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# The Caregiver Vigilance Scale: Application and validation in the Resources for Enhancing Alzheimer's Caregiver Health (REACH) project

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## Abstract

*This article reports on the measurement properties of Caregiver Vigilance, a four-item caregiver self-report of perceived oversight demand for Alzheimer's disease and related disorders family caregiving. The self-report uses data from the Resources for Enhancing Alzheimer's Caregiver Health (REACH) project, a multisite National Institutes of Health (NIH) sponsored study of over 1,200 family caregivers. Results indicate that the items were*

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*clearly understood by the racially/ethnically diverse respondents; and, when responses were transformed into a summary scale and analyzed, unidimensionality was evident and internal consistency reliability favorably demonstrated. We suggest using the Caregiver Vigilance Scale in conjunction with traditional burden measures to systematically include the caregiving time associated with protectively watching over care recipients and the daily duration of this responsibility. We also highlight the practical utility of selected items for potential use in the caregiver assessment process.*

*Keywords: caregiving burden, family caregivers, homecare, minority groups, research techniques, self-report measures, validity*

## Introduction

Approximately four million Americans currently suffer from Alzheimer's disease and related dementing disorders (ADRD). Without significant advances in prevention and treatment, this number is expected to increase exponentially as the US population ages, resulting in a doubling of the number of people afflicted every five years beyond age 65.<sup>1</sup> Family members who care for ADRD relatives are at greater risk for negative emotional well-being and physical health outcomes.<sup>2-4</sup> "Caregiver burden" originated in the literature as a term to characterize the negative attributes and demanding responsibilities caregivers must face. Subsequently, numerous burden measures emerged that have helped further our understanding of the demands of caregiving.<sup>5-9</sup>

Existing burden measures, however, typically use negative rather than neutral items with wording that is not always meaningful to culturally diverse caregivers. Often foreign language equivalents do not exist for many concepts used to measure caregiver burden and emotional well-being. For instance, a recent study of Mexican American caregivers found expressions related to caregiver burden were unacceptable among its participants.<sup>10</sup> There is growing awareness of the challenges professionals face in multicultural clinical research and practice, particularly cultural differences regarding the meaning of AD/DRD, the etiology of cognitive impairment, and family expectations for caregiving.<sup>11-14</sup> Also, many measures focus on the tasks of caregiving necessary to support the care recipient's activities of daily living. Few measures account for the more invisible tasks performed by caregivers, such as monitoring others who are providing support services or initiating preventive actions to avoid triggering disruptive behavioral reactions in the care recipient. Equally important is terminology that limits the potential of response bias due to social desirability as well as terminology that can be easily understood and translated for multicultural populations. To address these issues, we developed and tested a brief new measure, called caregiver vigilance, to serve as a complement to traditional measures of caregiver burden.

### *Background of caregiver vigilance*

The concept of caregiver vigilance evolved from Mahoney's prior qualitative study of discussions by 70 family caregivers over a 12-month period.<sup>15</sup> A three-stage Caregiving Transition Model emerged from content analyses of these messages. Information-seeking about diagnostic verification and anticipatory planning characterized the early or *normalizing* stage of caregiving, while management of behavioral changes and specific problem-solving assistance dominated the middle or *managing* stage for caregivers. The advanced or *surviving* stage focused on caregiver struggles around continuance or release of caregiving responsibilities and the need to care for themselves. Caregivers' sense of "being there" emerged across all caregiving stages. "Being there" activities in the early and middle stages included cueing, guiding, preserving the care recipient's functioning, and avoiding situations that highlight mental decline and embarrass or frustrate the care recipient. In the last stage, "being there" meant that caregivers believed their presence was important even when the person no longer recognized them and continued even after hospitalization or institutional placement. "Being there" included the watchful supervision of care recipient activities to ensure safety. "Doing things" emerged as the more traditional task performance component wherein caregivers gradually took on managing the performance of

the activities of daily living for the care recipients or shared this responsibility with others. Vigilance evolved as the central concept that linked the themes, and it was defined as the caregivers' continual oversight of their care recipients' activities.<sup>15</sup>

The key finding—that vigilant caregivers were actively involved and saw themselves as responsible for the care recipient even when they were not engaged in specific caregiving tasks—directly influenced the development of the vigilance scale. Mahoney developed four vigilance questions to capture both "being there" and "doing things" aspects, and these were subjected to focus group critique and pilot testing with 15 family caregivers to establish face and content validity. Based on the caregivers' feedback, an initial item was added to establish the context of a family emergency in order to legitimize the option of leaving someone alone without the confounding influences of guilt, social desirability, and cultural influences that may deter accurate reporting. A similar response format (Yes-No) was carried through in asking whether the caregiver believed the care recipient could be left alone in a room before requesting the time estimate. The questions used simple, easily understood, literal words and examples that were designed to be familiar to multicultural caregivers and directly translatable. Responses were chosen in time increments because time is universally recognized across cultures and offers a continuous variable for measurement purposes. The aim was to develop a very brief, easily understood measure that would promote standardization of multicultural caregivers' perceptions of their oversight responsibility. Further discussion about the background development of the Caregiver Vigilance measure is in the literature.<sup>16</sup> The purpose of the present study was to analyze the construct validity and internal consistency of the Vigilance items using data from a large-scale study of Alzheimer's family caregivers.

## Methods

### *Study sample and sites*

Participants described in this report were enrolled in the national multisite study of AD/DRD caregivers entitled Resources for Enhancing Alzheimer's Caregiver Health (REACH).<sup>17</sup> Briefly, REACH is a multisite trial designed to test the effectiveness of several behavioral, environmental, social, and technological interventions for improving family members' abilities to care for persons with Alzheimer's disease or a related disorder. REACH was funded by a cooperative agreement by the National Institute on Aging and the National Institute of Nursing Research of the National Institutes of Health (1995-2001). A group of 1229 racially and ethnically diverse REACH study subjects were recruited at six intervention sites: Birmingham

1. In the case of a family emergency, are you able to leave (name person) home alone, that is, with no one else there?  
 Response: No / Yes  
 1a. If yes, then ask: How long can you leave (name person) alone?  
 Response in \_\_\_hour(s): \_\_\_minutes.

2. Can (name person) be left alone in a room as long as someone is in the house?  
 Response: No / Yes  
 2a. If yes, then ask: How long can you leave (name person) alone in a room?  
 Response in \_\_\_hour(s): \_\_\_minutes.

3. Some people have told us that they feel their caregiving is a time-consuming job. They say that even when they aren't actually doing something special for or with their relative, they feel "on duty" or the need to "be there" for him/her. About how many hours a day do you feel the need to "be there" or "on duty" to care for (name person)?  
 Response in \_\_\_\_\_hour(s)

4. About how many hours a day do you estimate that you are actually doing things for (name person)?  
 Response in \_\_\_\_\_hour(s)

**Figure 1. Caregiver Vigilance Questionnaire.®**

(n = 140, 11 percent), Boston (n = 100, 8 percent), Memphis (n = 245, 20 percent), Miami (n = 225, 18 percent), Palo Alto (n = 264, 21 percent), and Philadelphia (n = 255, 21 percent). Each site obtained local Institutional Review Board Approval and informed consents from their participants. The recruiting methods, study design, and interventions have been described in detail elsewhere.<sup>17-19</sup> Eligibility criteria for caregivers common to all sites included: living with care recipient; caring for the care recipient for at least six months prior to enrollment; and spending at least four hours a day in the caregiver role. In addition, care recipients must have been functionally impaired by exhibiting impairment in two Instrumental Activities of Daily Living<sup>20</sup> or one Activity of Daily Living,<sup>21</sup> and must have had a clinical diagnosis of Alzheimer's disease, according to NINCDS-ADRDA or DSM-IV criteria, or a score on the Mini-Mental State Examination (MMSE)<sup>22</sup> of 23 or less.

Caregiver and care recipient characteristics are described in Table 1. Caregivers were predominantly women (81 percent) and spouses (48 percent) or adult children (44 percent) of the care recipient. Caregivers ranged in age from 22 to 95, but almost half (47 percent) were at least age 65 years at randomization. Fifty-six percent of the caregivers were White/Caucasian, non-Hispanic/non-Latino; 24 percent were Black/African American, non-Hispanic/non-Latino; and 19 percent were Hispanic/Latino. Other racial/ethnic identity groups accounted for less than 1 percent of the

caregivers. About a third (32 percent) of the caregivers were employed at least part time outside of the home. Care recipients had a mean (SD) age of 79 (8.3) years. Men and women care recipients were approximately equally represented (45 vs. 55 percent, respectively). The mean (SD) MMSE score for care recipients was 12.6 (7.6).

### Measures

At baseline, the REACH core battery was administered during face-to-face interviews by trained interviewers, usually at the home of the caregivers. The extensive data collection included socio-demographic, care recipient functional status (ADL, IADL), care recipient cognitive functioning (MMSE), and a measure of satisfaction with caregiver social support<sup>23</sup> measures. Caregiver burden was measured by the Revised Memory and Behavior Problems Checklist,<sup>24</sup> which not only identified Alzheimer's related behavioral problems exhibited by the care recipient but also the degree to which these problems bothered the caregiver. A discussion of the measures used in the REACH project can be found in the literature, which supports the use of standardized, psychometrically tested, and proven robust measures.<sup>25</sup> As noted earlier, Mahoney's Caregiver Vigilance Questionnaire® (see Figure 1) was included as a special new measure, given the lack of other established measures for caregiver oversight. Asian, Hispanic/Latino, Black/African American,

**Table 1. Caregiver sociodemographic characteristics (N = 1229)**

		<b>n</b>	<b>Percent (%)</b>
Age group (years)	20 – 44	139	11
	45 – 54	237	19
	55 – 64	276	22
	65 – 74	304	25
	75 – 84	243	20
	85 or more	30	2
Sex	Men	228	19
	Women	1001	81
Level of educational attainment	< High school (12 years)	236	19
	High school	300	24
	> High school	693	56
Marital status	Never married	129	11
	Married or living as married	854	70
	Widowed, not currently married	72	6
	Divorced, not currently married	141	11
	Separated	32	3
Race/ethnicity	White/Caucasian	691	56
	Black/African American	295	24
	Hispanic/Latino	232	19
	Other	10	1
Latino	Mexican, Mexican American, Chicano	77	33
	Cuban or Cuban American	116	50
	Other: Puerto Rican, Dominican	39	17
Employment status	Not employed	841	68
	Employed	387	32

and White/Caucasian caregivers in REACH intervention states reviewed the Vigilance items for acceptability in terms of practical relevance, clarity, and translation properties prior to inclusion of the measure in the REACH questionnaire.

Caregiver Vigilance items one and two were recoded so that all reflected increasing hours of vigilant behavior prior to analysis.

### *Analyses*

We used parametric and non-parametric techniques to explore the distribution of responses to the Caregiver

Vigilance items (medians, floor and ceiling effects), the inter-item correlation (Spearman's rank correlation) of the items, and the relationship of important caregiver and care recipient characteristics to responses on the items. Internal consistency of the vigilance items was assessed with Cronbach's alpha, and the assumption of unidimensionality was further assessed with exploratory factor analysis. Vigilance items were combined into a single summary measure following exploratory data analysis. Finally, least squares regression methods and dummy variable indicator coding were used to assess the significance of differences in scaled vigilance scores

**Table 2. Spearman rank correlation matrix for vigilance measures (N = 1229)**

	At home	In room	On duty	Doing things
Time must be at home	1.00			
Time must be in room	0.54	1.00		
Time on duty	0.26	0.21	1.00	
Time doing things	0.28	0.28	0.41	1.00

across groups defined by caregiver and care recipient characteristics. Analyses were conducted using STATA statistical software.<sup>26</sup>

## Results

The distribution of the Caregiver Vigilance items is illustrated in Figure 2. As can be seen, the items are not normally distributed in this sample. Item responses are a mix of highly skewed (panel a, hours per day caregiver must be in the home), U-shaped (panel b, hours per day caregiver must be in room), semi-continuous (panel c, hours per day care recipient feels on duty), and platykurtic (panel d, hours per day doing things). These varied distributions suggest that parametric statistical techniques are not appropriate to portray the characteristics of the items, as the assumptions of normality are not met.

More than half (52 percent) of the caregivers reported needing to be at home 24 hours a day, and more than half of the sample (59 percent) reported feeling on duty 24 hours a day. Although only about one in 20 caregivers reported needing to be in the same room as the care recipient exactly 24 hours, when responses were rounded to the nearest hour, this figure jumped to about one in three caregivers (32.5 percent). It follows from these observations that the median hours for being at home and on duty were 24 hours. The median time for being in the same room was also high (22 hours). Time spent doing things did not display the same degree of skew as the other items; the median response for caregivers was six hours but ranged from 0 (0.2 percent) to 24 (1.4 percent).

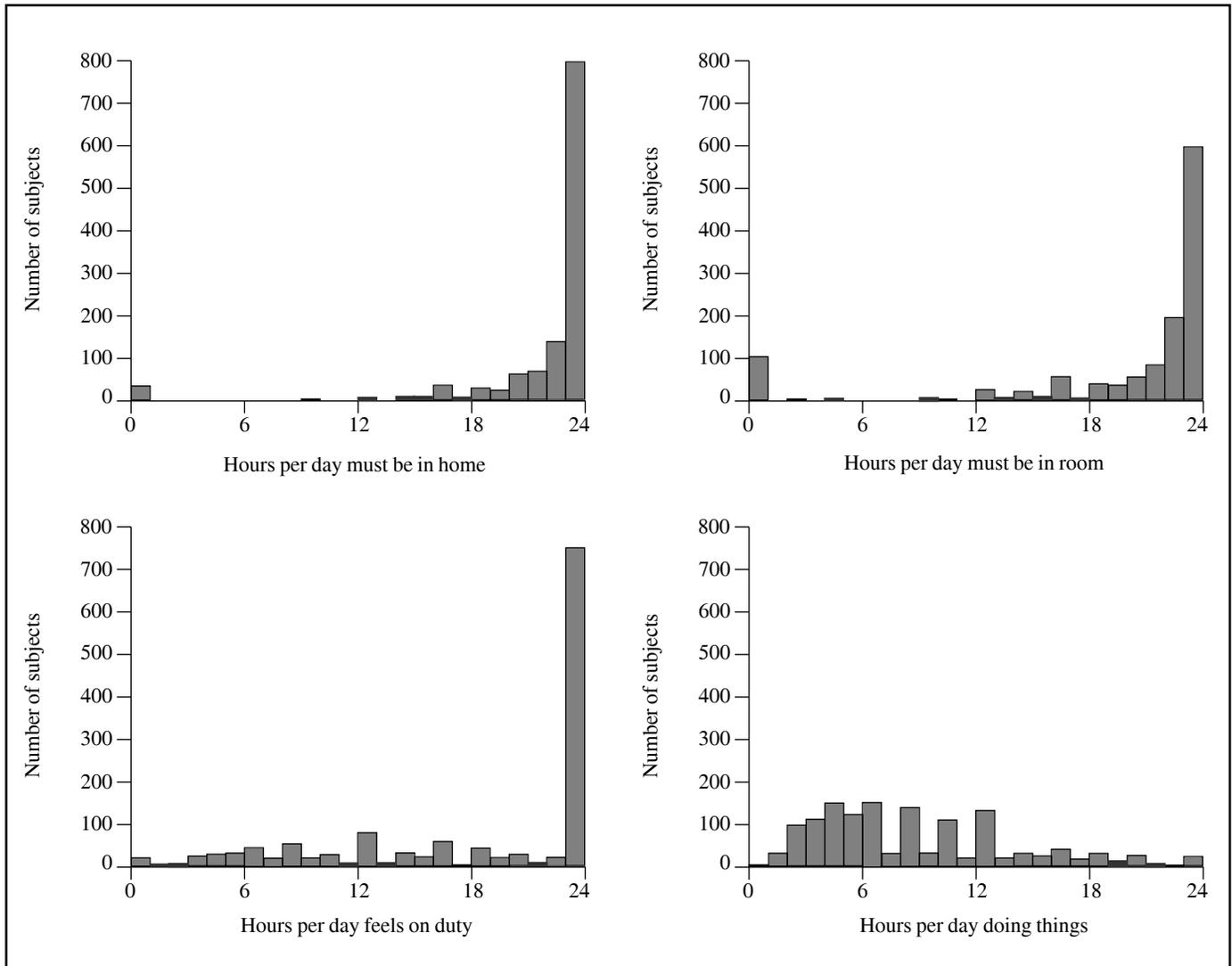
A matrix of Spearman rank correlation coefficients for the items is shown in Table 2. All items were significantly and positively correlated, but items capturing reports of how long caregivers could be left alone in the home and room were more highly correlated with each other than with items capturing reports of time spent doing things or being on duty. The Cronbach's alpha internal consistency reliability coefficient for the ranked responses was 0.66. Although Nunnally regards 0.7 as the minimum level of scale reliability, others,

including Cronbach, consider  $> 0.50$  as an indicator of good internal consistency and sufficient for initial stages of predictive and construct validation research.<sup>27-29</sup> We observed similar levels of internal consistency in major racial/ethnicity subgroups (White/Caucasian,  $\alpha = 0.65$ ; Black/African American  $\alpha = 0.65$ ; Hispanic  $\alpha = 0.68$ ). Unidimensionality was also supported by principal components factor analysis of the ranked responses: all items were correlated with the first component, and the first eigenvalue (2.00) was much greater than the second (0.96) and accounted for 50 percent of the shared variance among the vigilance items.

### *Scaling vigilance responses*

The discontinuous response pattern of vigilance responses creates a challenging scaling scenario. While favorable measurement characteristics were obtained when ranked responses were considered, combining ranks is not straightforward as each item is on a unique and arbitrary scale determined by the frequency of tied responses. Our method for combining vigilance responses, forming a single summary measure of vigilance, is necessarily complex in that discontinuity and arbitrariness in response scales are accommodated. However, the resulting scale is easy to interpret. The scaled vigilance measure is expressed as a T-score, with a mean of 50 and standard deviation of 10.<sup>30,31</sup> Higher scores imply the caregiver reports more vigilant behavior or time demands, and a caregiver with a scaled vigilance score of 60 has a level of vigilance one standard deviation greater than the REACH sample mean.

The extremely skewed distribution of individual items displayed in Figure 2 underscores the fact that a simple additive summary of the raw scores would not provide a meaningful summary of a respondent's level of vigilance. We used a complex strategy involving percentile ranks and normal equivalent deviates<sup>31</sup> to construct a summary measure that accounted for the different distributions of the individual items (Figure 3). We arrived at these item scores by Blom-transforming reported hours for each item. The Blom transformation<sup>32</sup> reduces skew and normalizes the



**Figure 2. Distribution of vigilance items, REACH study (N = 1229).**

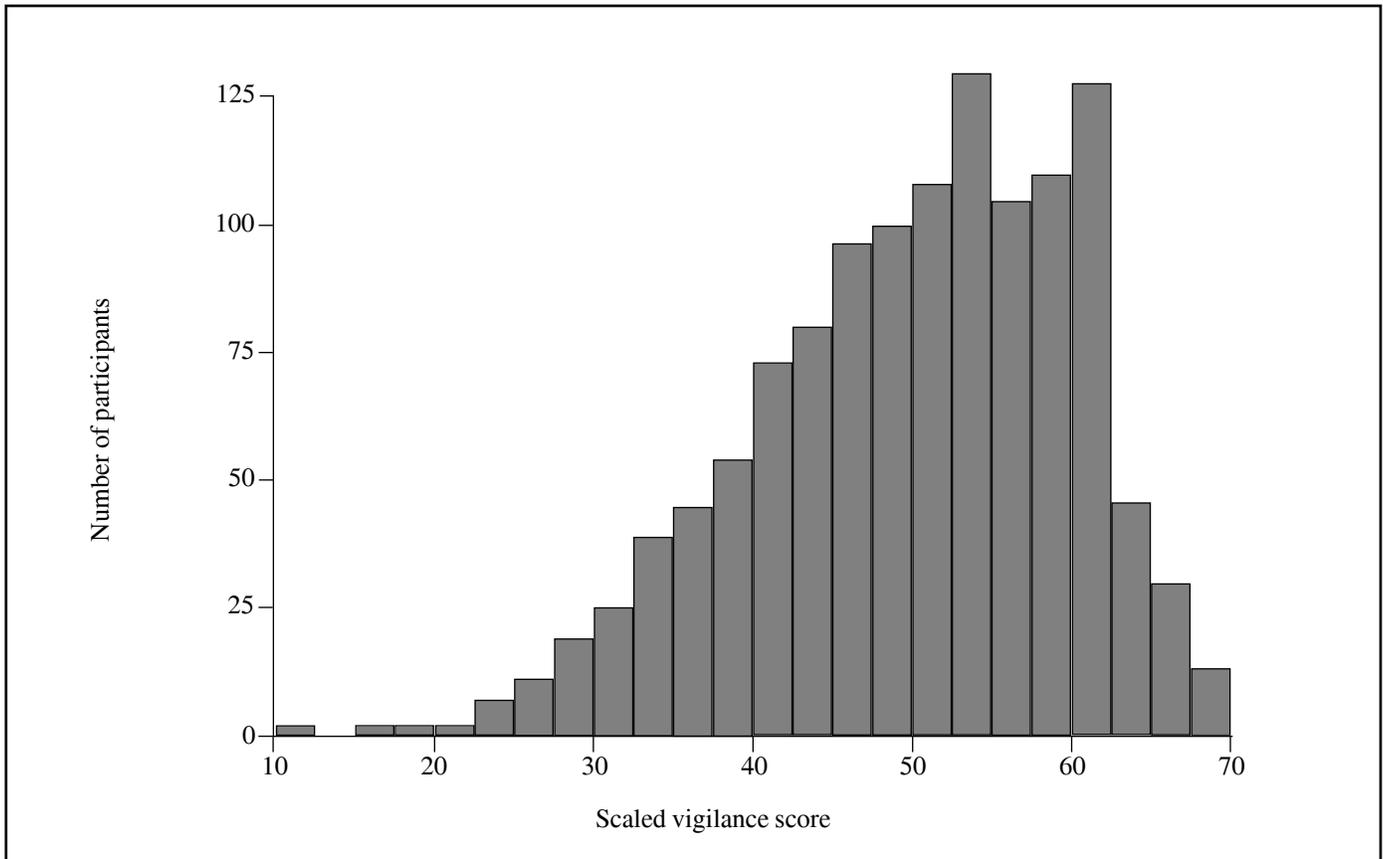
distribution by converting raw scores to normal equivalent deviates of the percentile ranks.

### *Scaling vigilance and caregiver and care recipient characteristics*

The relationships of caregiver and care recipient characteristics and scaled vigilance scores are shown in Table 3. Older caregivers tended to report more vigilance, although the overall magnitude of this effect was small. The Pearson's correlation coefficient expressing the association of caregiver age and scaled vigilance was 0.10 ( $p < .001$ ). Caregivers who were husbands and wives did not differ significantly in level or expressed vigilance, but sons and daughters reported significantly less scaled vigilance than husbands. Hispanic/Latino caregivers had much higher scaled vigilance scores than White/Caucasian caregivers, a

magnitude of about a third of a standard deviation. White/Caucasian and Black/African American caregivers did not differ significantly in terms of scaled vigilance. Caregivers employed outside of the home had about 0.4 standard deviation lower scaled vigilance. Scaled vigilance varied little over care recipient characteristics of age and sex, but varied greatly as a function of cognitive impairment. The correlation between scaled vigilance and the MMSE score was negative ( $-0.34, p < .001$ ); the greater the cognitive impairment (lower the MMSE score), the greater the scaled vigilance.

Similarly, the concept of divergent validity was supported by the weak correlation with the overall RMBPC score ( $r = 0.15, p < .001$ ) and indicated that vigilance measured a different aspect. Upon evaluation of the RMBPC sub-scales, the associations ranged from low to non-significant: disruptive behavior sub-scale ( $r = 0.21,$



**Figure 3. Distribution of scaled vigilance, REACH study (N = 1215).**

$p < .001$ ), depression sub-scale ( $r = 0.08$ ,  $p = 0.01$ ), and the memory sub-scale ( $r = 0.05$ ,  $p = .07$ ).

### *Race and ethnicity group differences in vigilance*

We conducted supplementary multivariable linear regression models to explore the association of race and ethnicity group and scaled vigilance, holding constant the effects of other caregiver socio-demographic factors and care recipient factors listed in Table 3. In the first model, Black/African American caregivers were compared to White caregivers. There was apparently no difference between White and Black/African American caregiver scaled vigilance, as implied by Table 3 ( $p = .95$ ). This finding was unchanged in a multivariable model statistically adjusting for relationship, caregiver age group, caregiver health status, and care recipient MMSE score level ( $p = 0.23$ ).

In other supplementary models, Hispanic/Latino caregivers were compared with White caregivers. As implied by Table 3, the difference in scaled vigilance was about 1.9 points, or about 0.19 standard deviation units—a small effect size difference. The magnitude of this effect was essentially unchanged, and remained statistically significant, in a

multivariable model statistically adjusting for the effects of relationship, caregiver age group, caregiver health status, and care recipient MMSE score level ( $\beta = 1.8$ ,  $p < .001$ ). In additional models, we were unable to identify a statistically significant interaction between Hispanic group membership and care recipient MMSE score, revised memory and behavior problem checklist (RMBPC) total score, RMBPC disruption, caregiver age, and caregiver relationship. Thus, the slightly greater scaled vigilance group mean for Hispanic/Latino caregivers remains unexplained. However, it is worth mentioning that the within-Hispanic group variability was almost as great as the within-race/ethnicity group variability. That is, the mean scaled vigilance for Mexican Americans ( $n = 76$ ) was 52.9, slightly higher for Cuban Americans ( $n = 116$ , mean = 54.0) but lower for other Hispanics ( $n = 39$  including Puerto Rican, Dominican, and other Hispanic/Latino Americans, mean 50.6), providing evidence of heterogeneity within the Hispanic/Latino grouping.

### Discussion

Our findings provide the first psychometric evaluation of a measure for caregiver vigilance in a large diverse population. The measure is novel because of its

**Table 3. Scaled caregiver vigilance as a function of participant characteristics (N = 1215)**

		Scaled vigilance		
		n	mean	(SD)
<b>Sociodemographic characteristics</b>				
Total number		1215	50.0	(10.0)
Age group (years)	20 – 44	136	48.3	(10.0)†
	45 – 54	236	48.3	(11.2)
	55 – 64	272	50.7	(9.6)*
	65 – 74	301	50.9	(9.9)*
	75 – 84	240	50.7	(9.3)*
	85 or more	30	50.5	(8.9)
Relationship to care recipient	Husband	152	51.5	(9.3)†
	Wife	430	50.5	(9.9)
	Son	58	47.4	(10.5)*
	Daughter	479	49.5	(10.2)*
	Other male	14	46.3	(10.5)
	Other female	82	49.9	(9.3)
Gender	Men	224	50.1	(9.9)†
	Women	991	50.0	(10.0)
Ethnicity	White/Caucasian	683	49.2	(9.8)†
	Black/African American	290	49.3	(9.7)
	Hispanic/Latino	231	53.1	(10.4)***
	All other ethnicity groups	10	52.8	(9.2)
Employment status	Not employed	830	51.9	(9.3)†
	Employed	384	46.0	(10.3)***
Overall self-reported health	Poor	83	51.5	(9.7)†
	Fair	391	52.4	(9.1)
	Good	406	49.3	(10.2)*
	Very good	232	48.3	(9.8)*
	Excellent	102	46.4	(10.9)***
<b>Care recipient characteristics</b>				
Age group (years)	Less than 65	50	49.2	(10.1)†
	65 – 74	264	50.0	(10.5)
	75 – 84	588	49.6	(10.0)
	85 or more	313	50.9	(9.5)
Gender	Men	540	50.1	(10.2)†
	Women	675	49.9	(9.8)
MMSE score level	00 – 01	113	54.9	(9.3)†
	02 – 05	158	52.6	(8.4)*
	06 – 13	340	52.5	(8.9)**
	14 – 23	520	47.2	(10.2)***
	24 – 30	50	42.7	(9.8)***
RMBPC quartiles	1 (least disruptive)	341	48.6	(10.3)†
	2	219	48.6	(9.8)
	3	311	50.0	(9.8)***
	4 (most disruptive)	344	52.3	(9.6)***

\*p < .05; \*\*p < .01; \*\*\*p < .001; Significance levels reflect tests of equivalent means using ordinary least squares regression relative to comparison groups. †Comparison group for regression models.

attention to perceptions of both the tangible and non-tangible tasks associated with caregiving. The four-item scale is brief, fast, and easy to administer. It is conceptually based and provides a neutral report of caregiving responsibilities, thereby avoiding the potential bias of social desirability in answers to positively or negatively phrased items. Vigilance is an important aspect of care not currently captured by other measures. Although composed of only four items, the vigilance scale displays suitable internal consistency reliability for research on group differences. Furthermore, the measure displays evidence of divergent validity in so far as caregivers caring for older adults with more advanced dementia (as implied by lower MMSE scores) report greater vigilance. Our measure also displays divergent validity with respect to other measures of caregiver burden, such as the RMBPC, supporting our contention that, among outcomes of interest in caregiver research, the construct of vigilance is a complement to other existing measures of caregiver burden.

Before discussing our results in greater detail, a discussion of the limitations of this study is warranted. Foremost, these data were collected during the course of the multisite collaborative REACH trial, and the principal goal of this project was to evaluate varied Alzheimer's caregiver interventions, not the development of new instrumentation. Important analytic issues relating to test-retest reliability and inter-rater reliability of the items and the instrument could not be accommodated in the research design and future research is necessary to address these issues. This limitation, nevertheless, is offset by important advantages due to the inclusion of this research in the REACH trial, thereby gaining access to a very large and diverse sample of caregivers and care recipients. Furthermore, item generation was grounded in extensive qualitative research, as discussed earlier.

The analytic results support the use of all four items as a summary measure to indicate caregiver vigilance. Before coming to this conclusion, the individual items were examined in detail to ascertain their distributional properties and associations with key variables representing caregiving domains. The frequency of responses indicating 24 hours per day vigilance may appear as ceiling effects and thus non-informative.<sup>33</sup> Those reporting this degree of vigilance, however, were quantitatively different from those reporting lesser degrees. The REACH sample was comprised of participants who were living with and caring for people with moderate to severe Alzheimer's disease. Findings support the logical premise that more vigilant caregivers care for family members with more advanced disease. Thus, from our analyses, the 24-hour perceived responsibility was a valid choice that served as a key indicator of caregiving demands. This finding is consistent with Mahoney's prior research<sup>16</sup> that found qualitative differences between

caregivers reporting lower, high, and 24-hour levels of vigilance. Others have suggested the need for more instruments that have practical application to clinical situations by assisting in the determination of need for formal care services.<sup>34</sup> We believe that the reported perception of 24-hour vigilance addresses this issue. From a clinical perspective, this particular item is very useful to identify and prioritize caregivers who should receive assessment for supportive services such as respite or adult day care for the person with Alzheimer's disease.

The specific item, "time in room alone," also creates a measure for respite interventions that, although brief in time, are potentially important distracting activities for care recipients. For example, in using videos, audiotapes, TV programming, or other forms of technology, room time alone, although measured in minutes, may still effectively estimate the effect of the intervention on engaging the care recipient. Alternatively, this particular item could be used to estimate the minutes of respite time gained by the caregiver due to the care recipient's being occupied or entertained by an intervention. At present, the field of technology caregiving applications is still emerging and in need of measures that are relevant, and valid, to foster outcome evaluations.<sup>35,36</sup>

In terms of generalizability, a major strength of the Caregiver Vigilance measure development was the opportunity to test it with a large sample of diverse caregivers found in the REACH study. Because of the REACH project, which is the largest multisite study to date of Alzheimer's family caregivers, we were able to attain a sample size adequate to assess traditional measurement properties as well as to explore findings by race/ethnicity. This offers an important contribution to the limited literature on measures used with White/Caucasian, Black/African American, and Hispanic/Latino caregivers. Also, the REACH investigators were sensitive to racial/ethnic differences among Hispanic/Latino caregivers and used translated/backtranslated REACH study questionnaire versions for participants indicating preference for interviews in Spanish with Mexican American, Central American, and Cuban dialects. Because of this effort, we not only found that Hispanic/Latino caregivers reported higher vigilance than White and Black/African Americans, but also Cuban Americans were higher than Puerto Rican, Dominican, and other Hispanic Americans. While many practitioners subjectively report that there are differences within the Hispanic/Latino group, objective research evidence from randomized trials is lacking. Notably, our data uniquely support within-group differences and provide objective evidence of the heterogeneity in responses among Hispanic/Latino caregivers.

Our findings also allow us to portray the characteristics of those who exhibit high vigilance as another means to proactively identify caregivers for support. In the REACH sample, these caregivers are older, nonworking spouses,

more likely of Hispanic/Latino Cuban origin, whose level of vigilance increases along with the increasing cognitive impairment of their care recipients. Generally, using the vigilance items on a screener form or within routine caregiver assessments is quite feasible given the short four-item format that takes no more than two minutes to complete. In return, professional caregivers can readily identify and better appreciate the type and levels of caregiver oversight efforts family members are experiencing and refer for more in-depth evaluation for supportive services.

In summary, the Caregiver Vigilance Scale is the first measure of this concept developed and tested with community-dwelling Alzheimer's family caregivers with diverse racial and ethnic backgrounds. It is important because it captures family caregivers' subjective perceptions of perceived oversight demands and accounts for both the tangible tasks of caregiving and the intangible efforts associated with overseeing and supervising a cognitively impaired person. Its brevity makes it feasible to use as a complement to other caregiving measures that do not systematically account for the time caregivers spend in supervision or oversight activities, with minimal respondent burden.

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