _____

10. **How long have you worked as a caregiver?** _____

11. **How long have you been a caregiver at Griswold Special Care?** _____

Thank you!

Appendix G

Revision Process and Final RCQ Scoring Codebook

Crockett (1965) published a set of basic rules to assist with identifying what constitutes a potential construct for RCQ scoring purposes. These rules are based on Kelly's premise that interpersonal constructs are the "thoughts, behaviors, characteristics, and qualities of other people..." (Burlison & Waltman, 1988, p. 3). Essentially, the rules exclude duplicates, general statements, personal opinions, and descriptions irrelevant to the study purposes. Additionally, they state to score synonyms generously (i.e., consider each seemingly same-meaning term as a nonduplicate). Finally, the rules recognize idiomatic phrases as potentially countable (typically grouped as a single entry).

Crockett's basic rules are otherwise nonspecific, enabling the researcher to score as necessary for study purposes. Thus, the researcher has license to single out psychologically-oriented traits and motivations versus to include social roles or demographic information versus also to include behavioral and/or physical descriptions. In short, scoring is flexible and dependent on the researcher's purposes and theoretical or philosophical preferences.

Summarizing Crockett's (1965) rules, which were core elements of the codebook developed for this dissertation:

1. Give the writer the benefit of the doubt; score synonyms separately (as nonduplicates).
2. Adverbial and adjectival qualifiers are included with the noun as a single construct (i.e., each qualifier is unitized with its applicable noun). Stand-alone adverbs and adjectives are counted separately.
3. Exact duplicates are not counted.

4. Idiomatic phrases are usually scored as a single construct.
5. Only task-relevant qualities are scored.
6. General statements and opinions are not scored unless specifically tied to characteristics of the person described.

Revisions to the codebook. During her six years of graduate work leading to this dissertation, the researcher was involved in multiple studies in which nurse aide students' (and nurse aides') RCQ descriptions were unitized and scored for generating estimates of interpersonal cognitive complexity. Having analyzed upwards of 80 actual and 40-50 example RCQs and developed an extensive codebook collection of entry exemplars (with scoring rationale) applicable to each of Crockett's rules, the researcher began this dissertation with the knowledge that certain types of descriptions were especially challenging for previous coders to evaluate for scoring purposes. A goal for the researcher prior to receiving and scoring instruments for this dissertation was to attempt to establish decisional rules in a revised codebook for scoring these entry types.

To prepare for revisions, the researcher scoured through dozens of examples of nurse aides' and nurse aide students' completed RCQs from previous research to identify a broad and representative set of challenging entry types. Next, the researcher sorted these examples into logical groupings, followed by developing thematic labels to describe them: hobbies (e.g., reader, football fanatic, good cook), habits (e.g., smoker, gambler, drinker), religion (e.g., Christian, prayerful, never misses a Sunday, can pray in any situation), politics (e.g., a Democrat, a staunch Republican), skills/abilities (e.g., creative writer, athletic, musician), illegal activities (e.g., a druggie, drunkard, hangs out at the bar, pothead), immoral behavior (e.g., a slut, out every

night, has lots of kids with lots of women), personal self care (e.g., flashy dresser, dresses in vogue, unkept), parentage (e.g., a great parent, a deadbeat dad), self (e.g., we have fun together, my best friend, is a shopaholic like I am), and “other” (e.g., huggable, pet lover).

Next, the researcher reviewed 12 professional journal articles (selected randomly from 45 articles collected electronically or in print form for this dissertation) in an attempt to identify published examples of similar entry types, as well as to look for clues about how previous researchers scored such entries. Only scant examples of actual entries were included in these professional articles; in essence, the articles simply repeated the basic rules and gave the same examples originally provided by Crockett.

Because very few articles included examples and none were exemplars of the types of descriptions encountered on this list, the researcher next sought to contact researchers with considerable previous RCQ experience, as determined by their having published numerous studies in the professional literature. Conducting a keyword search (using “RCQ” and “Role Category Questionnaire”) in several WSU electronic library databases, a non-exhaustive list of 10 more prolifically published researchers was identified. Next, the researcher attempted to track these researchers through an Internet search (using Google and Yahoo search engines) and subsequently emailed an identical inquiry to these researchers about previous scoring protocols and guidance for scoring these entry types. Of the 9 whose current contact information was tracked, 8 replied by email with feedback; one additionally followed up with a lengthy telephone interview.

Although familiar with these same types of descriptions, previously published researchers were unfortunately quite varied in their responses about how they would score them, despite their using a reportedly similar differentiation scoring method that focused on abstract

psychological constructs. For instance, Daniel O’Keefe suggested to count all but overtly physical characteristics, and otherwise, “when in doubt, count it” (personal communication, Jan. 14, 2008), whereas Jack Adams-Webber noted that when scoring the RCQ, he simply instructed his assistants “to identify and count all psychological characteristics” (personal communication, Jan. 21, 2008). Brant Burlison, who has written extensively on the subject of interpersonal cognitive complexity, including the RCQ, observed that “there is no firm ‘right’ or ‘wrong’ with regard to most of these issues. The most important thing is to develop rules that you and all of your coders will follow, and then to employ them consistently” (personal communication, Jan. 16, 2008). These general sentiments were echoed across all researchers’ feedback – with Vincent Waldron adding: “Just be clear about your rationale and definitions and give your coders the full range of examples” (personal communication, Jan. 16, 2008).

Adrienne Kunkel, a University of Kansas professor who has scored several hundred RCQs over the years and who regularly includes this instrument in her courses with college students, uses a more constrictive scoring method. In a telephone interview with the researcher, she verbally modeled how she would score most items on the researcher’s list, demonstrating a general tendency to examine each entry for an adjective, adverb, or degree of strength (if the descriptor is more behaviorally oriented). However, she acknowledged that what constitutes a countable construct can be rather subjective, and she added that she has never worked with samples drawn from populations anticipated in this study (i.e., foreign born, English as a second language, high school or lower education). Like the other researchers, Kunkel also stated that what is critical is to establish a set of codebook rules to live by, and then to follow them consistently (personal communication, Jan. 29, 2008).

As was the case with Kunkel, virtually none of the other contacted researchers has worked with a nurse aide population. Most commonly, these researchers' published work involved young adult samples drawn from college campuses. As such, issues related to crude slang and less formal written structure were presumably far less common in their coding experiences. No contacted researchers reported RCQ scoring experience with samples of such varied ethnic, national, or language backgrounds, and none was aware of research using the RCQ with such populations.

Final revisions to the codebook were established only after five coders began meeting in mid January 2008 for training in the RCQ, to include them in this important phase and attempt to enhance their buy-in to the decisional rules: The researcher first sought to expose the coders to a conceptual understanding of interpersonal cognitive complexity, with opportunities to complete the RCQ themselves, to administer the instrument to someone of their choice, and then to score a series of more straightforward entry examples. At this early stage, coders were especially encouraged to voice questions or concerns about scoring procedures and entry types that were troublesome to them.

Once coders had a basic familiarity with the RCQ and Crockett's scoring rules, a series of in-vivo, telephone, and email discussions was held in which coders were apprised of feedback received by published researchers about more challenging entry types, and coders were encouraged to express their own sentiments and scoring rationales, for comparison with one another in the group. A number of lively discussions ensued during this process, as the researcher strived to incorporate previous researchers' feedback, previous published examples, concerns expressed by Griswold administration about potential language mastery issues, her dissertation advisor's preferences, her own convictions, and coders' collective sentiments, where

harmonious, into a final, functional codebook that reduced scoring ambiguity. The result was development of a final codebook adopted in mid February, prior to coders receiving actual caregivers' completed instruments for study scoring and analysis.

Rules codebook for coding perceptions of others

Feb. 15, 2008 edition

The rules that follow serve as guidelines for making judgments about each person's descriptions of others.

The task for each coder is in general two-fold

1. To decide whether each entry represents: **Scored as "1"**

- A psychological characteristic or attribute
- A recurrent behavior strongly descriptive of a psychological characteristic or attribute

or represents a description of : **Scored as "0"**

- Physical **A**pppearance or demographic (**labeled A**)
- General or isolated **B**ehavior (**labeled B**)
- **S**ocial role (**labeled S**)
- Other **R**ule-based (e.g., synonym, self oriented) rejection (**labeled R**)

2. To decide whether subsequent entries are duplicates of a previous entry provided by the same participant: **Scored as "0"**

Rules include examples provided by previous CNAs for describing others. Explanations are provided (see indentations) where clarification may be helpful. In general, examples of constructs are compiled from multiple participants (and not illustrative duplicates).

For clarification, "OR" is used with examples provided *by the same participant*, and in such instances, only one entry is counted as a construct; not both.

General definitions:

Psychological characteristic or attribute:

An abstract term or phrase (e.g., outgoing, friendly, caring, rude, conniving) indicative of the psychological realm (i.e., traits, thoughts, motivators, etc.).

May include behavioral description if repetitive and strongly allusive of a psychological characteristic or attribute (e.g., “always gives people hugs and kisses when she comes and goes” infers “affectionate”).

General or isolated behaviors:

A one-time or occasional activity or general hobby without emphasis of strength or intensity of involvement, pastime focus (e.g., golfer, plays cards, a reader).

Physical appearance or demographic:

Age, a clearly physical characteristic (e.g., gender, height, specific weight, hair color) or incidental marital status (i.e., single, divorced, engaged).

Social role:

Social status or position (e.g., parent, sister, neighbor, job title).

Degrees of strength or intensity

Addition of an adjective, adverb, or noun to a description that emphasizes a strong focus of interest (e.g., avid, fanatic, -aholic, freak, nut, crazy, phenomenal, good, great).

Examples: sports crazy, extraordinary dancer, dynamic photographer, athletic, great cook.

Coding example

1 st score 2 nd categorize for 0s	<i>Coder score</i>		
<i>Entry</i>	<i>Score</i>	<i>Category for 0s</i>	<i>Category Key</i>
Really smart	1		A = Physical appearance or demographic
28 years old	0	A	
a golfer	0	B	
Respects God	1		B = General or isolated behavior
Considerate	1		
Is a banker	0	S	
Honest to a fault	1		
Kind hearted	1		S = Social role
A devout Catholic	1		
A chain smoker	1		
Very smart	0	R (duplicate)	R = Other rule
Gregarious	1		
Upstanding	1		
Score →	9		

Decisional rules for common entry types:

Following are several general rules for scoring common problematic entry types. Themes include examples and rationale for scoring decisions. **An overarching decisional rule: where possible, give the benefit of the doubt and count!**

Skills and abilities

General score = 0 Strength = 1

- **General:** artist, singer, dancer, musician, writer
- **Degree of strength:** athletic, musical, creative writer, dynamic singer, talented photographer, good dancer, etc.

Rationale: Adjective form and strength indicate expertise, degree of focus and thought.

Hobbies and interests

General score = 0 Strength = 1

- Reader, golfer, shopper, dancer, likes to gamble, skates, rollerblades on Fridays

Rationale: Degrees of strength indicate it's thought about a lot, daydreamed about, etc.

Nervous/addictive habits

General score = 1 Strength = 1

- Smokes, smoker, hooked on gambling, bites nails, etc.
- Smokes like a chimney, chain smoker.

Rationale: These have health connotations and imply addictiveness or nervous release.

Personal self care

General score = 1 Strength = 1

- **Dress style:** good dresser, flashy dresser, dresses neatly, fashionable, in vogue
- **Hygiene:** doesn't bathe, unkept, stinks, slob, big fat slob
- **Health care:** anorexic, chocoholic

Rationale: Implies how the person carries or feels about self. Also, give the benefit of the doubt and assume the person is extremely over or underweight.

Substance use

General score = 1 Strength = 1

- **Drugs:** Does drugs, drug user, smokes dope, druggy, gets high, stoner, pothead.
- **Alcohol:** Drinks, drinker, alcoholic, tipsy, drunkard, hangs at the bar, boozier.

Rationale: Substance use impacts personality, has negative health connotations and potential addictiveness. Give benefit of doubt and assume it's problematic.

(Im)moral behavior**General score = 1 Strength = 1**

- Slut, whore, loose, has good morals, a prude, prudish
- Out every night, has lots of kids with lots of women

Rationale: Indicative of ongoing, regular ethical and behavioral standards.**Exception:** Singular description (e.g., stole my man) = 0**Religion****General score = 1 Strength = 1**

- Christian (any specific faith), religious, a person of faith, faith based, spiritual, believes in God, a believer, prayerful
- Goes to church, a church goer, never misses a Sunday, can pray in any situation.

Rationale: Implies an internal/spiritual base, a system relied on for inner strength, peace.**Politics****General score = 1 Strength = 1**

- Democrat, Republican, political, etc.
- Staunch Republican, political extremist, a Conservative, a Liberal, an activist

Rationale: Political affiliations typically embrace sets of ideals, with belief implications.**Love and affection****General score = 1 Strength = 1**

- Huggable, loveable, easy to love, loving, affectionate
- Loves life, pet lover, loves his kids

Rationale: Implies caring/nurturing type mentality – or a warm, approachable.**Parenting****General score = 0 Strength = 1**

- **General:** Mother, father
- **Degree of strength:** good mother, attentive father, loving dad, deadbeat parent, absent father, thinks about his kids first, neglectful mom, had her kids taken away.

Rationale: Generally a social role. Strength implies a more psychological orientation.**Self and other****General score = 0 Strength = 0**

- We have fun together, is my best friend, always likes the same things I do

Rationale: Descriptions about the perceiver are not counted.**Exception:** *If there is an explicitness about the person described, defer to the description (e.g., “is a smoker like me” – smoker counts, so score = 1)*

Rule 1: Constructs with synonymous qualities

Whenever two nearly synonymous (but not identical) qualities are provided by the same participant, give the benefit of the doubt and count both as separate constructs. Further specifications of this rule are provided in Rules 2 through 4.

Examples of synonymous qualities, in which both are counted:

- **“Friendly” and “outgoing”:**
 - Friendly = 1
 - Outgoing = 1
- **“Loud” and “boisterous”:**
 - Loud = 1
 - Boisterous = 1
- **“Respects boss” and “respects parents”:**
 - Respects boss = 1
 - Respects parents = 1
- **“Values loyalty” and “values honesty”:**
 - Values loyalty = 1
 - Values honesty = 1

Examples of duplicates by same participant, in which only one is counted:

- **“Friendly with everyone” and “friendly to everyone”:**
 - Friendly with everyone = 1
 - **OR** Friendly to everyone
- **“Likes to tease” and “teases sometimes”:**
 - Likes to tease = 1
 - **OR** teases sometimes

Rule2: Qualifying adverbs or adjectives, opposites

When the participant uses an adverbial or adjectival qualifier that appears to be an intrinsic part of the noun it modifies, contrary to Rule 1, the two words are scored as a single construct. It is presumed that the qualifier refers to the *degree to which* the attribute is held, or to *one manner in which it appears*, rather than to a qualitatively different attribute. **However:** if two constructs are *opposites*, both words or word phrases are counted separately.

Examples of qualifying adverb or adjective:

- **Unreasonably selfish = 1**
 - Degree of selfishness, not distinct quality of unreasonableness
- **Emotionally unstable = 1**
 - Instability described, not a distinct construct of emotional

Examples of opposites:

- **“Always smiling” and “never smiles”:**
 - Always smiling = 1
 - Never smiles = 1
- **“Caring” and “uncaring”:**
 - Caring = 1
 - Uncaring = 1
- **“Friendly” and “unfriendly”:**
 - Friendly = 1
 - Unfriendly = 1
- **“Kind” and “unkind”:**
 - Kind = 1
 - Unkind = 1

Examples of duplicates by the same participant, in which only one is counted:

- **“Always sarcastic” and “sarcastic”:**
 - Always sarcastic = 1
 - **OR** “sarcastic”
- **“Can be caring” and “caring”:**
 - Can be caring = 1
 - **OR** “caring”

Rule 3: Identical vs similar meaning words

Identical, repeated words or phrases are scored only once. Words very similar in meaning but not identical are scored twice.

Examples of similar meaning words by the same participant:

- **“Emotional” and “emotionally unstable”**
 - Emotional = 1
 - Suggests the person can be very happy, sad, mad, etc. at times
 - Emotionally unstable = 1
 - Suggests the person has mental health problems
- **“Domineering,” “assertive,” and “aggressive”**
 - Domineering = 1
 - Controlling others, tyrannical.
 - Assertive = 1
 - Confident, self assured
 - Aggressive = 1
 - Hostile, harsh

Examples of duplicates by the same participant, in which only one is counted:

- **“Helpful,” “very helpful,” and “helpful in some ways”**
 - Helpful = 1
 - **OR** very helpful
 - **OR** helpful in some ways
 - These are all degrees of helpfulness or being helpful.
- **“Kind,” “kind hearted,” and “is kind”**
 - Kind = 1
 - **OR** kind hearted
 - **OR** kindness = 1
 - These are all variations of being kind.

Rule 4: Idioms

Coders should seek consensus and provide rationale when interpreting a phrase as an idiom.

Examples of idioms:

- **“Always dwelling on the past” = 1.**
 - Someone who is constantly harping on the past, always bringing it up, perhaps blaming/complaining of it all the time. This is different from the entry “can’t get over the past” or “can’t forget the past.”
- **“Can pray in any situation” = 1.**
 - This is both a common phrase (idiom) and indicative of someone who is “religious” or has a secure faith base.
- **“Can’t forget the past easily” = 1.**
 - Someone who “holds grudges” and doesn’t let go of the past.
- **“Can’t get over the past” = 1.**
 - Someone emotionally hurt or wounded, but who may or may not be aware of the source of this pain. This person may be reactive toward others or situations, but unaware (or aware) of the connection.
- **“John is a big, fat slob” = 1.**
 - Someone who doesn’t take care of himself, who has “let himself go.”
- **“Never meets a stranger” = 1.**
 - Someone who is friendly or outgoing.
- **“Strong outside; weak inside” = 1.**
 - Someone who bluffs but is secretly unsure, unconfident, or a softy.
- **“Tunnel vision” = 1.**
 - Someone who is narrow minded or singular thinking without considering other perspectives or side effects/consequences.

Rule 5: Relevant qualities only, limited communication ability, slang

Only qualities relevant to the task should be scored as constructs. Only aspects of personality, disposition, or stimulus value for associates (related to the relevant task) are scored as constructs. Physical traits, information about the person's social role, age, or the like usually are *not* scored. Sometimes this restriction must be liberalized, however. *Also:* Give the benefit of the doubt if a slang type phrase is used, if it's interpretable. Do the same if it's apparent the person has limited communication skills but the phrase is interpretable.

Examples of words or phrases indicative of disposition, traits, or personality

- **“Always asks how you are doing” = 1.**
 - Alludes to someone caring, approachable, person-centered, and thinking about others and their thoughts or feelings.
- **“Always helping me when I have a problem.” = 1.**
 - Describes someone usually helpful who goes out of their way to help others.
- **“Asks questions” = 1.**
 - This person likely is inquisitive. Give benefit of doubt.
- **“Gives good advice” = 1.**
 - Describes a characteristic of the person (i.e. being wise, knowledgeable).
- **Good = 1.**
 - This could refer to morals, virtues, or skill level. However, often refers to someone who is virtuous, honest, maybe clean cut, genuine, etc.
- **“I dislike the fact that she is always calling late at night when she knows I have a son and have to get up early” = 1.**
 - Although this is a behavior, it is a regular habit by the clarifier “always.” Taken as a whole, it describes someone chronically inconsiderate toward others, or perhaps clueless to social norms and failing to recognize others' familial connections and responsibilities.
- **“It's hard for her to find good things to talk about” = 1.**
 - Indicative of a chronic, pervasive attitude that is negative, cynical, or pessimistic, or perhaps that the person is depressed.
- **“Not in trouble” = 1.**
 - Someone upstanding who strives to follow laws and rules. This is perhaps someone who stands out as clean cut and who stays clear of activities that might result in legal or supervisor reprimands, in comparison to others.
- **“Thinks about his kids” = 1.**
 - This may not seem pertinent to caregiving, but it gives a sense about the kind of person this is – someone who takes into consideration his children's needs or feelings and is cued toward others. It also implies this is someone perhaps dedicated to his children.
- **“When she invites me over, she only invites me, not my husband or son” = 1.**
 - This is indicative of someone who doesn't recognize or take into account others' positions within the family unit. “Only invites” implies chronicity.
- **Works too much = 1.**
 - The person has a work ethic or personal drive. Give benefit of doubt.

Rule 5: Relevant qualities only, limited communication ability, slang
(Continued)

Examples of slang or limited communication/grasp of English language

- **“...‘comlay’ (complies with) what ever I tell her” = 1.**
 - Unanimously interpreted by coders as someone compliant or cooperative.
- **“Giving freely” = 1.**
 - Interpreted as someone who tends to be generous.
- **“Good morning to anybody if she knows them or not” = 1.**
 - Interpreted as the person is “friendly” or “outgoing” in general.
- **“I don’t because she always piket (picky) about her bath. Wash your hand every time you hold something....” = 1.**
 - “Piket” was unanimously interpreted by three raters as “picky,” meaning the person was “particular” or “obsessive” about things like baths and washing to avoid germs.
- **“... She show her love to me and I care for her too” = 1.**
 - Interpreted that the person generally is affectionate.
- **“She always smile when she see me in the hallway...” = 1.**
 - The individual is “expressive” or “friendly” toward others.
- **“Tells everything it sees or hears” = 1.**
 - Interpreted that the person gossips or otherwise discloses much to others.
- **“When (I) put (her) in bed, she always gives kiss in my lips and hug me...” = 1.**
 - Interpreted that the person generally is affectionate.

Examples of behavior NOT counted:

- **“...also, she is talking other nurses about her giving her meds” = 0.**
 - Insufficient detail for interpretation. It was too vague.
- **Skates = 0.**
- **Likes to ski = 0.**

Examples of physical appearance NOT counted:

- **Beautiful = 0.**
- **Wears glasses = 0.**
- **Balding = 0.**

Examples of social role or social status NOT counted:

- **Bartender = 0.**
 - This is a type of employment.
- **Father = 0.**
 - General parenthood.
- **Unemployed = 0.**
 - Someone’s work status may be temporary, or a social status.

Rule 6: General statements, opinions

General statements about what people should do about the nature of mankind or about the subjects' own feelings are not scored as constructs, unless they are specifically tied to characteristics of the person being described. For example, statements like "People should be humble," "No one likes people who are selfish," "Nobody is perfect," or "I would like him as a roommate" (as opposed to "He would make a good roommate") say nothing about the criteria the subject has used in evaluating the person.

Examples counted:

- **"Contagious smile" = 1.**
 - This is a commonly used phrase for describing a person's personality and how they come across to others. This person regularly attracts others.
- **"Contagious laugh" = 1.**
 - This is a commonly used phrase for describing a person's personality and how they come across to others. This is someone who regularly attracts others and who has warmth in their laugh that is appealing to others.
- **"Huggable" = 1.**
 - This is a commonly used phrase for describing someone, their personality, and how they come across to others – affectionate, a touchy/huggy type, endearing person.
- **"Loveable" = 1.**
 - This commonly used phrase describes a person's personality and how they come across to others – perhaps affectionate, endearing, good natured.
- **"He would make a good roommate" = 1.**
 - Implies this is someone who would be responsible or fun or has other socially desirable qualities.
- **"Fun to be around" = 1.**
 - Includes the writer, but also implies this is someone who is fun or has other socially desirable qualities.

Examples NOT counted:

- **"I like her so much because we have a good time" = 0.**
 - This entry describes the participant's feelings about his or her interaction with the described person, rather than psychological traits about the described person.
- **"The way she dresses" = 0.**
 - Too vague.
- **"Worthless" = 0.**
 - This is a personal judgment about the person being described.