Aging in a Cultural Context: Cross-national Differences in Disability and the Moderating Role of Personal Control Among Older Adults in the United States and England

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**Objectives.** We investigate cross-national differences in late-life health outcomes and focus on an intriguing difference in beliefs about personal control found between older adult populations in the U.K. and United States. We examine the moderating role of control beliefs in the relationship between physical function and self-reported difficulty with daily activities.

**Method.** Using national data from the United States (Health and Retirement Study) and England (English Longitudinal Study on Ageing), we examine the prevalence in disability across the two countries and show how it varies according to the sense of control. Poisson regression was used to examine the relationship between objective measures of physical function (gait speed) and disability and the modifying effects of control.

**Results.** Older Americans have a higher sense of personal control than the British, which operates as a psychological resource to reduce disability among older Americans. However, the benefits of control are attenuated as physical impairments become more severe.

**Discussion.** These results emphasize the importance of carefully considering cross-national differences in the disablement process as a result of cultural variation in underlying psychosocial resources. This paper highlights the role of culture in shaping health across adults aging in different sociopolitical contexts.

**Key Words:** Control—Cross-National Studies—Disability.
Cross-national Differences in Health

National differences in population health outcomes, especially life expectancy, are well documented (see Wilkinson & Pickett, 2006). Contemporary research in the field of aging also tracks trends in morbidity, including functional (activity) limitations and disability (e.g., Lang, Guralnik, Wallace, & Melzer, 2006; Martinson, Teitler, & Reichman, 2011). Compared with their British and European counterparts, older adults in the United States have higher rates of hypertension, heart disease, arthritis, and diabetes (Crimmins, Kim, & Sole-Auro, 2010) but a lower prevalence of depressive symptoms (Zivin et al., 2010). Recent work has used comparable 2002 survey data from the U.S. Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA) to find that Americans have higher levels of disease than the British at similar ages, which could not be explained by differences in health behaviors across the two populations (Banks, Marmot, Oldfield, & Smith, 2006). Yet, in spite of higher levels of cardiovascular risk factors and disease, older Americans have higher cognitive function than their British counterparts (Langa et al., 2009).

Differences in socioeconomic inequalities in health across countries further suggest that differences in macro sociopolitical structures play a role in shaping health at the individual level. Using 2004 data on adults aged 50 and older from HRS, ELSA, and the Survey of Health, Aging and Retirement in Europe (SHARE), Avendano, Glymour, Banks, and Mackenbach (2009) found that U.S. adults report more chronic diseases than the English or other Europeans at every wealth level. These differences were greatest at the lowest levels of the socioeconomic hierarchy, but even Americans with higher incomes reported health problems at comparable levels to substantially poorer Europeans (Avendano et al.). Banks and colleagues (2006) also found that gradients in health by socioeconomic position (SEP) are more pronounced in the United States than in the U.K., with the result that health disparities between the two countries are largest at the lower end of the socioeconomic continuum.

Cross-national Differences in Psychological Well-being

While cross-national differences in health are increasingly studied, a parallel body of research has also been examining national differences in psychological well-being (Diener & Suh, 2000; Inglehart, Foa, Peterson, & Welzel, 2008), including cultural differences in the psychology of control. Research has shown that the sense of control is more prevalent in North American than in Asian countries (Yamaguchi, Gelfand, Ohashi, & Zemba, 2005) and Mexico (Angel, Angel, & Hill, 2009). Similarly, Schwartz and Bardi (1997) found a lower sense of personal control among Eastern European compared with Western European countries.

Personal control, or a perceived lack of external constraints imposed by powerful others or by the role of chance, is associated with better self-reported health, fewer health problems, and greater longevity (Krause, 1986, 2007; Lachman, 1986; Wickrama, Surjadi, Lorenz, & Elder, 2008). Sometimes referred to as the illusion of control (Taylor, 1989), a high sense of personal control is also considered to be an adaptive resource in the face of adversity. If individuals believe they have some degree of control over their lives, they may be more likely to take action in difficult situations regardless of their underlying probability of success (Lachman & Weaver, 1998). This may explain why older persons with a higher sense of control have been found to have significantly slower rates of decline over time in objectively measured lower extremity function (Milaneschi et al., 2009) as well as self-reported difficulty with personal care and daily life activities (Kempen, Ranchor, van Sonderen, van Jaarsveld, & Sanderman, 2006).

It is well recognized that disability is a dynamic process that can vary depending on the interaction between underlying disease or pathology and existing personal or environmental resources (Nagl, 1965; Verbrugge & Jette 1994). The International Classification of Functioning, Disability and Health (known as the ICF; World Health Organization [WHO], 2001) is a conceptual framework that incorporates this contingency by explicitly recognizing the role of environmental (e.g., natural and built environments) and personal factors (e.g., sense of control) as they modify the impact of physiological impairments on the ability to carry out activities such as self-care activities of daily living (ADL) or general life tasks (instrumental activities of daily living [IADL]). Consistent with this framework, control as a personal resource has been shown to be associated with increased well-being 20 years after spinal cord injury in a sample of 100 American adults (age 40–73; Schulz & Decker, 1985). Similarly, a study among older adults in the Netherlands found that a greater sense of control is associated with less ADL disability 8 weeks after injury or fracture but had no effect at 5 or 12 months postinjury (Kempen et al., 2003). An American study of employed men and their wives found that low control was associated with cognitive difficulty 20 years later but had no effect on self-reported self-care or motor disability (Caplan & Schoolder, 2003). Among self-defined low-functioning older Dutch adults, a greater sense of control was associated with slower ADL disability progression over a 2-year period (Kempen, van Sonderen, & Ormel, 1999). However, control had no moderating effect on the relationship between objectively measured physical impairment and ADL disability in a similar Dutch sample (Kempen et al., 1999).

Inconsistencies in these findings reflect the fact that these effects have not been well evaluated across different cultures with comparable measures in nationally representative samples of older adults. Most of this research comes from small select samples in Europe and is therefore not
generalizable to other cultures, such as the United States where the sense of control is overwhelmingly high (Mirowsky, Ross, & van Willigen, 1996). There is evidence to suggest that a belief in chance or fate (lower levels of personal control) may in fact be beneficial at certain times, particularly in later life when uncontrollable life events, such as the onset of physical limitations or the death of a spouse, are more likely to occur (Specht, Egloff, & Schmukle, 2011). A high sense of control may therefore be a “double-edged sword” for older adults (Kunzmann, Little, & Smith, 2002), which is beneficial when conditions are modifiable but becomes dysfunctional when shaping responses to uncontrollable outcomes. When faced with declining physical function, older adults less invested in maintaining control may find it easier to accept personal assistance or to use assistive devices in order to continue carrying out their daily activities without difficulty (Verbrugge, Rennert, & Madans, 1997). In contrast, individuals with a high sense of control may reject assistance, choosing to persevere in the face of physical decline, and experience greater difficulty with daily activities as a result.

As outlined in more detail subsequently, we theorize that social structural differences in the role of the state may account for differences in the sense of control between older adults in the United States and Britain if individuals in North America are socialized to rely more on individual compared with collective resources throughout their lives (Mayer, 1986; Townsend, 1981; Walker, 1981). We speculate that the overwhelmingly high sense of control in American elders may operate as a resource to minimize disability in the face of physical impairments but may also become dysfunctional in the face of more severe physical declines that can accompany aging.

Aging in a Cultural Context

The way societies are structured (i.e., with respect to their social safety net and health care systems) can play an important role in shaping population health, particularly as individuals are exposed to these social structures cumulatively over the life course (McDonough, Worts, & Sacker, 2010). The United States and Britain are similar in many ways. Both countries are Western developed nations, typically classified as liberal welfare regimes (Bambra, 2007). Both are considered to be individualistic as opposed to collectivist nations, giving general priority to the individual over the group (Diener, 1996; Triandis, 1995). Yet, in the spectrum of welfare state societies, the British social and health care policies are more comprehensive than the U.S. programs. Access to health care is universal in the U.K., whereas about 41 million Americans remain uninsured (Adams, Dey, & Vickerie, 2007). Unemployment insurance programs in the United States are paid for a maximum of 6 months, but in England unemployment insurance is means-tested and available to anyone not working more than 16 hr a week (Wiseman, 2003). Whereas the United States has been described as an “ownership society,” in which health care and social security programs fall more heavily under the responsibility of the individual (Robinson, 2005; Steinbrook, 2006), England is considered a more universal welfare state (Bambra & Eikemo, 2009; Castles & Mitchell, 1993). As described by Mirowsky and colleagues (1996), instrumentalism, or control, is part of the dominant American ideology.

Comprehensive social protection programs (e.g., universal health care, comprehensive primary care, and unemployment protection programs) may buffer the health of individuals over the life course, particularly those lower in the socioeconomic hierarchy (Hanson, 2006; Starfield & Shi, 2002). Current research and theory suggest that socioeconomic disparities in health stem partly from the macro-level social and economic structures that shape the distribution of resources across society and over the life course (McDonough, Worts, & Sacker, 2010; Siddiqi & Hertzman, 2007). Within this framework, older adults in Britain and the United States have experienced structurally different life chances, which, we argue, can have consequences for health and the management of health declines in later life.

The benefits of social protection programs, as they operate cumulatively over the life course (O’Rand, 1996; and conversely the negative consequences of fewer comprehensive protection programs for late-life health), highlight the importance of considering the social structural context within which populations age. We would therefore expect to see variation in health and psychological indicators across older adults situated in different sociopolitical contexts. However, research on aging and the life course (particularly in North America) has tended to emphasize the role of social structures in the form of socioeconomic status, race/ethnicity, gender, and age at the relative neglect of other macro-level contexts, such as the role of the state (Marshall & Mueller, 2003; Mayer, 1988, 1997, 2004; Townsend, 1981M; Walker, 1981).

A political economy perspective on aging emphasizes that different cultures experience structurally different life chances that are linked to the moral economy of different nation states (Townsend, 1981; Walker, 1981). Social, political, and economic structures within nations are shaped by cultural conceptions of legitimacy, equity or fairness, citizens’ rights, and moral contracts between the generations (Walker, 1981, 2006) that shape the nature and extent of social protection programs including health care and unemployment insurance. The life course is socially constructed in light of such economic and moral concerns at the structural level of each society, which may have implications for the accrual and development of health and psychological resources of individuals over time.

In this paper, we use sense of control as a proxy to capture cultural differences in the way societies are structured (e.g., with respect to their social safety net). We hypothesize
that social structural differences in the role of the state may result in differences in the sense of control between older adults in the United States and Britain and that these differences in control will have implications for reported difficulty with ADL (disability) among those experiencing greater physical limitations or impairments. We expand on the existing work in this area by using gait speed as an objective performance-based measure of physical function shown to be associated with health-related outcomes including lower extremity limitation, hospitalization, and death (Cesari et al., 2005). By examining gait speed, we focus on the effect of impaired functioning at a neuromuscular level (or the capacity to complete an activity) for self-reported difficulty with daily activities and show how this relationship varies according to different levels of personal control across countries.

**Method**

**Data**

We used cross-sectional data from two nationally representative surveys of older adults, one from the United States (HRS) and one from England (ELSA). The HRS is an ongoing, nationally representative, longitudinal survey of more than 20,000 community-dwelling Americans aged 51 and older conducted biennially since 1992. Refresher cohorts are added to the original sample every 6 years (beginning in 1998) in order to maintain national representation of this age group over time. Interview response rates range from 70% to 82% at baseline and from 87% to 89% at follow-up. The HRS asks detailed questions about work activity, retirement expectations, and finances but until 2006 has collected limited data on psychosocial aspects of well-being. We therefore focus our analyses on a random one-half sample of 7,584 respondents who completed an additional self-administered questionnaire on psychological and social well-being that was left behind following the face-to-face interview in 2006 (Health and Retirement Study, 2006; The psychosocial module is administered to a random one-half sample of HRS respondents each wave. Therefore, longitudinal data for the original 2006 sample will be available following the 2010 wave of data collection.). The response rate among those who were invited to complete the questionnaire was 90.6%.

For comparison, we use data from the 2006 wave of the ELSA (ELSA-3), which is a nationally representative survey of approximately 12,000 English adults aged 50 and older conducted biennially since 2002 (Marmot et al., 2008). A refresher sample was added in Wave 3 (2006) in order to maintain representation of the population aged 50 and older (with an individual response rate of 86%). Similar to HRS, data on psychosocial well-being were collected from a random one-half sample of 7,635 adults using a self-completed questionnaire that was left behind after the main interview, with a response rate of 86.4% (Banks, Breeze, Lessof, & Nazroo, 2008).

**Measures**

The two surveys were designed to be comparable in their measurement. An objective measure of “physical function” (gait speed) was assessed in both surveys with a timed walking test in which respondents were asked to walk 8 feet (8.2 feet in HRS) at their normal pace. A clear, preferably noncarpeted area, approximately 12 feet in length was needed to set up the walking course. Mobility aids (e.g., cane or walker) could be used if the respondent typically used an aid to walk. The test was conducted twice and averaged to create a single indicator of physical function (in seconds) that was standardized (\(M=0, \ SD=1\)) for the analyses.

In HRS, the test was only administered to adults aged 65 and older who received the enhanced face-to-face interview (including the administration of the psychosocial questionnaire). In both surveys, the test was not administered to those recovering from recent surgery, injuries, or other health conditions that might prevent them from walking. The test was also not performed if the interviewer felt it would be unsafe or if there was insufficient room in the home to conduct the test safely. Physical function data are therefore available for 3,784 respondents aged 65 and older in HRS (81% of those eligible) and 3,860 respondents aged 65 and older in ELSA (88% of those eligible). Individuals with strength and capacity limitations (e.g., difficulty climbing stairs) were less likely to consent to the physical performance tests (Sakshaug, Couper, & Ofstedal, 2010).

“Disability” was assessed in both surveys with a measure of difficulty performing activities related to independent living. Respondents were asked if they had any difficulty with seven IADL (shopping, meal preparation, taking medications, walking several blocks, using the telephone, managing finances, and doing housework) and six self-care ADL (eating, bathing, dressing, transferring, toileting, and walking across a room). Activities involving both the upper body (e.g., carrying groceries) and lower body (e.g., walking several blocks) were included due to their interrelationship and association with objective measures of physical function such as gait speed (Rejeski et al., 1995). For each activity, responses were coded as “yes” (can only do with difficulty or cannot do at all) or “no” (no difficulty or does not do the activity). A summary index was created by summing the total number of activities with which the respondent reported difficulty (range 0–13). Although similar results were found when using separate ADL and IADL indices, we use a combined score to minimize age differences in item response found by LaPlante (2010).

“SEP” was assessed with two measures. A dummy variable for completed education contrasts those who have less than–high school education (0–11 years of education in the HRS sample; O-level or equivalent in the British sample)
with those who have a high school degree or higher. In addition, we also use a measure of subjective social status common to both surveys. Subjective social status has been shown to be a better predictor of physical and mental health than objective measures of SEP (Singh-Manoux, Adler, & Marmot, 2003) and also to capture subjective dimensions of social status that objective indicators of SEP do not (Demakakos, Nazroo, Breeze, & Marmot, 2008). Using a graphical representation of a ladder (Cantril, 1965), respondents were instructed to: “Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who are the best off—those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off—who have the least money, least education, and the worst jobs or no jobs. The higher you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom. Please mark a cross on the rung on the ladder where you would place yourself.” Responses are coded on a 10-point scale (representing the 10 rungs on the ladder) with a high score indicating higher SEP. We used dummy variables to capture quintiles along the SEP spectrum (lower 20% through upper 20% of the ladder).

“Personal control” was assessed in the self-completion module of both surveys with a single item that had only a slight variation in wording. In HRS the item reads: “What happens in my life is often beyond my control” and in ELSA the item reads: “I feel that what happens in life is often determined by factors beyond my control.” In both surveys, respondents were asked the degree to which they agreed or disagreed with the statements according to a 6-point scale (strongly agree [scored 1], somewhat agree [2], slightly agree [3], slightly disagree [4], somewhat disagree [5], strongly disagree [6]). A high score indicates a high sense of control. We created a dummy indicator for a high sense of personal control by contrasting those who gave a negative response (any indication of disagreement) with those who gave an affirmative response (any indication of agreement) to the question.

Whereas our primary hypothesis focuses on the relationships between physical function and disability, as well as the moderating effect of personal control, our models also account for six background variables that could confound the relationships under study. “Age” is captured using a dummy variable to contrast the very old (age 80+) with the young old (age 66–80). “Gender” is captured using a dummy variable that is coded 1 for women and 0 for men. “Race” is coded 1 for non-Whites and 0 for Whites. “Marital status” is indicated by three dummy variables contrasting those who are separated/divorced, widowed, and never married with those who are married. “Employment status” is captured by three dummy variables contrasting retired, homemakers, and those who are unable to work because of disability or illness with those who are in the labor force. “Comorbidity” is captured by the total number of medically diagnosed chronic health conditions reported by the respondents (i.e., hypertension, diabetes, heart disease, stroke, arthritis, cancer, lung disease).

Statistical Analyses

Because the disability variable is a count of the number of activities with which the respondent reports difficulty, we used Poisson regression to model the logarithm of the expected number of disabilities. This is an extension of the basic linear model with a log link function and specifies that the residuals are conditionally distributed according to the Poisson distribution. Model progression starts with a regression of disability on physical function, controlling for background characteristics, and then introduces a statistical interaction term to test the modifying effects of control on the relationship between objective physical function and self-reported disability. Separate models were conducted for HRS and ELSA, but observed differences in effects across surveys were tested statistically by using a concatenated data set with interaction terms and a dummy indicator for HRS. Results for these combined analyses are reported in the text where relevant. Analyses were performed with the GENMOD procedure in SAS Version 9.2. Statistical significance was assessed with a two-tailed alpha of .05. All regression models were weighted by the appropriate sample weight in each study to account for the sampling design and nonresponse in each survey.

Results

Table 1 presents descriptive statistics for both study samples. In general, the two samples are similar in terms of age, gender, and marital status. HRS is racially more heterogeneous than ELSA, and older Americans are more likely to be in the labor force compared with older Britons. In addition, more Americans position themselves higher in the SEP strata than the British, although the British report higher levels of completed education.

On average, older adults in both studies completed the 8-foot walk in less than 4 s. But disability is more prevalent in older Americans. Almost half of older Americans report some difficulty with ADL compared with only a third of older Britons (Table 1). Figure 1 presents the frequency distribution of the total number of ADL disabilities across the HRS and ELSA samples. Older adults in the U.K. are more likely to be free of disability, whereas older Americans tend to report more difficulty with ADL.

The two countries also differ markedly in their reported sense of personal control. Almost three in four older Americans report a high sense of personal control compared with less than 20% of older adults in the U.K. (Table 1). Figure 2 presents the frequency distribution of the response to the question on control across the two countries. When
asked to what extent they agree with the statement that life events are beyond one’s control, older Americans overwhelmingly disagree, indicating a strong sense of personal control or mastery. In contrast, older Britons tend to take a more fatalistic stance, viewing the events of one’s life as largely beyond one’s control (Figure 2).

Table 2 presents the results from the Poisson regression analyses. Separate models are presented for the HRS and ELSA samples. In both countries, impaired physical performance, as indexed by a slower walking speed on the timed walk, is associated with significantly greater disability (Model A). Because the Poisson model is an exponential model $E(Y|X) = e^{\beta X}$, we can interpret the coefficients by taking the antilog of the parameter estimates. Thus, a 1-SD increase in gait speed (length of time to complete the 8-foot walk) increases the expected number of disabilities by a factor of 1.30 ($=e^{0.26}$) in HRS and by a factor of 1.22 ($=e^{0.20}$) in ELSA, all other covariates held constant. Alternatively, we can express an effect in terms of the percent change in the expected number of disabilities $[100(e^{\beta x} - 1)]$. Hence, for each standard deviation increase on the timed walking test, the expected number of disabilities increases by 30% in HRS and 22% in ELSA. In both countries, the expected number of disabilities tends to be higher among older individuals, those who are not employed, those with more chronic health problems, and those lower in the socioeconomic hierarchy (Table 2).

Personal control has no effect on disability in the British sample (Table 2; Model A for ELSA). But a high sense of personal control is protective among older Americans, decreasing the expected number of disabilities by 17%. However, this represents the “average” effect of control across older Americans with a range of physical impairments. Model B in Table 2 adds the interaction term to assess how the relationship between control and disability varies according to the level of physical impairment among individuals. Among average-functioning older Americans, a greater sense of control remains protective of disability. But
Table 2. Poisson Regression Models for Total Number of Disabilities* (age 65+): HRS and ELSA (2006)

<table>
<thead>
<tr>
<th></th>
<th>HRS Model A</th>
<th>HRS Model B</th>
<th>ELSA Model A</th>
<th>ELSA Model B</th>
</tr>
</thead>
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<tr>
<td>Intercept</td>
<td>−1.36**</td>
<td>−1.32***</td>
<td>−2.24***</td>
<td>−2.24***</td>
</tr>
<tr>
<td>Age 81+b</td>
<td>0.28***</td>
<td>0.30***</td>
<td>0.46***</td>
<td>0.45***</td>
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<tr>
<td>Female+c</td>
<td>0.10**</td>
<td>0.10**</td>
<td>−0.04</td>
<td>−0.04</td>
</tr>
<tr>
<td>Non-White+d</td>
<td>0.14**</td>
<td>0.12*</td>
<td>−0.42**</td>
<td>−0.45**</td>
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<tr>
<td>Marital status+e</td>
<td>0.11</td>
<td>0.11</td>
<td>−0.18*</td>
<td>−0.19**</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>0.14**</td>
<td>0.13**</td>
<td>0.06</td>
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</tr>
<tr>
<td>Widowed</td>
<td>−0.07</td>
<td>−0.02</td>
<td>0.08</td>
<td>0.08</td>
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<tr>
<td>Employment status+f</td>
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<td>0.35***</td>
<td>0.98***</td>
<td>0.98***</td>
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<tr>
<td>Retired</td>
<td>0.47***</td>
<td>0.48***</td>
<td>1.15***</td>
<td>1.15***</td>
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<tr>
<td>Homemaker</td>
<td>0.81***</td>
<td>0.81***</td>
<td>1.08***</td>
<td>1.04***</td>
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<td>On disability</td>
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<tr>
<td>SEP+g</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SEP quintile 1</td>
<td>0.22*</td>
<td>0.20</td>
<td>0.57***</td>
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<td>SEP quintile 2</td>
<td>0.24*</td>
<td>0.24*</td>
<td>0.24*</td>
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<tr>
<td>SEP quintile 3</td>
<td>0.13*</td>
<td>0.15*</td>
<td>0.14</td>
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<td>SEP quintile 4</td>
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<td>Less than high school+h</td>
<td>0.19***</td>
<td>0.20***</td>
<td>0.27***</td>
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</tr>
<tr>
<td>Number of chronic conditions</td>
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<td>0.28***</td>
<td>0.34***</td>
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<tr>
<td>Timed walk+i</td>
<td>0.26***</td>
<td>0.22***</td>
<td>0.20***</td>
<td>0.21***</td>
</tr>
<tr>
<td>High personal control</td>
<td>−0.18**</td>
<td>−0.23***</td>
<td>0.01</td>
<td>0.02</td>
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<tr>
<td>Timed walk × control+j</td>
<td>0.09***</td>
<td>1.09</td>
<td>−0.01</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Notes: ADL = activities of daily living; ELSA = English Longitudinal Study of Ageing; HRS = Health and Retirement Study; IADL = instrumental activities of daily living; SEP = socioeconomic position.

*Total ADL + IADL disability.
+bReference group is age 65–80.
+cReference group is male.
+dReference group is White.
+eReference group is in labor force.
+fReference is highest SEP quintile.
+gReference group is high school degree or higher.
+hStandardized (M = 0, SD = 1).
+iTwo-way interaction is significantly different across ELSA and HRS.

*p < .05; **p < .01; ***p < .001.

for those with more severe physical impairment (as indexed by a longer timed walk), the benefits of high control are significantly attenuated. The effects of control remain non significant in the British sample. The coefficient for the interaction term was statistically different across countries in a combined model using a dummy variable for the HRS study with multiplicative terms (results not shown). Figure 3 plots this interaction effect for both ELSA and HRS in terms of the expected number of disabilities at different levels of physical function (represented by increasing gait speed) and at high and low levels of personal control. As evidenced by Figure 3, slower gait speed (a longer time to complete the 8-foot walk) is associated with an increase in the expected number of disabilities across adults in both countries. However, the adverse effect of physical impairment on disability is attenuated for older Americans with a high sense of control (black bar, Figure 3), resulting in significantly fewer disabilities (in post hoc tests) than older Britons at typical levels of impairment (i.e., at the mean [3.74 s] and at 1 SD below and above the mean [1.6 and 5.9 s, respectively] on the timed walk test). But at more severe levels of impairment (indexed by an 8-s timed walk or higher), a high sense of control in older Americans becomes progressively less effective in reducing disability. At the extremes of physical impairment (for approximately 70 individuals in the U.S. sample who completed the 8-foot walk in more than 10.3 s), a high sense of control shows signs of becoming dysfunctional (a higher number of expected disabilities). But post hoc tests indicate that the expected number of disabilities between Americans with high and low levels of control was not significantly different at this very high level of impairment.

**DISCUSSION**

In this paper, we use national data from both the United States and England to argue that living in different cultures may foster different psychological resources, which have consequences for the way we describe or interpret cross-national differences in health in later life. Research has
our results highlight the importance of considering variation in political and economic structures as they differentially influence the accrual of psychosocial resources across countries, with consequences for population health. Evidence from the United States and the Netherlands suggests that at the same level of actual disability, Dutch adults are more likely than American adults to classify themselves as disabled (Kapteyn, Smith, & van Soest, 2007). Structural and psychosocial factors underlying these differences merit further consideration and investigation.

We argue that structural differences in the macro socioeconomic organization of the American compared with the British society may readily translate into differences in perceptions of, as well as the importance of, control across populations in these two national contexts. Because U.S. culture tends to emphasize and promote control over one’s individual actions and choices (e.g., through less state control of health care and social security programs), control may therefore operate as a resource to manage declining health and function in later life. In contrast, the cultural propensity in the U.K. to accept that some things in life are beyond your control renders this a more neutral resource, with the result that disability does not vary according to the sense of control.

The fact that a higher sense of perceived control in the United States reduces disability among those with mild or average impairment is consistent with research suggesting that Americans who believe they control their own lives resist becoming helpless in aversive situations (Krause & Stryker, 1984). As argued by Ferraro, Shippee, and Schafer (2009), psychological resources, as well as social and economic resources, can retard or accelerate disability trajectories in older adults (Kempen et al., 2006; Milaneschi et al., 2009). Individuals may draw on a variety of different strategies (e.g., change the way they do an activity) to continue performing an activity independently in the face of declining physical capacity (Fried, Bandeen-Roche, Chaves, & Johnson, 2000). Similar to the concepts of selective optimization with compensation (P. B. Baltes & M. M. Baltes, 1990), the ability to engage these alternate strategies may well depend on one’s sense of control over one’s life (Kempen et al.). The greater sense of perceived control among American adults may, therefore, operate as a resource to initiate some of these adaptive strategies in the face of declining functional performance and consequently attenuate the risk of experiencing disability.

But our results also suggest that a high sense of control may have diminishing returns (Ross & Sastry, 1999) when physical impairment becomes more severe. According to this view, there is a threshold above which efforts to maintain control become unrealistic (Mirowsky & Ross, 1990; Wheaton, 1985). In the face of more severe declines in functional capacity, older adults may benefit by acknowledging their lack of control and accepting some level of dependence (e.g., accepting personal or equipment assistance) in

Figure 3. Expected number of disabilities* by level of physical impairment (gait speed) and personal control: HRS and ELSA 2006 (age 65+). *Models control for age, gender, race/ethnicity, marital status, employment status, socioeconomic position, and number of chronic health conditions. Note. HRS = Health and Retirement Study; ELSA = English Longitudinal Study of Ageing.

repeatedly demonstrated that older Americans are much less healthy than their British counterparts (e.g., Avendano et al., 2009; Banks et al., 2006; McDonough et al., 2010). Consistent with this literature, we found that the prevalence of disability was higher in older Americans than in older Britons. However, cross-national differences in disability varied markedly depending on individual perceptions of control. Older Americans reported an overwhelmingly high sense of control, whereas older adults in the U.K. were much more likely to agree that events in one’s life are not always under one’s control. When taking these different psychosocial perspectives into account, we found that cross-national differences in disability were actually reversed: The expected number of disabilities was in fact “lower” among older Americans with a high sense of control than among older adults from the U.K. (regardless of their level of control). However, this apparently protective effect held only among Americans at average or mild levels of impairment. For older Americans with more severe physical impairments, control became less effective in attenuating disability below the levels reported by older adults in the U.K. sample. Moreover, at very high levels of physical impairment, control showed signs of becoming dysfunctional (higher number of disabilities in U.S. adults with a high sense of control, although not statistically higher).

These results emphasize the importance of carefully considering cross-national differences in the disablement process as a result of cultural variation in underlying psychosocial resources. The ICF (WHO, 2001) explicitly recognizes that disability is a dynamic construct that has the potential to vary considerably depending on the interaction between personal or environmental factors and levels of impairment in body functions and structures. Beyond attention to the role of individual and environmental factors in defined population studies (e.g., Clarke, Ailshire, & Bader, 2008; Freedman, Grafova, Schoeni, & Rogowski, 2008),...
order to maintain daily life activities. This may be a particularly difficult challenge for older Americans accustomed to operating under a culture of control, who “not only need to cope with their loss but also need to question or modify their world view” (Specht et al., 2011, p. 136).

Our research is consistent with a life-span approach to health, which takes a “long view” by emphasizing the importance of understanding the social determinants of health across the entire life span, including linkages between social resources and health over time (Alwin & Wray, 2005). Although we do not use longitudinal data, we pursue the theoretical linkage between social conditions and health by examining socioeconomic disparities in health across adults who have aged in different cultures (capturing differences in institutional and societal level opportunities and constraints), which although unmeasured in this research may nonetheless explain the marked differences in sense of control across older adults in the United States and Britain.

However, our findings are limited by a lack of specific variables to identify social and economic differences across the United States and England. We rely on sense of control as a marker for social structural differences across nations that may play out through individual psychological conditioning over the life course. Further studies that incorporate country-specific differences through macro-level social and economic variables would help to explicate these relationships. Further work in this area would also benefit from attention to cohort differences in health across adults aging in different socioeconomic and political contexts. Our study was also limited by self-reported measures of disability and a single-item measure of control. However, we extend existing work by using an objective performance-based measure of physical function. This did result in the exclusion of more physically challenged respondents (who did not have the capacity to perform the timed walking test), whose sense of control may not necessarily be similar to those who were included. With the ongoing follow-up and administration of the psychosocial modules in both ELSA and HRS, longitudinal data will provide opportunities to better examine causal pathways (and the direction of the association) in these relationships that we are unable to ascertain with cross-sectional data.

Collectively, these findings highlight the role of culture in shaping cross-national differences in health across adults aging in diverse sociopolitical contexts. Variations in cultural, institutional, and social configurations across nations have the potential to have large impacts on differences in individual health and well-being (Mayer, 1986, 2004). The contribution of cross-national research for understanding and suggesting the causal pathways behind national differences in health has a great potential in future research endeavors as the number of comparable data sets expands across the developed and developing world. There is surprisingly little research on cultural differences in beliefs and values and how these are dynamically linked to health. The advent of harmonized cross-national studies of aging, however, may foster future endeavors.

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**References**


