

# Psychometrics of the Computer-Based Relationships With Health Care Provider Scale in Older Adults

**Elizabeth H. Anderson, PhD, ANP-BC, APRN**  
**Patricia J. Neafsey, PhD, RD**

*University of Connecticut, Storrs*

**Sheri Peabody, MS, ANP-BC, APRN**

*Quarry Street Internal Medicine, Willimantic, Connecticut*

The type and quality of the provider–patient health care relationship impacts patient adherence. The study purpose was to convert the 5-item paper and pencil Relationships With Health Care Provider Scale (RHCPS) to a reliable and valid computer-based scale for use with older adults. Outpatient adults ( $N = 121$ ) older than 59 years were recruited. The RHCPS underwent several iterations documenting internal consistency reliability, content and factorial validity, and scale usability in a computer tablet format. A total of 5 expert judges rated all 5 items as valid, which resulted in a scale content validity index of 1. Cronbach’s standardized alpha was .81. Principal components analysis extracted 1 factor (eigenvalue  $> 1$ ; confirmed by scree plot) as anticipated. Computer-based RHCPS has the potential to reveal valuable clinical and scientific data on patient–provider relationships among older adults.

**Keywords:** computerized scale development; health care providers; content validity; hypertension; older adults

It is critical to address medication adherence among older adults to improve the health of the nation and reduce health care costs. To this end, a touch screen Personal Education Program (PEP) has been designed to assess the medication taking behaviors of older adults (Neafsey et al., 2008). To test the PEP and to control for the impact of health care relationships on patient reported behaviors, a computer-based scale measuring health care relationships between providers and patients was developed. The specific purpose of this study was to convert the five-item paper and pencil Relationships With Health Care Provider Scale (RHCPS) (Anderson, Fishman, Tummillo, & Spencer, 2006) to a reliable and valid computer-based scale that could be used by older adults.

## BACKGROUND AND CONCEPTUAL FRAMEWORK

### Background

It is well established that the type and quality of provider–patient health care relationship impacts patient adherence to recommended care in general (Pignone & McPhee, 2006;

Stoeckle, 2009), in persons with HIV or with AIDS (Mikky, Anderson, Fishman, Tumillo, & Spencer, 2007; Molassiotis, Morris, & Trueman, 2007; Schneider, Kaplan, Greenfield, Li, & Wilson, 2004) and in persons with hypertension (Cho, Voils, Yancy, Oddone, & Bosworth, 2007). Delays between diagnosis and treatment in persons with hepatitis C have been linked to physician–patient relationships (Enel, Minell, Jooste, Pinoit, & Hillon, 2009). Adherence is improved with a trusting provider–patient relationship (Pignone & Salazar, 2010) in which patients are empowered and accepted as partners in care (Apollo, Golub, Wainberg, & Indyk, 2006; Bader et al., 2006).

## Conceptual Framework

Relationships among humans are the connections, bonds, associations, or interactions between two or more persons. Human relationships and their consequences can be either positive or negative and interpreted differently by either or both participants in the dyad. The conceptual basis of the RHCPS is patients' perceptions of their relationships with their health care providers.

Relationship with health care provider is an abstract concept or mental image of the phenomenon that occurs between a patient and a health care provider while a patient is receiving care (Powers & Knapp, 2006; Walker & Avant, 2005). Patients' relationships with health care providers are indirectly reflected in patients' level and comfort in communication, participation in decision making, and sense of trust in the provider. Within the holistic model of patient care, providers underscore the value of the whole person so that social and emotional aspects of the patient are equally considered with medical or clinical representations (Fortin, Alvarez, Bibeau, & Laudy, 2008; van der Ploeg, Winthereik, & Bal, 2006). This is mirrored in a patient's sense of feeling known as a person and believing that specific concerns are being heard or understood (Williams & Irurita, 2004).

Antecedents for relationships with health care providers are (a) a patient or receiver of care, (b) a provider or giver of health care (physician, nurse practitioner, or physician assistant [PA]), and (c) the ability by one or both to receive and give communication through voice or body language. Consequences of relationships with health care providers include patterns of medication adherence, keeping health care appointments, recovery trajectory, and feelings of security and being informed (Cho et al., 2007; Mikky et al., 2007; Molassiotis et al., 2007; Pignone & Salazar, 2010; Schneider et al., 2004; Williams & Irurita, 2004).

Communication by providers who are open to listening and learning from their patients is critical to establishing mutual partnerships (Apollo et al., 2006) and to positive outcomes. In contrast, despite the best of intentions, communication that is one-sided or verbally dominated by the health care provider does not meet patient needs. Among hospitalized patients, both verbal and nonverbal interactions were therapeutic means of communication that led to patients feeling valued (Williams & Irurita, 2004). Efforts are being made to adapt clinical practice guidelines so that patients' preferences are given equal weight with the health care provider in the decision making process (van der Weijden et al., 2010).

In the autonomy model of care, providers focus on empowerment and rights of patients within the relationship. Equality, transparency, shared responsibilities, and participation in making care decisions are valued (van der Ploeg et al., 2006). Many patients report desiring collaborative interaction and shared decision making related to treatment options (Siminoff & Step, 2005). Providers are encouraged to target empowerment and autonomy as strategies to improve adherence (Bader et al., 2006). Thus, participation in decision making is an important element found in a patient's relationship with his or her provider.

Trust, a central aspect of interpersonal relationships, enhances patient–provider interactions (Benkert, Peters, Tate, & Dinardo, 2008). A trusting relationship depends on effective communication and compassion (Bauer, 2004). Tarlier (2004) holds that not only trust but also respect and mutuality are necessary for a responsive nurse–patient relationship.

Older adults in long-term care facilities identified dependability, competence, caring, and meeting patients’ needs as key factors in “close relationships” with care providers (McGilton & Boscart, 2007). Similarly, community-dwelling older adults expressed desire for providers who communicate clearly, listen to them, acknowledge their needs, have a caring attitude, and are easily accessible by telephone or in person (Bayliss, Edwards, Steiner, & Main, 2008). In a sample of 102 community-based adults aged 65 years and older, quality of physician relationships predicted medication-related knowledge, medication-related outcome expectations, and self-efficacy in medication management (Keshishian, Colodny, & Boone, 2008).

Using strengthening of patient–provider relationships as one of three intervention strategies, advanced practice nurses (APN) were able to reduce rehospitalizations and cost among elders with heart failure (McCauley, Bixby, & Naylor, 2006). APN communication was effective in establishing “partnerships” between the patient, physician, and APN. The importance of provider communication and partnership is further seen in a national cross-sectional survey of 1,558 community-dwelling elders with diabetes (Heisler, Cole, Weir, Kerr, & Hayward, 2007). Physician communication of information significantly predicted patients’ taking of medication and their foot care (Heisler et al., 2007). Good communication provides patients with understanding but may also be the basis for patient trust and motivation. Among this same group of patients, patient’s and provider’s shared decision making significantly predicted following diet recommendations, exercising, and monitoring blood glucose levels (Heisler et al., 2007). The researchers theorized that shared decision making is critical in self-care that is complex and personal in nature.

It was theorized that a patient’s ease in communicating with his or her provider, comfort level in calling provider, trust, participation in health care decision making, and satisfaction with care are empirical referents that reflect the single construct of relationship with health care providers. Consequently, all five categories of the phenomenon were included in the development of the original scale.

The aim of this research was to reformat the paper and pencil version of the RHCPS into a computer tablet format acceptable to older adults and document the psychometric properties of the computer-based instrument. The specific goals were to assess content validity through an expert panel review of items, document the unidimensional structure underlying the items on the instrument, and estimate the internal consistency reliability and stability (test–retest) reliability of the scale.

## **PROCEDURES FOR INSTRUMENT DEVELOPMENT**

### **Development, Description, Scoring, and Testing of the Original Paper and Pencil Version of the Relationships With Health Care Provider Scale**

The RHCPS described in this article was modified from the original paper and pencil version for computer use in adults 60 years of age and older with self-reported hypertension. The original RHCPS was based on two qualitative research studies that focused on health care relationships (Anderson & Spencer, 2001; DeGeest, Abraham, Gemoets, & Evers, 1994). The paper and pencil questionnaire consisted of five visual analogue scales (VAS) with questions

on (a) patient's ease in communicating with his or her provider, (b) comfort level in calling the provider, (c) patient's trust in provider's communication, (d) participation in health care decision making, and (e) patient's satisfaction with care. The VAS were on a 10-cm response format with narrative anchors for each of the extremes of the analog (see Table 1). One item ("How comfortable do you feel in calling your health care provider to tell him or her that you have a new symptom or difficulty taking your medications?") requires reverse coding of the VAS. Scoring for the VAS is measured in 1-cm increments. The total scale score is the sum of all item responses with potential scores ranging from 0–50. Higher scores represented better communication with, trust in, and satisfaction with health care relationships as well as greater patient involvement in health care decision making.

The original scale was tested with a sample of 80 individuals (46 men and 34 women) with HIV disease with a mean age of 42.9 ( $SD = 8.6$ ; Anderson, Fishman, Tummillo, & Spencer, 2007). Most participants were African American (42.5%) or Hispanic (41.3%). Of the individuals who participated, 22% had a high school education or General Educational Development (GED) diploma and 57.5% had less than a high school education.

For the original RHCPS, the item-level content validity index (I-CVI) was calculated by having a panel of five content experts, who rated each item on the scale for its relevance

**TABLE 1. Paper and Pencil Scale**

Relationships With Health Care Provider Scale	
Health care providers are those men and women who order your medications and treatments. They can be doctors or nurse practitioners.	
1. How easy or difficult is it for you to talk with your health care provider?	
Not at all easy	Very easy
2. How much do you trust that your health care provider is telling you the truth about your illness?	
Do not trust at all	Trust completely
3. How much are you involved in the decisions about your health care?	
Doctor/nurse decides everything	I make the decision with my provide
4. How comfortable do you feel in calling your health care provider to tell him or her that you have a new symptom or difficulty taking your medications? <sup>a</sup>	
Very comfortable	Not at all comfortable
5. How satisfied are you with the care that you receive from your health care provider?	
Not at all satisfied	Very satisfied

<sup>a</sup>Item is reverse coded.

to the construct of health care relationships (Polit & Beck, 2006). The experts were nurses with masters or doctor of philosophy degrees who were either clinical providers or clinical researchers with experience with instrument development. The ratings were on a 4-point ordinal scale with the response format of 1 (*not relevant*) to 4 (*highly relevant*). For each item, the I-CVI was computed based on the percentage of experts giving a rating of either 3 or 4, indicating item relevance. Results revealed a 1 I-CVI for four items (all experts rated the items as *relevant*) and a 0.80 for one item ("How much are you involved in the decisions about your health care?"). On the I-CVI of 0.80, four experts rated the item as *highly relevant* (4) and one expert rated it as *somewhat relevant* (2). For a scale to be rated as having excellent content validity, Polit and Beck (2006) recommend that, with three to five expert raters, the I-CVI across all items should be 1, thus the original RHCPS showed less than excellent I-CVI.

The content validity index for the total scale (S-CVI), calculated by averaging the I-CVIs responses from the five experts and dividing by the number of items, was equal to 0.96. A rating of 0.90 is considered an acceptable standard for the S-CVI (Polit & Beck, 2006).

Factorial validity of the paper and pencil RHCPS was explored through principal component analysis. One component was extracted with an initial eigenvalue of 14.79 accounting for 42.94% of the scale variance, and a second component with an eigenvalue of 9.31 was extracted. The two components accounted for a cumulative variance of 69.96%. In the scree plot, the discontinuity in the steep slope did not occur until the 5th factor extraction (eigenvalue of 1.14) with the fifth factor accounting for less than 5% of the variance. Varimax rotation with Kaiser Normalization was used to interpret component meaning and converged in three iterations extracting two components.

The standardized item alpha for the original RHCPS was .64 for persons with HIV disease (Anderson et al., 2006). The mean score for the total scale was high at 42.26 ( $SD = 8$ ). The single item with the highest mean was "How much do you trust that your health care provider is telling you the truth about your illness?" with 9.1 ( $SD = 1.51$ ). Participants' involvement with decisions about health care had the lowest mean at 7.22 ( $SD = 3.57$ ). Inter-item correlation was highest ( $r = 0.59$ ) between Item 1 ("How easy or difficult is it to talk with your primary care provider?") and Item 5 ("How satisfied are you with the care that you receive from your health care provider?"). Inter-item correlation was lowest ( $r = 0.039$ ) between Item 2 ("How much do you trust that your health care provider is telling you the truth about your illness?") and Item 4 ("How comfortable do you feel in calling your health care provider to tell him or her that you have a new symptom or difficulty taking your medications?"). Inspection of item-total statistics showed deletion of any one item would not improve the total scale alpha or increase the scale mean indicating the relevance of each item.

Test-retest correlation for a subsample of 72 persons from the total sample of 80 was .63 ( $p < .01$ ) across 2 weeks. The mean score on the second testing of the RHCPS was 42.92 ( $SD = 8.16$ ) and standardized item alpha improved to .74. Consistent with the first test of RHCPS, the item with the highest mean was trust in the health care provider ( $M = 9.23$ ;  $SD = 1.45$ ) and the lowest was participation in health care decisions ( $M = 7.74$ ;  $SD = 3.18$ ).

## Computer-Based Relationships With Health Care Provider Scale Development

The computer-based RHCPS was designed for older adults' use on a touch screen-enabled computer with a stylus (or finger) to point at and then press (click) on response boxes. The

boxes are 3 cm high with large letters (20-point size Arial Black font) with the color of the text, background, illumination level, and graphic style designed to accommodate older adult's visual and cognitive capabilities (Strickler & Neafsey, 2002). Several steps were required to adapt the original paper and pencil RHCPS. First, in the original RHCPS form, the introduction noted that the health care provider was a physician or nurse practitioner since the four sites where the scale was used included only physicians and nurse practitioners. For current use, it was necessary to clearly delineate the specific role of the physician (MD), nurse practitioner (APRN), and PA. Consequently, preliminary information needed to be obtained to clarify whom patients' considered their primary care provider (PCP) and which PCP the patient accesses first. A preliminary question was added ("Which health care provider do you call when you have a health concern?") with response selections of doctor, nurse practitioner, and PA.

Second, it was evident that a VAS format could not be used with a computer-based scale nor was it a method favored by older adults. Formative research conducted with two focus groups of older adults (aged 64–92) tested two different scale formats for a separate self-efficacy measure (Strickler, Lin, Rauh & Neafsey, 2008). The first format used a numeric scale from 0–10 with 0 labeled *not at all sure* and 10 labeled *totally sure* as suggested in a guide to self-efficacy scale development for low-literacy populations (Bandura, 2006). The second format used a 5-point scale with five boxes labeled with verbal descriptors *not sure*, *a little sure*, *more or less sure*, *very sure*, and *totally sure*. The older adult focus group participants unanimously preferred the 5-point scale with word anchors to the numeric scale (Strickler et al., 2008). An example of a typical comment by older participants was that they could not determine "what a score of 7 would mean" on the numeric 0–10 scale.

Third, paper and pencil questions were clarified and adapted for the computer-based scale. The term "health care provider" in the paper and pencil scale was changed to "primary care provider" in the computer-based scale. The specific question from the paper and pencil scale related to "How much do you trust that your health care provider is telling you the truth about your illness?" was changed in the computer-based scale to a global question referencing PCP. With the VAS, it was possible to view the scope of decision making from the *doctor/nurse decides everything to I make the decision with my provider*. For the computer-based scale, the researchers approached the topic by asking to what degree the patient is involved in decision making about health care (*not at all to completely involved*). Wording for questions related to being comfortable in calling one's PCP and satisfaction with care were not changed. Table 2 shows the five items on the computer-based RHCPS.

**Description, Administration, and Scoring of the Computer-Based Relationships With Health Care Provider Scale.** The final version of the computer-based RHCPS is a five-item scale that measures a patient's perception of his or her relationship with a PCP. The scale is designed to be self-administered by a patient on a touch screen computer (see Figure 1). The five questions assess ease in talking with one's PCP, trusting one's provider, involvement in decision making, comfort in calling to report a new symptom or difficulty taking a medication, and satisfaction with care. Each question has a 5-point response format specific to the question (e.g., 1 [*not at all satisfied*] to 5 [*completely satisfied*]). Total scores range from 5–25 with higher scores reflecting a more positive relationship with health care providers.

Five experts in health care relationships were identified and asked to rate each of the RHCPS items for its relevance to the construct of health care relationships (Polit & Beck,

**TABLE 2. Computer-Based Scale**


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Relationships With Health Care Provider Scale
Which health care provider do you call when you have a health concern?
Doctor Nurse practitioner Physician assistant
Which health care provider helps you make health care decisions? Touch all that apply
Doctor Nurse practitioner Physician assistant
1. How easy or difficult is it to talk with your primary care provider?
1. Not at all easy 2. A little easy 3. More or less easy 4. Very easy 5. Completely easy
2. How much do you trust your primary care provider?
1. Do not trust at all 2. Trust a little 3. Trust more or less 4. Trust a lot 5. Trust completely
3. How involved are you with your primary care provider in the decisions about your health care?
1. I am not at all involved 2. I am a little involved 3. I am more or less involved 4. I am very involved 5. I am completely involved
4. How comfortable are you in calling your primary care provider to tell him or her that you have a new symptom or difficulty taking your medications?
1. Not at all comfortable 2. A little comfortable 3. More or less comfortable 4. Very comfortable 5. Completely comfortable
5. How satisfied are you with the care that you receive from your primary care provider?
1. Not at all satisfied 2. A little satisfied 3. More or less satisfied 4. Very satisfied 5. Completely satisfied

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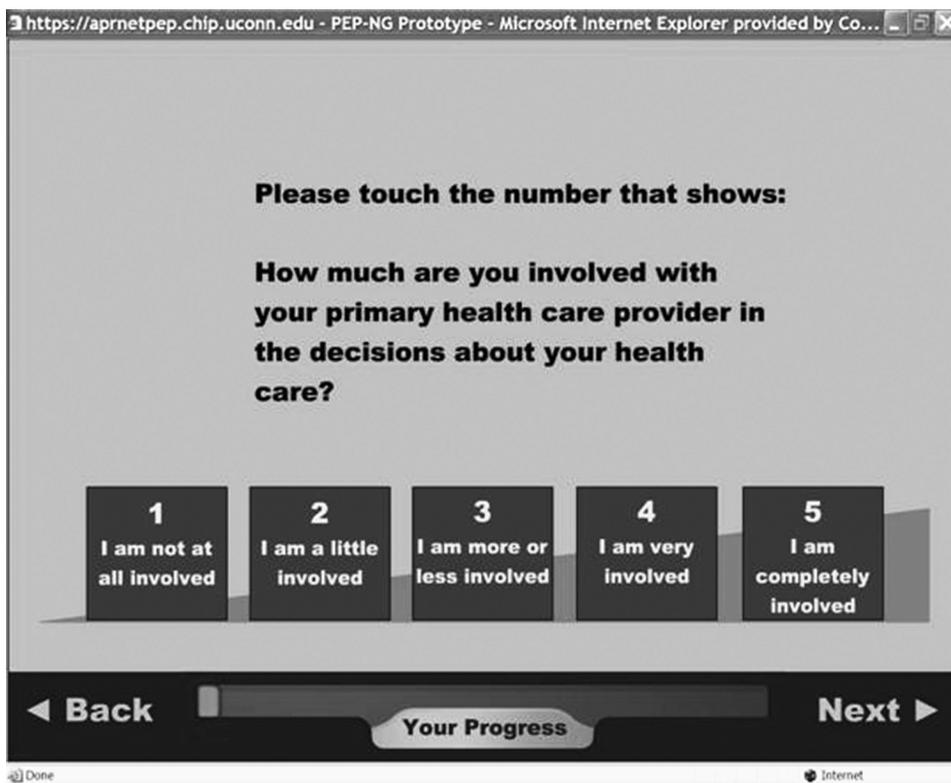


Figure 1. Sample computer screen.

2006). The same experts evaluated the computer version of the RHCPS. The I-CVI for the computerized scale was again calculated as the proportion of experts rating the items as 3 or 4 on the 4-point relevance scale. The I-CVI was 1 across all five items, and the subsequent S-CVI was similarly 1.

## **METHODS: PSYCHOMETRIC EVALUATION OF THE COMPUTER-BASED RELATIONSHIPS WITH HEALTH CARE PROVIDER SCALE**

### **Sample**

The university Human Subjects Review Committee approved the protocol for the psychometric evaluation of the RHCPS. Inclusion criteria for participants were 60 years of age or older, self-reported diagnosis of hypertension, and a self-reported high level of instrumental activities of daily living (Lawton & Brody, 1969) including ability to use the phone, shop, obtain transportation, manage their medications, and be responsible for their money.

A total of 124 adults were recruited from four local senior centers. Recruitment was conducted in person by one of the researchers who invited participation through announcements made at congregate meals and group activities. One senior center was revisited

7 weeks subsequent to initial testing to assess test–retest reliability of the scale. Nineteen older adults participated in the test–retest.

Participants were predominately women (74.4%) with 25.6% men (see Table 3). Mean age was 74.8 years ( $SD = 6.6$ ) with a range between 60 and 94 years. Race/ethnicity was 98% White, 1% African American, and 1% Native American. Education level was high with 49.9% reporting more than a high school education, 42.5% had a high school degree, and 7.6% had less than a high school degree. The subsample of 19 participants for the test–retest was predominately women (89.5%). Mean age was 72.5 ( $SD = 6.5$ ) with age range of 64–86 years.

Among the total sample of 124 persons who participated in the pilot testing of the computer-based RHCPS, 96% considered a physician their PCP and 95% reported calling their physician first. Related to helping make health care decisions, 98% of participants indicated that physicians helped with the decision making, 12% noted that nurse practitioners helped, and 10% reported that physician’s assistants helped.

### Analysis of Psychometric Properties

Factorial validity as an aspect of construct validity was analyzed through use of a principal components analysis to determine if there was a single component underlying the item variation as the RHCPS was intended to be unidimensional. Subsequent to the components analysis, internal consistency was assessed using Cronbach’s alpha, and stability reliability was examined by correlating the first set of RHCPS scores with those taken at a 7-week follow-up data collection.

**TABLE 3. Participant Characteristics by Scale Type (Format)**

Variable	Paper & Pencil RHCPS ( $N = 80$ )	Computer-Based RHCPS ( $N = 124$ )
Gender		
Males	57%	25.6%
Females	43%	74.4%
Mean age ( $SD$ )	42.9 (8.6)	74.8 (6.6)
Race/ethnicity		
Black	42.5%	1%
Hispanic	41.3%	0
White	15.0%	98%
Other	1.2%	1%
Education		
High School degree	22%	42.5%
More than high school degree	20.5%	49.9%
Less than a high school degree	57.5%	7.6%

*Note.* Original RHCPS was the paper and pencil version.

## RESULTS

### Principal Components Analysis

A sample of 121 completed scale responses were subjected to the principal components analysis. The analysis revealed one component with an eigenvalue of 2.88 accounting for 57.59% of the variance. All item loadings on the component were greater than 0.78 except for the item “How easy or difficult is it to talk with your primary care provider?,” which loaded at 0.47 (see Table 4). The scree test plot visually confirmed a single component with a dramatic eigenvalue decline after the first component to an eigenvalue equal to 0.847.

The largest inter-item correlation ( $r = 0.65$ ,  $p < .001$ ) was between items related to being comfortable calling the health care provider and being involved in decision making with the provider. Inspection of the statistics in the summary estimates for scale alpha-if-item deleted showed that deletion of the item related to ease in communicating with the PCP would increase the Cronbach’s alpha from .81–.84. The mean scale score of 21.24 ( $SD = 3.34$ ) was not altered with the deletion of any one item (see Table 5 for individual item means).

**TABLE 4. Components Matrix From Original Paper and Pencil and Computer-Based Versions of the Relationships With Health Care Provider Scale**

Items	Paper and Pencil ( $n = 80$ ) Raw Rotated <sup>a</sup> Component 1	Computer ( $n = 121$ ) <sup>b</sup> Component 1
How easy or difficult is it to talk with your primary care provider?	1.61	0.47
How much do you trust your primary care provider?	0.53	0.78
How involved are you with your primary care provider in the decisions about your health care?	0.49	0.78
How comfortable are you in calling your primary care provider to tell him or her that you have a new symptom or difficulty taking your medications?	2.45	0.88
How satisfied are you with the care that you receive from your primary care provider?	1.52	0.82

<sup>a</sup>Rotation method: Varimax with Kaiser normalization.

<sup>b</sup>One component extracted. Solution cannot be rotated.

**TABLE 5. Item Level and Total Scale Means for the Original Paper and Pencil and Computer-Based Versions of the Relationships With Health Care Provider Scale**

Item	Paper and pencil <sup>a</sup> Mean ( <i>n</i> = 80)	Paper and pencil <i>SD</i>	Computer <sup>b</sup> Mean ( <i>n</i> = 121)	Computer <i>SD</i>
How easy or difficult is it to talk with your primary care provider?	8.74	2.36	4.08	1.14
How much do you trust your primary care provider?	9.12	1.51	4.50	0.79
How involved are you with your primary care provider in the decisions about your health care?	7.23	3.57	4.15	0.89
How comfortable are you in calling your primary care provider to tell him or her that you have a new symptom or difficulty taking your medications?	8.17	2.98	4.20	0.92
How satisfied are you with the care that you receive from your primary care provider?	9	2.21	4.31	0.78
Total Score	42.26	8	21.24	3.34

<sup>a</sup>VAS response format 0–10. <sup>b</sup>Response format 1–5.

### Reliability and Item Responses

The Cronbach's standardized alpha for the unidimensional scale was .81 across the five-item scale. The test–retest correlation across 7 weeks with 19 persons aged 60 and older was  $r = 0.57$  ( $p = .014$ ).

Participants reported high trust in their PCP (90.4%) and felt *very satisfied* to *completely satisfied* with their care (86.3%). Of the individuals who participated, 82% felt *very comfortable* to *completely comfortable* calling their PCP with 79.2% reported being *very involved* to *completely involved* with making decisions about their care. Related to ease in speaking with their PCP, 77.5% reported that it was *very easy* to *completely easy* for them.

### DISCUSSION

The original paper and pencil version of the RHCPS informed the subsequent development of the computer-based version of the scale. Aside from administrative media moving from

paper and pencil to computer administration, other changes were introduced. Through focus groups, it was evident that a 10-cm VAS could not be adapted to a computer screen, and it was found that older adults had difficulty interpreting levels on a 0–10 response scale so the format was changed to 5 levels ranging from 1 (*not at all*) to 5 (*completely*). In addition, questions were clarified and adapted.

Two different patient groups were used in the development and testing of the two versions of the RHCPS scales. The original paper and pencil version of the scales had been developed and tested on a younger group of men and women with racial and ethnic diversity and lower educational backgrounds, whereas the computer-based validation sample was primarily tested on White, women, well-educated, and older. The disease entities were very different, with the original RHCPS tested on a group with HIV or with AIDS, and the computer-based RHCPS tested with an older group with a nonsymptomatic condition of hypertension.

The five-item computer-based RHCPS had strong evidence for item and scale validity, and Cronbach's internal consistency, but test–retest reliability was low, which was probably because of a 7-week testing interval rather than the recommended 2-week interval. The one component emerging on components analysis supports the conceptual base of the measure as unidimensional with five empirical referents reflecting the concept of health care relationships. It is possible that the improvement in the psychometrics from the paper and pencil scale to the computer-based scale is related to the format used as well as to clarification of both the wording of items and wording in the response option selections provided in the computer-based version.

Responses to both versions of the RHCPS showed similar patterns across items and samples. Both groups indicated that they had high trust in their PCPs. Likewise, both groups were satisfied with the care they received. This is consistent with a qualitative study among persons with HIV or AIDS who reported that they were satisfied with their current health care providers and, if not satisfied with the care received, they changed to another care provider (Mikky et al., 2007).

Further research is needed to further refine both versions of the RHCPS. Given the stronger psychometric estimates found with the adjusted item wordings and response options on the computer-based administration format, it would be advisable to use that wording and response format in future administrations using paper and pencil administration. It would also be important to test the computer-based scale with a more ethnically and racially diverse group and younger persons with hypertension and with other illnesses to determine if the scale's reliability and validity estimates are maintained across diagnostic categories. It also is recommended that the test–retest reliability data collection points be 2 weeks apart as suggested by psychometricians.

In summary, in general, the RHCPS has strong support for its reliability and validity and has the potential to provide important clinical and scientific data on health care relationships from the perspective of older adults.

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Correspondence regarding this article should be directed to Elizabeth H. Anderson, PhD, ANP-BC, APRN, University of Connecticut, School of Nursing, Storrs Hall, Room 213, 231 Glenbrook Road, U-2026, Storrs, CT 06269-2026. E-mail: [Elizabeth.Anderson@uconn.edu](mailto:Elizabeth.Anderson@uconn.edu)

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