

Primary Care Clinician Expectations Regarding Aging

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Purpose: Expectations regarding aging (ERA) in community-dwelling older adults are associated with personal health behaviors and health resource usage. Clinicians' age expectations likely influence patients' expectations and care delivery patterns; yet, limited research has explored clinicians' age expectations. The Expectations Regarding Aging Survey (ERA-12) was used to assess (a) age expectations in a sample of primary care clinicians practicing in the United States and (b) clinician characteristics associated with ERA-12 scores. **Design and Methods:** This study was a cross-sectional survey of primary care clinicians affiliated with 5 practice-based research networks, October 2008 to June 2009. A total of 374 of the 1,510 distributed surveys were returned (24.8% response rate); 357 analyzed. Mean respondent age was 48.6 years ($SD = 11.6$; range 23–87 years); 88.0% physicians, 96.0% family medicine, 94.9% White, and 61.9% male. **Results:** Female clinicians reported higher ERA-12 scores; clinicians' age expectations decreased with greater years in practice. Among the clinicians, higher ERA-12 scores were associated with higher clinician ratings of the importance of and personal skill in administering preventive counseling and the importance of delivering preventive services. Agreement with individual ERA-12 items varied widely.

Implications: Unrealistically high or low ERA could negatively influence the quality of care provided to patients and patients' own age expectations. Research should examine the etiology of clinicians' age expectations and their association with older adult diagnoses and treatment. Medical education must incorporate strategies to promote clinician attitudes that facilitate successful patient aging.

Key Words: Attitudes toward aging, Successful aging, Expectations regarding aging

For many centuries, it was a common perception that advancing age was inevitably defined by physical and functional decline. Yet, in the past 20 years geriatricians and gerontologists have shifted their attention to the constructs of optimal aging and successful aging. Given the rapidly growing proportion of the population older than 65 years of age in the United States and globally, academic research, public policy, and popular literature have increasingly focused on understanding how environmental, social, and attitudinal factors influence opportunities for successful aging. Because aging is a dynamic process involving both decline and opportunities for continued development, we find

ourselves struggling to reconcile views about normal aging. What can be prevented or remedied through treatment or lifestyle behaviors and how might we best cope with the changes that are an inherent part of growing old?

A growing body of research indicates that people's perception of the aging process can profoundly influence their subsequent health behaviors and use of health resources. For example, even after controlling for age, education, functional health, gender, race, and self-rated health of study participants, [Levy and Meyers \(2004\)](#) found that those with more positive views of aging (i.e., who do not attribute changes to inevitable deterioration based on age) were more likely to perform preventive health behaviors over the subsequent two decades. There is also evidence that individuals with more positive self-perceptions of aging experience better functional health over time ([Levy, Slade, & Kasl, 2002](#)) and are likely to live 7.5 years longer than those with less positive views ([Levy, Slade, Kunkel, & Kasl, 2002](#)). Similarly, [Sarkisian, Hays, and Mangione \(2002\)](#) found that individuals were less likely to seek health care when they assumed that it was a normal part of aging to become depressed, to become dependent, to experience more aches and pains, to have a reduced libido, and to have less energy. Depressed older adults who attributed their condition to aging were 4.3 times less likely to believe it was very important to discuss depression with a doctor ([Sarkisian, Lee-Henderson, & Mangione, 2003](#)), and low age expectations were independently associated with very low levels of physical activity in older adults ([Sarkisian, Prohaska, Wong, Hirsch, & Mangione, 2005](#)). These associations have led to speculations about possible interventions to increase an individual's expectations regarding aging (ERAs) and thus facilitate improved health ([Sarkisian, Prohaska, Wong, Hirsch, & Mangione, 2005](#)).

Aging, however, is more than an individual process. Aging is a social developmental process subject to influence from important others. As [Nussbaum, Pitts, Huber, Raup Krieger, and Ohs \(2005, p. 288\)](#) wrote:

Although ageing is first a biological process, it is largely the social construction of ageing that shapes the structure, function, and possible outcomes of intergenerational interaction throughout the lifespan . . . Successful, healthy ageing extends far beyond the physical/biological realm into the social nature of ageing.

Attitudes about aging have considerable potential to influence the way we perceive and interact with older adults as well as shape the way older adults see themselves ([Horton, Baker, & Deakin, 2007](#)). Views of aging and stereotypes about older adults may be positive or negative in valence and they are often evaluatively mixed ([Kite, Stockdale, Whitley, & Johnson, 2005](#)). There is evidence that stereotypes of elders have changed over the past 30 years from that of being relatively poor, frail, and dependent to being considerably more prosperous, active, and politically powerful ([Cook, 1995](#); [Quadagno, 2008](#)). This is not surprising as the cohort of "baby boomers" in the United States has transitioned into their 60s bringing greater power in their numbers to political and economic domains. We now see the proliferation of programs for older adults that involve outdoor adventure and international travel, activities previously assumed to be outside the interests or capabilities of most older individuals. A complex interaction of improved health care and information, and access to other resources affecting quality of life by privileged seniors of our society have modified our image of what aging may look like with supportive conditions. Thus, the cohort of people who transitioned through youth and early adulthood in the 1950s and 1960s, for example, were acculturated with different images and ERAs than were those who came of age in the 1990s. Therefore, we would expect significant cohort differences in basic assumptions about aging.

Despite these cohort differences, however, recent research documents that negative attitudes about aging and the elderly population still predominate in American society ([Palmore, 2005](#); [Richeson & Shelton, 2006](#)). These views of aging likely influence the way we perceive ourselves and one another and, therefore, how we treat one another in personal and professional settings. Primary care clinicians are well positioned to facilitate successful aging by providing their patients with quality medical care and strategies for preserving key functional capacities with advancing age ([Haber, 2007](#); [Inui, 2003](#)). However, medical clinicians, like other members of the general population, may harbor negative attitudes about aging and the elderly population (e.g., [Gunderson, Tomkowiak, Menachemi, & Brooks, 2005](#); [Lee, Reuben, & Ferrell, 2005](#); [Richeson & Shelton, 2006](#)).

Adults older than 65 years of age are the most frequent users of the health care system, averaging 12 patient-physician contacts each year, and they depend on clinicians as a resource for preserving

and promoting physical and emotional health (Thompson, Robinson, & Beisecker, 2004). Because nearly 80% of Americans visit their primary care clinician at least once a year, these providers have access to patients at multiple teachable moments over time (Haber, 2007). Moreover, patients report that they expect to receive preventive health information and recommendations from their primary care clinicians as well as help in changing key lifestyle behaviors (Little et al., 2001; Whitlock, Orleans, Pender, & Allan, 2002). Clinician attitudes toward aging may influence the content of care that is offered and how patients understand what can be prevented versus what must be endured with advancing age.

To date, there is limited documentation of clinician ERAs. Furthermore, we do not know whether clinician characteristics, such as age, gender, training, personal health behaviors, and practice characteristics, may influence their age expectations. Therefore, this study was designed to (a) assess ERAs in a practicing sample of primary care clinicians in the United States and (b) identify clinician characteristics associated with ERAs. Based upon previous research on clinician and/or community-dwelling populations and our own experiences with older adults and the health care system, we hypothesized that clinician ERAs would be inversely associated with age and that clinicians with higher ERAs would be more likely to report positive personal health behaviors and place greater value on health promotion counseling and delivering clinical preventive services. This study provides a foundation for researchers to explore the associations between clinician age expectations, quality of care, and patient attitudes about aging as well as to inform possible primary care-based interventions to facilitate successful aging.

Methods

Participants

Clinician participants were recruited through five United States practice-based research networks (PBRNs), including four state-based and one national network. At the time of the study, there were 117 PBRNs listed on the Agency for Healthcare Research and Quality PBRN Resource Center Registry (Agency for Healthcare Research and Quality, n.d.). The first author invited directors and/or managers of 11 primary care PBRNs to participate in the study. Six networks declined participation due to inadequate resources (e.g.,

inadequate support for PBRN staff to administer the study or for compensating clinicians for their time to complete the survey). The five PBRNs that agreed to participate were diverse in their clinician membership by geography, training, academic affiliation, and practice size.

Four PBRNs collected surveys directly from their clinician membership and one administered the survey to family physicians licensed with the state's Board of Medical Examiners. Clinicians eligible to complete the study were those who (a) were trained as a medical doctor, doctor of osteopathic medicine, nurse practitioner, or physician assistant; (b) provided primary care to adults (i.e., family medicine or internal medicine specialty); and (c) practiced outpatient medicine more than 25% of the time in a non-emergency room setting. Surveys were excluded if the respondent was no longer in practice or did not practice medicine in the United States. A total of 1,596 surveys were mailed to eligible clinicians in the five PBRNs and 86 were returned due to incorrect e-mail or mailing addresses or because the clinician had retired, resulting in 1,510 potential respondents. Clinicians completing the survey could choose to enter a raffle for one of four \$125 gift cards.

A total of 374 surveys were returned out of the 1,510 surveys distributed to eligible clinicians (24.8% response rate). After excluding 17 surveys, we analyzed data from 357 respondents whose demographic and training characteristics are summarized in Table 1. [Surveys were not included in the analysis because clinicians were not currently practicing family medicine in an adult primary care setting in the United States ($n = 9$), they had excessive missing data ($n = 6$), it was a duplicate response ($n = 1$), or represented an outlier who provided extreme answers on most questions ($n = 1$).] Respondent age ranged from 23 to 87 years, and 7.0% of the sample was older than 65 years in age ($n = 25$). Respondents practiced in rural (65.0%, $n = 227$), urban (18.1%, $n = 63$), and suburban (16.9%, $n = 59$) locations, and 59.1% ($n = 205$) of respondents reported that 10%–49% of their patients were aged 65 years or older. Respondents represented practices diverse in size, with 8% ($n = 28$) in solo practice, 35.3% ($n = 123$) in a clinic of three to five providers, and 15.2% ($n = 53$) practicing in clinics with more than 11 providers to adult patients. Compared with a national database of all nonfederal physicians that shows that 76% of providers who identified their race are White (Kaiser Family Foundation, 2008),

Table 1. Demographic and Training Characteristics of Clinician Respondents (N = 357)

| Characteristic | Sample <i>n</i> (%) |
|---|---------------------|
| Age in years, <i>M</i> (<i>SD</i>) | 48.6 (11.55) |
| Gender, male | 216 (61.9) |
| Ethnicity, non-Hispanic/Latino | 340 (98.3) |
| Race (White) | 332 (94.9) |
| Degree | |
| MD | 249 (70.9) |
| DO | 60 (17.1) |
| NP/APN | 18 (5.1) |
| PA | 24 (7.0) |
| Specialty ^{a,b} | |
| Family medicine | 335 (96.0) |
| Internal medicine | 18 (5.2) |
| Years in practice, <i>M</i> (<i>SD</i>) | 16.22 (12) |
| Academic affiliation (yes) | 122 (34.2) |

Notes: Numbers in parentheses indicate % unless otherwise indicated by row as *SD*. APN = advanced practice nurse; DO = doctor of osteopathic medicine; MD = medical doctor; NP = nurse practitioner; PA = physician assistant.

^aFour respondents indicated yes to both family medicine and internal medicine.

^bSixteen clinicians indicated that they had an additional specialty, including the following: four geriatrics, two OB-GYN/deliver babies, two hospice and palliative medicine, two orthopedics, two pediatrics, two emergency room, one urgent care, and one psychiatry.

it appears that our sample (95% White) underrepresented minority providers. However, medical degree distribution in our sample was similar to the national distribution of primary care professionals (Steinwald, 2008), and gender and age characteristics were essentially the same as those of the total membership of the American Academy of Family Physicians (2010).

Measures

A multidisciplinary research team developed the “Health Promotion and Preventive Services in Primary Care—Clinician Survey” for this study. The survey assessed clinician perceptions of aging using the Expectations Regarding Aging Scale (ERA-12; Sarkisian, Steers, Hays, & Mangione, 2005; described in the following) as our principal outcome measure. Based upon findings from literature reviewed, our survey also assessed beliefs and characteristics of clinicians that we anticipated would correlate with their expectations regarding aging including (a) perceived importance of health promotion counseling and delivery of recommended preventive services (each on 4-point Likert scales from *not important* to *very important*), (b) rating of personal skill in providing health promo-

tion counseling and in delivering recommended preventive services (each on 5-point Likert scales from *poor* to *excellent*), (c) the context of their practice (rural, suburban, or urban), (d) the size and nature of their practice (number of primary care providers who see adult patients, and the percent of patients older than 65 years the provider sees at the office), (e) training (date and type of medical degree; specialty; current academic affiliation, if any; years in practice), and (f) personal health behavior characteristics (number of days per week he or she eats five or more servings of fruits and/or vegetables; days per week he or she exercises for 20 min or longer; self-report of physical fitness on a 5-point Likert scale from *not fit* to *extremely fit*; self-report of health on a 5-point Likert scale from *poor* to *excellent*). Demographic characteristics were also obtained (age, gender, race, and ethnicity). Survey questions were adapted from existing instruments when possible (i.e., Binnes, Mueller, & Ariza, 2007; Fagnan et al., 2007; Sarkisian, Steers, et al., 2005).

We measured age expectations using the ERA-12 (Sarkisian, Steers, et al., 2005). Responses to each ERA-12 item is on a 4-point Likert scale from 1 = *definitely true* to 4 = *definitely false*. ERA-12 scores are calculated using a previously published algorithm and can range from a minimum of 0 to a maximum of 100. [Algorithm for ERA-12 score: sum the numbers at the bottom of each box for items 1–12. Take this integer and subtract 12, then multiply by 25, and divide by 9, to come up with the 0–100 range score (Sarkisian, Steers, et al., 2005)]. Higher ERA-12 scores indicate that individuals believe that people, in general, can maintain high physical, social, and mental function with aging; lower scores indicate that decline is seen as a normal part of increasing age. Scores on the ERA surveys are not necessarily “positive” versus “negative” or “right” versus “wrong” but rather indicate the respondent’s expectations regarding decline or maintenance with aging; there are no cut-points for what is optimal (Sarkisian, Steers, et al., 2005). The ERA-12 comprises three subscales of four items each that uniquely focus on expectations regarding physical health (PH), mental health (MH), and cognitive function (CF). [Algorithm for ERA-12 subscales: sum the numbers at the bottom of each box for the subscale items (four items per subscale). Take this integer and subtract 4, then multiply by 25, and divide by 3, to come up with the 0–100 range score (Sarkisian, Steers, et al., 2005)]. The ERA-12 subscales

demonstrated acceptable levels of reliability and construct validity in two separate samples of community-residing adults aged older than 65 years ($n = 429$ and $n = 643$) (Sarkisian, Steers, et al., 2005). In the analysis of the sample of 643 participants, Cronbach's alpha exceeded $\alpha = .75$ for each subscale and was .80 for the overall ERA-12 score; test-retest reliability over a 2-week interval was over 0.78 for the three subscales and 0.94 for the total ERA-12 score (Sarkisian, Steers, et al., 2005).

Procedure

The institutional review boards of three academic and/or health sciences institutes approved this study. The survey was administered electronically via Survey Monkey[®] (see <http://www.surveymonkey.com/>) and by United States mail between October 2008 and June 2009. Survey invitations and reminders were sent one to four times depending on resource availability within each participating PBRN. PBRNs routed all completed surveys to a centralized research office for data entry and analyses.

Analysis

Descriptive statistics were run on all variables. For continuous or ordinal predictor variables, we conducted bivariate correlations and partial correlations (adjusting for clinician age and gender) with ERA-12 scores. For predictor variables that were nominal, we calculated one-way analysis of variance and t -tests, as well as analysis of covariance (ANCOVA) adjusting for clinician age and gender. SPSS for Windows (version 17) and SAS System for Windows (version 9.2) were used to complete statistical analyses.

Results

ERA Scores

Mean respondent scores on the ERA-12 and for the three four-item subscales are summarized in Table 2. Total ERA-12 scores ranged from 27.8 to 100.0, with a mean of 68.2 of 100 possible points; recall that higher scores indicate greater expectation that individuals maintain high mental and physical functioning with advancing age. Analyses of the three subscales of the ERA-12 revealed the following distributions: MH subscale $M = 84.47$, $SD = 14.07$; CF subscale $M = 62.4$, $SD = 21.6$; PH subscale $M = 56.92$, $SD = 19.66$. Given the nature of the scale construction (and lack of norms for

Table 2. Clinician Scores on the Expectations Regarding Aging (ERA-12) Survey ($N = 354$)

| ERA-12 component | M (SD) |
|---|------------------------------|
| Overall score ^a | 68.2 (14.5) |
| Subscale score ^a | |
| Expectations for physical health | 56.9 (19.7) |
| Expectations for mental health | 84.5 (14.1) |
| Expectations for cognitive function | 62.4 (21.6) |
| Individual ERA-12 question | Agree ^b , n (%) |
| a. When people get older, they need to lower their expectations of how healthy they can be. | 104 (29.4) |
| b. The human body is like a car: When it gets old, it gets worn out. | 216 (61.0) |
| c. Having more aches and pains is an accepted part of aging. | 225 (63.6) |
| d. Every year that people age, their energy levels go down a little more. | 119 (33.7) |
| e. I expect that as I get older I will spend less time with friends and family. | 17 (4.8) |
| f. Being lonely is just something that happens when people get old. | 21 (5.9) |
| g. As people get older they worry more. | 116 (33.2) |
| h. It's normal to be depressed when you are old. | 52 (14.7) |
| i. I expect that as I get older I will become more forgetful. | 182 (51.7) |
| j. It's an accepted part of aging to have trouble remembering names. | 156 (44.3) |
| k. Forgetfulness is a natural occurrence just from growing old. | 119 (34.0) |
| l. It is impossible to escape the mental slowness that happens with aging. | 60 (17.1) |

Note: ^aScores on the ERA-12 for the overall score and subscale scores may range from 0 to 100. Higher scores indicate that individuals expect to achieve and maintain high physical and mental function with aging for self and others. Lower scores indicate that decline is expected with increasing age.

^b Respondents answered *definitely true* or *somewhat true* to the question prompt.

each subscale), differences between scores on one subscale versus another are not meaningful (only differences between respondents or groups of respondents on a given subscale have meaning). In our sample, we found an acceptable level of internal consistency with Cronbach's alpha of .82 for the total ERA-12 score; subscale alpha scores ranged from 0.60 (MH subscale) to 0.81 (CF subscale).

To explore responses to individual items on the ERA-12, we dichotomized the data into those who agreed (i.e., answered *definitely true* or *somewhat true*) and disagreed (i.e., answered *definitely false* or *somewhat false*) with each question. Clinician agreement with individual items varied widely (Table 2). Respondents agreed most frequently

with the following statements: “Having more aches and pains is an accepted part of aging” (63.6%, $n = 225$; PH subscale) and “The human body is like a car: When it gets old, it gets worn out” (61.0%, $n = 216$; PH subscale). However, 70.6% ($n = 250$) disagreed with a third PH subscale statement: “When people get older, they need to lower their expectations of how healthy they can be.”

Respondents disagreed most frequently with the following statements: “I expect that as I get older I will spend less time with friends and family” (95.2%, $n = 336$; MH subscale) and “Being lonely is just something that happens when people get old” (94.1%, $n = 333$; MH subscale). However, 14.7% agreed with the statement that “It’s normal to be depressed when you are old” ($n = 52$; MH subscale). Over half of the sample disagreed with the statement that “It’s an acceptable part of aging to have trouble remembering names” and two thirds disagreed with the statement that “Forgetfulness is a natural occurrence just from growing old” (55.7%, $n = 196$ and 66.0%, $n = 231$, respectively; both CF subscale items).

Clinician Characteristics and ERA Scores

An independent samples t -test for clinician gender on ERA-12 scores revealed that women reported higher age expectations than men, $t(343) = -3.20$, $p = .002$ ($M = 71.4$, $SD = 13.7$ and $M = 66.4$, $SD = 14.7$, respectively). This gender difference appeared on both the MH, $t(346) = -4.16$, $p < .0001$, and PH subscales, $t(346) = -2.48$, $p = .0135$, but not on the CF subscale, $t(345) = -1.35$, $p = .1791$.

The associations between other clinician characteristics and expectations regarding aging were identified through Spearman correlations between individual measures of characteristics and both overall ERA-12 scores and ERA-12 subscale scores. We subsequently calculated partial correlations between clinician characteristics and both ERA scores and subscale scores, controlling for the relationships between ERA and both clinician age and gender, given the variance accounted for by each of these two variables. Table 3 summarizes the coefficients of the correlations and partial correlations between clinician characteristics and overall ERA-12 scores.

A negative Spearman’s correlation coefficient revealed that as clinician age increased in our sample, age expectations decreased on the overall

ERA-12, $r_s = -.121$, $p = .026$, as well as on its MH and CF subscales ($r_s = -.111$, $p = .04$, and $r_s = -.128$, $p = .018$, respectively; but not the PH subscale, $r_s = -.064$, $p = .235$). When the associations between both age and gender with ERA-12 scores were included in an ANCOVA, the association between age expectations and gender remained significant, $F(1,333) = 8.64$, $p = .004$, but the association between age expectations and age did not, $F(1,333) = 1.16$, $p = .28$ (women were disproportionately younger in our sample). Increasing numbers of years a clinician had been in practice (highly positively correlated with clinician age, $r = .898$) were associated with ERA-12 scores, $r_s = -.176$, $p = .001$. This was a consistent finding across the overall ERA-12 and its three subscales, even when age and gender were controlled (MH, $r_s = -.142$, $p = .010$; PH, $r_s = -.133$, $p = .015$; CF, $r_s = -.118$, $p = .032$).

The majority of respondents indicated that it was very important to address health promotion counseling with their patients (68.7%, $n = 244$) and to deliver recommended preventive services (83.9%, $n = 296$). Positive Spearman correlation coefficients revealed that perceived importance of providing health promotion counseling and delivering recommended preventive services were both associated with higher ERA even after controlling for age and gender, $r_s = .214$, $p < .001$, and $r_s = .163$, $p = .003$, respectively. These associations appeared for each of the subscale scores as well. The majority of clinicians reported they were very good or excellent in providing recommended preventive services (71.4%, $n = 252$) and in health promotion counseling (55.8%, $n = 197$). Moreover, partial correlations controlling for the associations between ERA-12 scores and both age and gender indicated that clinicians who reported greater skill in providing health promotion counseling also reported higher age expectations, $r_s = .112$, $p = .042$ (see Table 3). There was marginal evidence supporting this relationship in the partial correlations of both the PH ($r_s = .096$, $p = .079$) and CF ($r_s = .101$, $p = .066$) subscales. Clinicians’ reports of their own health behaviors (i.e., fruit and vegetable consumption, exercise, physical fitness) were not associated with their age expectations (see Table 3).

Discussion

This may be the first study to explore expectations regarding aging, as measured by the ERA-12,

Table 3. Associations Between Clinician Characteristics (i.e., demographic, training, practice, preventive counseling, and health behaviors) and Their Expectations Regarding Aging ($N = 357$)

| Variable | Expectations regarding aging | | | Expectations regarding aging (controlled for age and gender) | | |
|--|------------------------------|-------------------|----------|---|----------------|----------|
| | Test statistic ^a | <i>p</i> value | <i>n</i> | Test statistic ^{b,c} | <i>p</i> value | <i>n</i> |
| Demographic characteristic | | | | | | |
| Age | −0.121 | .026 ^c | 340 | — | — | — |
| Gender | $t(343) = -3.20$ | .002 ^c | 345 | — | — | — |
| Training characteristics | | | | | | |
| Degree | $F(3,343) = 1.09$ | .352 | 347 | $F(3,328) = 0.22$ | .879 | 334 |
| Years in practice | −0.176 | .001 | 344 | −0.161 | .003 | 331 |
| Academic affiliation | $t(328) = -1.13$ | .261 | 330 | $F(1,314) = 1.59$ | .208 | 318 |
| Practice characteristics | | | | | | |
| Practice location | $F(2,342) = 0.15$ | .865 | 345 | $F(2,328) = 0.04$ | .963 | 333 |
| No. of primary care providers to adults | 0.094 | .083 | 344 | 0.094 | .089 | 332 |
| % of patients >65 years | −0.074 | .169 | 343 | −0.035 | .532 | 331 |
| Perceived resource availability | −0.063 | .240 | 346 | −0.084 | .127 | 331 |
| Perceived importance | | | | | | |
| Health promotion counseling | 0.240 | <.001 | 352 | 0.214 | <.001 | 336 |
| Delivering recommended preventive services | 0.178 | .001 | 350 | 0.163 | .003 | 334 |
| Perceived skill | | | | | | |
| Health promotion counseling | 0.143 | .008 | 350 | 0.112 | .042 | 334 |
| Delivering recommended preventive services | 0.109 | .042 | 350 | 0.086 | .116 | 334 |
| Health behaviors | | | | | | |
| Fruit/vegetable consumption | 0.077 | .153 | 350 | 0.082 | .134 | 334 |
| Exercise for ≥20 min | 0.002 | .975 | 347 | 0.008 | .890 | 331 |
| Perceived physical fitness | 0.042 | .435 | 350 | 0.047 | .393 | 334 |
| Perceived health | 0.091 | .091 | 350 | 0.094 | .089 | 332 |

Notes: Clinician specialty was not utilized as an analysis variable because 96% of the sample represented family medicine. Ethnicity was not utilized as an analysis variable because only 6 respondents indicated they were Hispanic or Latino/Latina.

^aAnalyses include Spearman's rho correlations, independent samples *t*-test, and one-way analysis of variance.

^bAnalyses include partial correlations with Spearman's rho and analyses of covariance (ANCOVA; adjusting for clinician age and gender).

^cWhen age and gender are both included in an ANCOVA with ERA-12 scores, gender remained significant but not so for age, $F(1,333) = 8.64$, $p = .004$, and $F(1,333) = 1.16$, $p = .28$, respectively.

in a sample of practicing primary care clinicians. It is important to understand clinicians' perceptions of aging because of the role clinicians play in supporting, diagnosing, and treating older individuals in the health care system. As social psychologists have long recognized (e.g., Blau, 1973), what we think of a person influences how we perceive the individual, which in turn influences how we behave toward the person, which, in turn, shapes that person. Clinician attitudes regarding aging may well affect the ways in which clinicians perceive their patients and selectively attend to and approach health care preventive and intervention practices. In fact, clinicians must rely upon their best judgment regarding normative and nonnormative behaviors in deciding what sorts of assessment, treatment, and follow-through are warranted by the symptoms patients present.

In our sample, 14.7% of the primary care clinicians reported that it was a normal part of aging to become depressed. Qualitative research by Burroughs and colleagues (2006) indicated that primary care clinicians viewed late-life depression as a normal part of aging rather than an objective diagnostic category for treatment. Thus, Burroughs and colleagues argued that these clinicians demonstrated therapeutic nihilism, the feeling that nothing could be done for this group of patients, and therefore, the clinicians did not attempt to address the condition. This finding is alarming in light of the fact that (a) depression is a treatable condition and (b) older adults are just as happy as their younger counterparts (Taylor, Morin, Parker, Cohn, & Wang, 2009). Similarly, one third of the clinicians we surveyed agreed that as people get older they worry more, and one third agreed that every year

that people age their energy levels go down a little more. Attitudes regarding these issues may moderate the degree and manner in which the clinicians elect to follow-up on patients' complaints regarding worry and energy levels.

Although lower ERA may be detrimental to mental, physical, and cognitive health, it is also possible that expectations that are "too high" can have negative consequences if they cause older adults to have unrealistic expectations for which they will always fall short. Surprisingly, over 70% of our clinician sample disagreed with the statement that we need to lower expectations of how healthy we can be with age, which seems unrealistic given that 100% of aging adults experience declines in physical health across multiple physiological systems. Similarly, 55.7%–66.0% of respondents disagreed that trouble remembering names and forgetfulness is an accepted part of aging, despite extensive data showing that the ability of nondemented older adults to recall names declines with aging ([American Academy of Family Physicians, 2009](#)).

Although various aspects of the "normal" aging process can be modified and minimized through attention to preventive health behaviors and healthy lifestyle choices around diet, exercise, personal habits, and psychosocial factors (e.g., [Centers for Disease Control and Prevention and The Merck Company Foundation, 2007](#); [Peel, McClure, & Bartlett, 2005](#)), unrealistic clinician age expectations could contribute to patients' feelings of inadequacy. Of course, unrealistically positive or negative assumptions regarding aging may also encourage the clinician (and others) to "blame the victim" ([Ryan, 1976](#)), that is, blame the elder for a perceived failure to maintain certain health standards, rather than attend to contextual variables such as lack of intellectual, social, emotional, financial, or other resources that need to be addressed to support healthy aging.

Change is a part of aging; understanding and coping with how much, how quickly, and how fast is likely a key to successful aging. [Goodwin \(1991\)](#) urged us to be careful regarding what we consider age-related "diseases" and what we do and do not consider to be preventable with advancing age. Clinicians with unrealistic views of aging may diminish rather than enhance their patients' progress toward successful aging. Future research must help us understand the parameters of "realistic" expectations of aging, defined within the context of disparate societal conditions.

Our analyses identified a limited set of clinician characteristics that were associated with higher versus lower clinician ERA. As we review each, however, it is important to note that they actually explained a relatively small amount of the overall variance in clinician ERA-12 scores, leading us to speculate on other factors that may enter into these associations.

Respondent age was inversely associated with age expectations such that older clinicians reported lower scores on the ERA-12. Similar associations have emerged in studies of lay community members aged 60 years and older ([Kim, 2009](#); [Sarkisian et al., 2002](#); [Sarkisian, Steers et al., 2005](#)). However, once we controlled for gender (women in our sample were disproportionately younger), age did not predict age expectations. Future research needs to examine age-related variation in ERA-12 scores, including the degree to which age expectations may actually decrease with age or, alternatively, may reflect a cohort effect. It is certainly possible that personal and/or professional life experience over the life span contribute to increasingly lower ERA. This receives some support from our finding that even after controlling for clinician age and gender, greater number of years a clinician had practiced was associated with lower age expectations (on the overall ERA-12 as well as on each of its subscales). It is possible that through additional years of medical practice, clinicians confront situations (e.g., as patients succumb to health problems they had worked to avoid) that convince them that there is less control over the aging process than they had originally anticipated.

In contrast, there is also good reason to expect that cohort effects contribute to lower age expectations among older clinicians. As noted earlier, there is evidence that attitudes regarding aging have become more positive over the past 30 years among the general population ([Cook, 1995](#); [Quadagno, 2008](#)), and emerging knowledge and other resources have increasingly supported longer and healthier lives through recent history. Therefore, we might expect that younger clinicians have had less experience with negative images of aging and were exposed to more positive ERA during the formative years of their personal development and clinical training. In a related vein, the training of younger clinicians likely emphasized advances in, for example, neurobiological development that were not part of earlier training and that may contribute to more positive expectations among this younger cohort. Longitudinal research is needed to

clarify the relative contributions of these and other developmental and cohort-related variables.

In our sample, female clinicians reported higher age expectations than their male counterparts. When clinician age and gender were both included in the analysis with total ERA-12 scores, the associations between gender (but not age) and ERA-12 remained significant. However, because women in our sample tended to be younger on average than men ($M = 43.4$, $SD = 9.6$, and $M = 51.7$, $SD = 11.6$, respectively), it is likely that these variables are collinear. Previous studies have not reported on the associations between ERA-12 scores and gender, and additional research with participants matched on age, gender, and sociodemographic characteristics is necessary to determine the nature of this gender association. The bases of these gender differences are likely complex, potentially relating to variations in motivations for and experience in clinical training, attitudes regarding patient-practitioner interaction, and gender-associated patterns of practice, to name just a few possibilities. For example, research has found that female (vs. male) physicians recommend more preventive services, attend more to emotional issues, spend more time with their patients, and have greater patient satisfaction (Bertakis, 2009). Although we do not suggest that these gender-related patterns among physicians necessarily contribute to or reflect differences in ERA, they suggest that gender may be associated with a variety of behaviors and attitudes that may also be engaged in expectations of and interactions with aging patients.

Contrary to our hypothesis, we found no strong associations in our sample between a clinician's personal health behaviors (i.e., reported fruit and vegetable consumption, exercise, perceived fitness, perceived health) and ERA-12 scores. This may be explained, in part, by the fact that only 7% of our sample was older than 65 years and other factors such as activity availability or competing priorities with work and family may be more prominent barriers to the performance of health behaviors than views about aging for younger populations. Moreover, there was quite limited variation in our respondents' health behaviors, with most reporting high levels of healthy activities and fitness. This fact diminishes the potential to identify significant associations between health behaviors and age expectations.

Although not comparable samples, it was striking that primary care clinicians in this study had a mean score of 68.2 ($SD = 14.5$) on the ERA-12, considerably higher than the means of 23.5–39.7

of community-dwelling elders reported in previous studies (Joshi, Malhotra, Lim, Ostbye, & Wong, 2010; Kim, 2009; Sarkisian, Steers, et al., 2005). Future research needs to examine how factors such as culture, education, age, and socioeconomic status may influence age expectations both within and beyond clinician populations. For example, as noted earlier, it may be that younger adults have higher age expectations in general as a result of their limited experience as well as the cultural context in which they have lived. It is also possible that more affluent members of society are buffered from some of the challenges of aging that afflict the impoverished or underserved. Relating to culture and ethnicity, Sarkisian, Shunkwiler, Aguilar, and Moore (2006) found that after adjusting for health and sociodemographic characteristics, Latinos had lower age expectations than non-Latino Whites and African Americans. However, when the authors added education to the model, being Latino was no longer significant (Sarkisian et al., 2006). Exploring the etiology of age expectations across the life span may inform interventions to modify age expectations in both young and older adults from diverse backgrounds.

A limitation of the current study is that it relied on only one measure of views regarding aging. Future studies should explore the associations between ERA-12 scores and other standard measures of attitudes and stereotypes toward the aged and aging, and provide normative data for comparisons between the three subscales. In addition to those noted previously, the demographic, training, and health characteristics explored in the present study explain a small portion of the variance in ERA-12 scores. Future research should consider other constructs we did not measure that might explain variation in clinician ERA-12 scores such as believing health outcomes are modifiable versus fixed, optimism, self-efficacy, depression, and happiness. In addition, experiences such as working in a nursing home might influence age expectations. Longitudinal (rather than cross-sectional) ERA data from larger and more diverse populations of clinicians (and nonclinicians) would enhance our ability to more fully understand the role of the variables we examined as well as to identify other characteristics that predict the content of and change in age expectations over time. Qualitative research with primary care clinicians and with other medical professionals may help identify characteristics that need to be explored in subsequent quantitative work.

Implications for Practice

Primary care clinicians play an important role in promoting primary, secondary, and tertiary preventive health care and facilitating successful and productive aging across the life span. Our research provides important baseline data regarding the expectations of young, middle-aged, and older primary care clinicians regarding aging and it identifies some of the clinician characteristics that are associated with variation in clinician age expectations.

Because personal views of aging have been linked to subsequent health behaviors among older adults, it is quite possible that clinicians' expectations about the aging process are associated with differential diagnostic, treatment, and referral patterns as well as contribute to patients' expectations and health behaviors. It is critically important that future research examines how clinicians' age expectations influence personal behaviors and health care delivery. Studies on clinicians' age expectations may help guide the development of interventions to "optimize" clinician views of aging so they can offer appropriate care that is likely to make a difference in meaningful health outcomes without medicalizing the aging process itself, facilitate personal opportunities for aging well, and support patients' ability to age successfully.

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