IMPORTANCE  Higher purpose in life is hypothesized to reduce the likelihood of developing weak grip strength and slow walking speed because purpose has been linked with a range of positive health behaviors and biological processes that are potentially protective against declining physical function. However, the association between purpose in life and objective physical function has not been examined.

OBJECTIVE  To assess whether higher purpose in life among adequately functioning older adults is associated with lower risk of developing weak grip strength and slow walking speed over time.

DESIGN, SETTING, AND PARTICIPANTS  Data for a longitudinal cohort study were collected in 2006 and again in 2010 from the Health and Retirement Study, a nationally representative study of US adults older than 50 years. Data analysis was conducted from November 23, 2016, to June 2, 2017.

MAIN OUTCOMES AND MEASURES  The risk of developing weak grip strength (assessed as a binary yes or no outcome) or slow walking speed (yes or no) during the 4-year follow-up period. Grip strength was assessed using Smedley spring-type hand dynamometers, and walking speed was assessed by asking respondents to walk 2.5 m at their normal walking pace.

RESULTS  In this study, 4486 adults had grip scores at baseline indicating adequate function (2665 women and 1821 men; mean [SD] age, 63.0 [8.2] years) and 1461 adults had walking scores at baseline indicating adequate function (801 women and 660 men; mean [SD] age, 70.8 [6.5] years). After controlling for sociodemographic factors, each 1-SD increase in purpose was associated with a 13% decreased risk (95% CI, 1%-23%) of developing weak grip strength and a 14% decreased risk (95% CI, 8%-20%) of developing slow walking speed. Associations with walking speed were maintained in all covariate models (fully adjusted model: risk ratio, 0.89; 95% CI, 0.83-0.95), but associations with grip strength did not reach conventional levels of statistical significance after additionally adjusting for relevant baseline health factors, depressive symptoms, and health behaviors (fully adjusted model: risk ratio, 0.91; 95% CI, 0.80-1.04).

CONCLUSIONS AND RELEVANCE  Purpose in life was prospectively associated with a decreased risk of developing weak grip strength and slow walking speed, although the findings were more robust for walking speed than for grip strength. These findings suggest that a sense of purpose in life, a modifiable factor, may play an important role in maintaining physical function among older adults.
he number of older adults is growing rapidly, and meeting the unique needs of this growing demographic is considered a global public health challenge. As population age, identifying factors that facilitate maintenance of adequately functioning strength and mobility into late life is crucial; decline in these functional capacities is associated with increased risk of disability, morbidity, institutionalization, and mortality. Furthermore, capacity to maintain physical function is an important component of aging well and thriving. However, in the United States, almost 1 in 3 adults (31.7%) 65 years or older report difficulty walking 3 city blocks. Although much effort has been directed toward identifying risk factors for disease onset, investigators are increasingly seeking protective factors, that is, attributes that enhance a person’s ability to maintain health.

Recent research finds that having a higher sense of purpose in life is associated with greater likelihood of engaging in healthier behaviors (eg, higher physical activity, use of preventive health screening), better biological functioning (eg, reduced allostatic load), reduced risk of disease (eg, lower risk of cardiovascular disease and cognitive impairment), and mortality. Purpose in life, often viewed as a central component of well-being, refers to the extent to which people see their lives as having meaning, a sense of direction, and goals. It is shaped by social structural factors and changing life circumstances; moreover, several studies show that purpose in life can be modified. Because purpose appears to promote healthier behaviors and protect against disease, investigators speculate that it contributes to people’s capacity to maintain independent physical function. However, we know of no studies directly evaluating whether purpose is associated with objective performance-related measures.

In this study, we tested whether higher purpose was associated with decreased risk of developing weak grip strength (an indicator of strength) and slow walking speed (an indicator of mobility) after 4 years of follow-up. Prior work shows that these specific indicators of physical function are associated with major health end points, including morbidity, institutionalization, and mortality. Identifying factors that contribute to maintaining these aspects of physical function may provide insight into strategies for enhancing healthy aging. Based on results of prior research, we identified relevant covariates to consider.

Methods

Study Population

Data used in this study are from the Health and Retirement Study (HRS), an ongoing nationally representative panel study of US adults older than 50 years that surveys people every 2 years. Starting in 2006, a random 50% of the HRS longitudinal panel was selected for an enhanced face-to-face interview. In 2006 and again in 2010, physical function assessments were obtained from the same respondents by trained interviewers. After the interview, respondents were given a self-report psychological questionnaire, which they completed and returned by mail to the University of Michigan. Because physical function and psychological measures were first assessed in 2006, we considered this wave to be the baseline for the current study. Although the HRS interviews all couples in a household, HRS survey sampling weights were developed only for respondents older than 50 years; hence, only those respondents are included in the sample for the present study. These weights account for the complex multistage probability survey design; they also use propensity models to adjust for nonresponse in the face-to-face interview and leave-behind psychosocial questionnaire. The HRS website provides extensive documentation about the protocol, instrumentation, and complex sampling strategy (http://hrsonline.isr.umich.edu/).

Because the study used deidentified, publicly available data, the Harvard T.H. Chan School of Public Health Institutional Review Board exempted it from review; in addition, all HRS respondents provided written informed consent.

Analyses were conducted using 2 different samples owing to differing inclusion criteria for participants when considering grip strength (n = 4486) or walking speed (n = 1461). eFigures 1 and 2 in the Supplement provide detailed inclusion criteria for each sample.

Measures

Purpose in Life

Purpose in life was assessed in 2006 using the 7-item Purpose in Life subscale of the Ryff Psychological Well-being Scales, previously validated in a nationally representative sample of adults. On a 6-point Likert scale, respondents rated the degree to which they agreed with each item. The mean of all items was taken to create a scale. Scores ranged from 1 to 6, where higher scores reflected higher purpose (Cronbach α = 0.75); we then standardized these scores so that all binary results can be interpreted as the change in risk of developing a slow walking speed or weak grip strength as a function of a 1-SD increase in purpose in life. To examine the possibility of threshold effects, we created tertiles of purpose based on the baseline distribution of purpose scores in the sample (eTables 1 and 2 in the Supplement). Additional details about the exposure and outcome variables are in the eMethods in the Supplement.

Grip Strength

In each wave (2006 and 2010), a respondent’s grip strength was measured 4 times by HRS interviewers who followed a standard protocol and used Smedley spring-type hand dynamometers; 2 measurements were taken with each hand,
alternating hands during measurement. Grip strength was considered as both a continuous and binary variable. A change score was calculated by subtracting baseline grip strength scores from follow-up scores (scores ranged from −34.5 kg to 19.75 kg; mean change, −2.31 kg). The binary grip strength score used cut points identified in previous research; scores less than 26 kg for men and less than 16 kg for women were categorized as weak grip strength.

Walking Speed
In each wave (2006 and 2010), a respondent’s walking speed was measured twice by HRS interviewers who followed a standard walking task protocol. Walking speed was considered as both a continuous and binary variable. Change scores ranged from −0.89 m/s to 0.71 m/s, with a mean change of −0.15 m/s. Following previous research, binary walking speed scores categorized scores less than 0.8 m/s as slow walking speed.

Covariates
All covariates were assessed by self-report in 2006 and included sociodemographic characteristics, baseline health, and depressive symptoms. Sociodemographic characteristics included age, sex, race/ethnicity (white, African American, Hispanic, or other), marital status (married or not married), educational level (no degree, General Educational Development certificate or high school diploma, or college degree or higher), and total wealth (based on quintiles of the score distribution). Baseline health was assessed by summing the number of major chronic illnesses (heart problems, stroke, cancer, high blood pressure, diabetes, lung disease, or arthritis or rheumatism) for which participants reported a physician’s diagnosis, a measure that was validated in previous HRS work. Depressive symptoms were assessed using the validated 8-item Center for Epidemiological Studies Depression Scale (Cronbach α = 0.91). Health behaviors included smoking status (never, former, or current), frequency of exercise (never, 1-4 times per month, or more than once a week), and frequency of alcohol consumption (abstinent, <1-2 days per month, 1-2 days per week, and >3 days per week).

Statistical Analysis
Data analysis was conducted from November 23, 2016, to June 2, 2017. Given that physical function decline is common (>10% in our sample), we used Poisson regression with robust error variance to evaluate the likelihood of developing weak grip strength (yes or no) or slow walking speed (yes or no) at follow-up among participants who were adequately functioning at baseline. Furthermore, we used ordinary least squares regression to assess the magnitude of physical function change (measured continuously) during the 4-year follow-up. For all analyses, 5 models were evaluated. Model 1 was unadjusted. Model 2 was minimally adjusted for age, sex, and race/ethnicity. Model 3 (core model) adjusted for the additional sociodemographics of marital status, educational level, and total wealth. We then considered the outcome of sequentially adding other covariates, including baseline health and depressive symptoms (model 4) and then health behaviors (model 5).

For more easily interpretable results, coefficients created by Poisson models were exponentiated, thereby providing risk ratios. We assessed whether the data met assumptions of ordinary least squares regression and found nonnormality near the tails of the change scores for both grip and speed; thus, we winsorized outcome data, using 95% winsorization (the least amount needed to alleviate nonnormal residuals). All analyses were conducted in Stata, version 14.1 (StataCorp). *P < .05 (2-sided) was considered significant.

Additional Analyses
First, to examine the possibility that better physical function might lead to higher purpose, we tested whether higher baseline physical function was associated with increased purpose during the follow-up period (calculated as the change in purpose between baseline and follow-up). Second, precise cut points are being debated in the literature; hence, to evaluate the robustness of our results we examined commonly agreed-on alternative cut points for grip strength (<32 kg for men and <20 kg for women) and walking speed (<0.6 m/s; see eTables 3–6 in the Supplement). Third, owing to past research showing associations between low cognitive function and declines in physical function, we tested the outcome that cognitive impairment might have on our primary association. Fourth, we examined cross-sectional analyses in the full sample.

Missing Data
Among respondents in the final analytic sample, the overall item nonresponse rate was 0.9% for the grip strength sample and 5.9% for the walking speed sample. Because missing data were distributed across variables, complete-case analyses resulted in a loss of 9.1% (n = 408) of the grip strength respondents and 13.1% (n = 191) of the walking speed respondents. Hence, we imputed missing data on all covariates and outcomes using a multivariate normal multiple imputation procedure because it often provides a more accurate estimate of association than other methods of handling missing data; therefore, we present results with multiple imputation for all analyses.

Results
At study baseline, respondents in the grip strength sample were a mean (SD) 63.0 (8.2) years of age and respondents in the walking speed sample were 70.8 (6.5) years of age. Among 4486 people with adequately functioning grip strength at baseline, 426 respondents (9.5%) developed weak grip strength at follow-up. Among 1461 people with adequately functioning walking speed at baseline, 687 respondents (47.0%) developed slow walking speed at follow-up. Table 1 shows the descriptive statistics of both samples.

Purpose in Life and Grip Strength
We observed inverse associations between higher purpose and lower risk of developing weak grip strength (Table 2). For example, in the core model adjusting for sociodemographic characteristics, each 1-SD increase in purpose was associated with a 13% decreased risk of developing weak grip strength levels (95% CI, 1%-23%). After further controlling for all covariates, results did not reach conventional levels of statistical signifi-
Purpose in Life and Walking Speed

Across all covariate models, we observed strong inverse associations between higher purpose in life and lower risk of developing slow walking speed (Table 2). For example, in the core model, each 1-SD increase in purpose was associated with a 14% decreased risk of developing slow walking speed (95% CI, 8%-20%). In the core model, when the association between purpose and change in walking speed was examined, each 1-SD increase in purpose was associated with a modest increase in walking speed (β = 0.02; 95% CI, 0.00-0.03); this effect size is approximately equivalent to being 2.5 years younger (Table 3). After adjusting for additional covariates, the primary associations were consistently positive but did not reach conventional levels of statistical significance. When considering purpose tertiles, however, there was evidence of a threshold effect whereby only people with high purpose displayed increased walking speeds (β = 0.05 high; 95% CI, 0.02-0.09; eTable 2 in the Supplement).

Additional Analyses

No associations were evident between baseline grip strength (β = 0.00; 95% CI, −0.01 to 0.01) or walking speed (β = −0.02; 95% CI, −0.22 to 0.17) and changes in purpose 4 years later. When alternate physical function cut points were considered, associations were similar in all covariate models; for example, in demographic-adjusted models, each 1-SD increase in purpose was associated with an 8% decreased risk of developing weak grip strength (95% CI, 1%-14%) (eTable 3 in the Supplement) and a 21% decreased risk of developing slow walking speeds (95% CI, 13%-28%; eTable 3 in the Supplement). When cognitive impairment was added to the demographic

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### Table 1. Characteristics of Study Participants at Baseline

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Grip Strength Participants (N = 4486)</th>
<th>Walking Speed Participants (N = 1461)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD), y</td>
<td>63.0 (8.2)</td>
<td>70.8 (6.5)</td>
</tr>
<tr>
<td>Female</td>
<td>2665 (59.4)</td>
<td>801 (54.3)</td>
</tr>
<tr>
<td>Married</td>
<td>3071 (68.5)</td>
<td>1011 (69.2)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>3399 (75.8)</td>
<td>1216 (83.2)</td>
</tr>
<tr>
<td>African American</td>
<td>664 (14.8)</td>
<td>128 (8.8)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>349 (7.8)</td>
<td>87 (6.0)</td>
</tr>
<tr>
<td>Other</td>
<td>74 (1.6)</td>
<td>30 (2.1)</td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤High school</td>
<td>685 (15.3)</td>
<td>241 (16.5)</td>
</tr>
<tr>
<td>High school</td>
<td>2439 (54.4)</td>
<td>859 (58.8)</td>
</tr>
<tr>
<td>≥College</td>
<td>1362 (30.4)</td>
<td>361 (24.7)</td>
</tr>
<tr>
<td>Total wealth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Quintile (≤$24 000)</td>
<td>735 (16.4)</td>
<td>173 (11.8)</td>
</tr>
<tr>
<td>2nd Quintile ($24 030-$116 500)</td>
<td>861 (19.2)</td>
<td>163 (11.2)</td>
</tr>
<tr>
<td>3rd Quintile ($117 000-$270 000)</td>
<td>923 (20.6)</td>
<td>281 (19.2)</td>
</tr>
<tr>
<td>4th Quintile ($270 500-$598 000)</td>
<td>979 (21.8)</td>
<td>349 (23.9)</td>
</tr>
<tr>
<td>5th Quintile (≥$599 647)</td>
<td>988 (22.0)</td>
<td>495 (33.9)</td>
</tr>
<tr>
<td>No. of illnesses, mean (SD)</td>
<td>1.6 (1.2)</td>
<td>1.9 (1.3)</td>
</tr>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>2020 (45.0)</td>
<td>617 (42.2)</td>
</tr>
<tr>
<td>Former smoker</td>
<td>1787 (39.8)</td>
<td>710 (48.6)</td>
</tr>
<tr>
<td>Current smoker</td>
<td>679 (15.1)</td>
<td>134 (9.2)</td>
</tr>
<tr>
<td>Exercise frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>620 (13.8)</td>
<td>156 (10.7)</td>
</tr>
<tr>
<td>1-4 Times/mo</td>
<td>1013 (22.6)</td>
<td>291 (19.9)</td>
</tr>
<tr>
<td>&gt;1 Time/wk</td>
<td>2854 (63.6)</td>
<td>1014 (69.4)</td>
</tr>
<tr>
<td>Alcohol frequency, d/wk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>2015 (44.9)</td>
<td>616 (42.1)</td>
</tr>
<tr>
<td>&lt;1</td>
<td>836 (18.6)</td>
<td>257 (17.6)</td>
</tr>
<tr>
<td>1-2</td>
<td>825 (18.4)</td>
<td>257 (17.6)</td>
</tr>
<tr>
<td>≥3</td>
<td>811 (18.1)</td>
<td>332 (22.7)</td>
</tr>
</tbody>
</table>

* Data are presented as number (percentage) of respondents unless otherwise indicated.

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### Table 2. Risk Ratios for the Association Between 1-SD Increase in Baseline Purpose in Life and Risk of Developing Weak Grip Strength or Slow Walking Speed 4 Years Later

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Adjusted Risk Ratio (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip Strength (n = 4486)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unadjusted</td>
<td>0.76 (0.67-0.86)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Age, sex, and race/ethnicity</td>
<td>0.85 (0.75-0.96)</td>
<td>.01</td>
</tr>
<tr>
<td>Demographics[a]</td>
<td>0.87 (0.77-0.99)</td>
<td>.03</td>
</tr>
<tr>
<td>Demographics[a], baseline health, and depressive symptoms</td>
<td>0.90 (0.79-1.02)</td>
<td>.11</td>
</tr>
<tr>
<td>Demographics[a], baseline health, depressive symptoms, and health behaviors[a]</td>
<td>0.91 (0.80-1.04)</td>
<td>.15</td>
</tr>
<tr>
<td>Walking Speed (n = 1461)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unadjusted</td>
<td>0.80 (0.75-0.85)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Age, sex, and race/ethnicity</td>
<td>0.83 (0.78-0.89)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Demographics[a]</td>
<td>0.86 (0.80-0.92)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Demographics[a], baseline health, and depressive symptoms</td>
<td>0.89 (0.83-0.95)</td>
<td>.002</td>
</tr>
<tr>
<td>Demographics[a], baseline health, depressive symptoms, and health behaviors[a]</td>
<td>0.89 (0.83-0.95)</td>
<td>.001</td>
</tr>
</tbody>
</table>

* Grip strength cut point, 26 kg for men and 16 kg for women.

[a] Demographic model adjusted for age, sex, race/ethnicity, marital status, educational level, and total wealth.

[b] Baseline health model adjusted for a history of myocardial infarction, coronary heart disease, angina, congestive heart failure, other heart problems, stroke, cancer or malignant tumor of any kind (excluding minor skin cancer), high blood pressure, diabetes, lung disease, and arthritis or rheumatism.

[c] Health behavior model adjusted for smoking, exercise, and alcohol frequency.

[d] Walking speed cut point, 0.8 m/s.

---

...
characteristic-adjusted model, each 1-SD increase in purpose was associated with a marginally decreased risk of developing weak grip strength (risk ratio, 0.93; 95% CI, 0.85-1.03) and a significantly reduced risk of developing slow walking speeds (risk ratio, 0.89; 95% CI, 0.83-0.96). In demographic characteristic-adjusted cross-sectional models, the association between purpose and walking speed was positive and significant (β = 0.02; 95% CI, 0.01-0.03) and the association between purpose and grip strength was marginally significant (β = 0.21; 95% CI, ~0.01 to 0.43).

### Discussion

To our knowledge, this is the first study to evaluate the association between purpose in life and objectively assessed physical function. In a prospective and nationally representative sample of older US adults who had adequately functioning levels of physical function at baseline, higher baseline purpose in life was associated with decreased risk of developing slow walking speed during 4 years of follow-up and small increases in walking speed among people with high purpose. Higher purpose was also associated with increases in grip strength but was less robustly associated with decreased risk of developing weak grip strength. In models evaluating risk of declining into slow walking speeds, findings were maintained after careful control for potential confounders, including sociodemographic characteristics, baseline health, depressive symptoms, and cognitive impairment. Reduced risk of declining into weak grip strength was observed in some models, but was less strongly apparent when additionally adjusting for baseline health, depressive symptoms, or cognitive impairment. The somewhat divergent findings in our 2 outcomes may be explained by the fact that they reflect unique aspects of physical function, as reflected by their low correlation in our sample (0.25). Associations were also maintained when alternate cut points for physical function were tested. Furthermore, we did not find convincing evidence that baseline physical function was associated with subsequent changes in levels of purpose, although it is plausible that bidirectional associations exist. Inclusion of behavioral variables in the fully adjusted model likely overadjusts our results because many hypothesize behaviors as mechanisms between purpose and physical function. However, adjustment for behaviors did not substantially alter our findings, indicating there may be other mechanisms that need to be identified.

Although mechanisms that explain the potential health effects of purpose have not yet been clearly defined, there are likely indirect (eg, other health-related behaviors) and/or direct effects (eg, altered biological function). For example, people with higher purpose are more proactive in taking care of their health, have better impulse control, and engage in healthier activities. Given that associations between purpose and physical function were only modestly attenuated after adjusting for standard health behaviors, the range of health behaviors considered may need to be broadened, the measurement instruments used to capture health behaviors might be imprecise, or other mechanisms may be factors. Other work evaluating direct effects shows that people with higher purpose display enhanced regulation of physiological systems associated with changes in physical function (eg, reduced inflammatory markers). Hence, the association of purpose in life with physical function may be additionally explained by a direct effect on biological function. Future work should continue examining potential mechanisms.

Our findings are consistent with those of 3 previous studies evaluating the association between purpose and disability, which is an important correlate of physical function. One study observed 970 older adults recruited from senior housing facilities in the Chicago area and observed them for approximately 5 years. Results showed that higher baseline purpose was associated with reduced risk of disability over time. A second study observed 1475 older adults from South Australia across 18 years and found that higher purpose was associated with lower levels of disability, but not with slower declines in disability. A third study evaluated whether purpose was associated with limitations in activities of daily living. This cross-sectional study found that higher purpose was associated with fewer physical functional limitations among women with breast cancer, but not among community-based middle-aged women.

Our study provides an important contribution by (1) evaluating objective measures of physical function (while these studies used a self-reported physical function measure that may be subject to self-report bias), (2) using a reasonably representative sample of older US adults, and (3) focusing on a broader range...
of physical function than has previously been considered. Previous studies focused on physical disability and deficits in functioning, which restricts the range of data on physical function that people without disability can provide. Our study also converges with evidence evaluating the association between related but distinct psychological factors (eg, mastery and optimism) and enhanced physical function on objective measures.65,66

**Strengths and Limitations**

Our study has several limitations. Unmeasured confounding is always plausible in observational studies; however, we carefully controlled for a range of potential confounders. Reverse causality is another limitation, but analyses were conducted to address this issue. Furthermore, it is conservative to remove people with suboptimal physical function at baseline because the baseline association incorporates the lifelong forward association between purpose and physical function; by removing this population, we essentially focus on short-term changes in declining function. This method also reduces the likelihood of reverse causality. Although several analyses attempted to reduce the possibility of reverse causality, it is still a likelihood and an area that should be further evaluated. Biased estimates due to attrition may be a problem in studies of older adults because participants with worsening physical function may be more likely to drop out. However, we used a multiple imputation method to alleviate this concern.53-97 In addition, the follow-up period of 4 years was relatively short; future studies should examine these associations using longer follow-up periods and repeated measures, which would suggest that findings hold over longer durations of time and multiple measures. Although specific cut points of physical function are the subject of ongoing debate, our findings were robust to the most widely used cut points, as well as alternative cut points, which suggests that effects of purpose are not evident only at arbitrary points in the spectrum of functioning.

Our study also had several strengths. We drew from a large, diverse, prospective, and national sample of older US adults. Furthermore, objective measures of physical function were used, reducing concerns about self-report bias and common method variance (eg, self-reported purpose and physical function).

**Conclusions**

Recent large-scale studies show that grip strength and walking speed are robust factors associated with survival; identifying factors that contribute to maintaining these aspects of physical function may provide insight into strategies for increasing the likelihood of healthy aging.3,4 Considering the rapidly aging population, there is an escalating need to identify factors that can lengthen the time that people maintain physical function. Given the many studies showing that purpose can be improved,35,36 our study suggests that purpose in life may be one promising and novel upstream factor that serves as a target for improving not only mental health but physical function as well.

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**Author Contributions:** Drs Kim and Chen had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

**Study concept and design:** Kim, Kubzansky.

**Acquisition, analysis, or interpretation of data:** All authors.

**Drafting of the manuscript:** Kim, Kubzansky.

**Critical revision of the manuscript for important intellectual content:** All authors.

**Statistical analysis:** Kim, Chen.

**Obtained funding:** Kim.

**Administrative, technical, or material support:** Kubzansky.

**Study supervision:** Kawachi, Kubzansky.

**Conflict of Interest Disclosures:** None reported.

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**Role of the Funder/Sponsor:** The funding source had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

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**REFERENCES**


Association Between Purpose in Life and Objective Measures of Physical Function

Original Investigation  Research


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