Original Article

Late life disability and experienced wellbeing: Are economic resources a buffer?

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ARTICLE INFO

ABSTRACT

Background: Disablement has been linked to compromised wellbeing in later life, but whether material resources buffer these negative effects is unclear.

Objective: Drawing upon conceptual models of stress and coping, we analyze experienced wellbeing data from time diary interviews with adults ages 60 and older. We expect that experienced wellbeing will be influenced by each stage of the disablement process and that higher income and wealth will buffer the negative effects of disability on experienced wellbeing. Because income is a better reflection of one's liquid resources while assets reflect lifetime accumulation, we expect income to be a more substantial buffer than assets.

Methods: We use the Disability and Use of Time Supplement to the Panel Study of Income Dynamics (N = 1607). We consider several measures of the disablement process (activity limitations, impairment severity, duration of limiting condition) and history of work limitation and evaluate both pre-tax income and net worth quartiles. We estimate a series of multi-level regression models that account for clustering of individuals within couples. We calculate the marginal effects of disability on wellbeing at different quartiles of economic resources.

Results: We find that impairment severity is associated with worse experienced wellbeing before and after adjusting for covariates, and income buffers these negative effects for those in the middle-income quartiles.

Conclusions: Future research should further explore the mechanisms through which income buffers the negative effects of impairment severity and specify the accommodations that enable economically disadvantaged and advantaged older adults alike to withstand physical declines while maintaining wellbeing.

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In their classic paper, Verbrugge and Jette[1] articulate a conceptual framework describing the process by which adults experience disablement. They identify stages of disease, impairment, and functional limitation, which represent deficits or damage at the cellular, organ, and organism level, respectively. In this paradigm, disability is characterized not solely as a biological phenomenon, but rather, the product of functional limitations, the demands of the physical and social environment, and personal expectations about daily life. The notion that disability results from a mismatch between the person and environment also underlies other conceptual models of aging processes, including the selection, optimization and compensation model, which highlights the importance of adapting activities that are performed.[2] The World Health Organization's[3] revised disablement framework also recognizes that health conditions lead to impairments in body functions and structures, which in turn influence the nature and extent of activities that constitute daily life.

Although links between disablement and wellbeing are not always explicit in such frameworks, functional decline affects older

adults' daily activities and experiences, and these experiences, in turn, may affect emotional well-being. Daily emotional states carry important consequences for physical health including immune functioning, social participation, health behaviors, and the quality of one's relationships.[4] Emotions also are an important focus in their own right since feelings like sadness and worry can undermine and happiness can bolster older adults' overall well-being.[5] Loss of functioning has been linked consistently to declines in subjective wellbeing for older adults, particularly to evaluations about satisfaction with one's life as a whole.[6,7] More recently, a series of papers has found a link between disability and experienced wellbeing among older adults, suggesting with increasing levels of disability individuals experience consistently less positive and more negative emotions during activities[8,9] and this relationship appears to be independent of type of activity.[10] Together these findings suggest that when functional impairment challenges one's capacities to negotiate the physical and social environment, it may erode positive feelings and intensify negative emotions including frustration, sadness, and worry.[8]

Yet, important gaps remain in understanding how and for whom disablement shapes daily emotional experiences in later life. Conceptual models of stress and coping emphasize that the effects on wellbeing of particular stressors, such as later-life disablement, may be conditional on one's social, psychological, and material resources.[11] Mounting evidence demonstrates that social and psychological resources, such as social support and perceived efficacy, may protect against emotional strain even in the face of chronic and acute stress.[12–14] However, findings are inconclusive regarding the extent to which material resources buffer against such effects and whether these potential buffering effects differ based on the form (e.g. flows vs. stocks) of such resources.

Social science theories present competing perspectives on how economic resources may enhance well-being. Economic theories emphasize the indirect effects of material goods on behavior; that is, they promote wellbeing ("utility") through choices about consumption and leisure (non-work) activities.[15] Psychological theories, by contrast, identify factors that directly promote wellbeing (rather than behaviors reflecting wellbeing) and generally find that economic resources are less important than psychological and social resources.[14] Sociological models of stress posit a third perspective that motivates our analysis: coping resources have buffering rather than direct effects on well-being so that material resources help to maintain wellbeing when an individual is experiencing chronic stressors, like age-related changes in health and functioning.[11]

Surprisingly few studies have investigated the extent to which economic resources moderate the relationship between disability and wellbeing. Economic resources comprise both income "flows" and wealth "stocks." Major sources of income in later life include Social Security, earnings, pensions, and income from assets.[16] Income may be measured in terms of total income (before taxes), disposable income that excludes taxes not available to be spent, or discretionary income (i.e., for leisure) that is leftover after taxes, the costs of debt, as well as basic expenses such as food, housing, transportation and health care. Wealth, typically measured as net worth, includes a mixture of assets held in liquid accounts (savings), in longer-term reserves (CDs or stock market portfolios), or less accessible forms such as home equity, minus debts owed. As such, income may enable the immediate purchase of goods or services to facilitate participation despite functional declines; doing so may buffer against disablement's negative effects on wellbeing. Wealth, by contrast, represents a source of insurance that may be drawn upon when needed. For many older adults, wealth largely reflects the equity in one's home (if owned), and therefore may represent a greater capacity (relative to those who rent) to modify

one's environment in response to disablement. Economic effects may be non-linear; that is having especially low resources up to a threshold may exacerbate negative effects; or having resources beyond a particular amount may not provide additional benefits.

We identified only two studies that explored the potential buffering effects of economic resources on wellbeing. Kahneman and Deaton[17] found that having low income exacerbated the negative emotions associated with ill health. Similarly, Smith and colleagues[18] found that people above the median in wealth prior to the onset of a disability had better psychological wellbeing (fewer symptoms of depression) following onset than people below the median. Based on these findings and conceptual writings, we speculate that having higher income and higher wealth will buffer the negative effects of disability on experienced wellbeing.

This study explores how markers of disablement influence experienced wellbeing in later life and the extent to which particular types of economic resources buffer the negative influence of disability. Using data from a national sample of older adults in the Panel Study of Income Dynamics (PSID), which offers rich detail on both disablement and economic status, we examine experienced wellbeing constructed from 24-h time diary interviews. Our key research questions are motivated by theories of stress, adaptation, and well-being, suggesting experienced wellbeing is fluid and susceptible to one's immediate context. We expect experienced wellbeing to be influenced by each stage of the disablement process (e.g. conditions, impairments, and activity limitations) as well as characteristics of the process (e.g. duration, severity). We also expect that these associations will be moderated by one's income and wealth, the two main components of older adults' material resources.

Methods

Data

We use the 2013 Disability and Use of Time (DUST) supplement to the 2013 Panel Study of Income Dynamics (PSID). The PSID began in 1968 with a sample of approximately 5,000 families and is the longest running longitudinal study of a representative sample of families in the United States. The sample grows over time as adult children who form their own independent households become eligible sample members. Interviews have been conducted annually through 1997 and biennially thereafter. Through 2013, re-interview rates were consistently 95% or higher and the sample of families exceeded 9,000 in that year. With sampling weights, the design produces a nationally representative cross-section of families each year.[19]

The DUST supplement was administered to 2013 PSID household heads age 60 or older at the end of 2012 (born 1952 or earlier); in couple-headed households both individuals were eligible if either spouse/partner was age 60 or older. Each eligible respondent was interviewed twice by telephone about one randomly selected weekday and one randomly selected weekend day. For couples, spouses/partners were interviewed (separately) about the same randomly selected day. The response rate was 71.7% (1,217 households completed at least one interview out of 1,698 eligible households).

The DUST instrument included a 30–40 min diary and, during the first of two interviews, a 15–20 min supplemental questionnaire with items assessing life satisfaction, disability, and psychologic and social support. Modeled after the American Time Use Study, the diary asked about all activities occurring on the previous day, beginning at 4 a.m. and continuing until 4 a.m. the morning of the interview. Respondents also reported how they felt while doing up to three activities randomly selected from their diaries, an

approach known as the Day Reconstruction Method.[20]

Overall, 1,776 respondents completed 3,505 diaries that included experienced wellbeing reports for 9,955 randomly selected activities. We excluded 167 spouses and partners less than age 60 so that the sample represents all household heads and spouses ages 60 and older and two cases missing experienced wellbeing. The final analytic sample was comprised of 1,607 respondents.

Wellbeing measures

Experienced wellbeing measures came from the diary portion of the interviews. For each of three randomly selected diary activities, respondents were asked to report on a scale from 0 (not at all) to 6 (very strong) how intensely they felt six emotions during the activity. Emotions included happy, calm, frustrated, worried, and sad, which are the discrete emotions experienced most frequently by older adults.[21]

Following Lee et al.,[22] we reverse coded negative emotions (frustrated, worried, and sad) and constructed a summary experienced wellbeing measure encompassing all five emotions across both diaries. We weighted the weekend and weekday measures accordingly to represent each emotion over the week. We found that these five summary measures had strong internal consistency (Chronbach's alpha = 0.88), so we constructed an overall experienced wellbeing summary measure by taking their average.

Disability and economic resource measures

We constructed four measures of the disablement process: current activity limitations, severity of underlying impairment, duration of underlying conditions, and whether the respondent ever experienced work disability earlier in life. The first three measures capture conceptually distinct stages of the disablement process, in which individuals move from having conditions to impairments in functioning to activity limitations.[1,3] The measures are also intended to capture distinct aspects of the process: identification of having a limitation (yes/no), severity (extent of impairment), and duration (length of time the underlying condition has been experienced). Work disability is important to include because it may influence asset accumulation as well as income in later life.

Activity limitations are measured with six items (e.g. serious difficulty with seeing, hearing, mobility, cognition, self-care and household activities) that were developed for the American Community Survey to identify the population in the United States with disabilities. From these measures, we created a single dichotomous indicator of whether or not the respondent had a disability.[23]

Second, we constructed an impairment severity measure from items about the number of days in the last week the respondent was limited by various impairments (problems with one's breathing; heart or circulation; stomach; back or neck; upper or lower body strength or movement; energy levels; and memory). These items formed a one-factor severity scale ranging from 0 to 32 (Cronbach's $\alpha = 0.75$).

Third, we constructed from 1999 to 2013 PSID main interviews a measure of duration of the underlying limiting condition(s). Every two years respondents were asked whether a doctor ever told them they had a condition (a stroke; a heart attack; coronary heart disease, angina or congestive heart failure; high blood pressure; asthma; chronic lung disease; diabetes; arthritis; a learning disorder; cancer; an emotional, nervous, or psychiatric problem) and, if so, how much it limited their activities. For respondents reporting a limiting condition in 2013, we identified the earliest year a condition limited the respondent "a lot" or "somewhat" and calculated the duration accordingly.

Fourth, from the 1972–2013 main PSID interviews we constructed a measure of any work disability, defined as a physical or nervous condition that limited the type of work, or the amount of work that he/she could do, reported in prior years. We also evaluated an alternative version that distinguished work limitations before and after age 60 but findings were nearly identical, so we used the more parsimonious measure. Zero-order correlations among the four measures of disablement were ≤ 0.49 (all but two pairwise relationships between .34 and .38), which suggests the measures are related but capture distinct aspects of disablement.

We also focus on measures of income (economic flows) and wealth (stock), measured by 2012 family income and 2013 family wealth, which were both available from the 2013 PSID family interview. We use the family income variable that has been distributed by the PSID since 1968.[24] Family income is the sum of major income sources from individuals in the family sharing living expenses, including household heads, and if present, spouses/partners and other adult family unit members. Amounts include taxable sources of income (earnings, income from assets, and net profit from farms and businesses), social security income and transfer income (including assistance from public programs and cash transfers from relatives and non-relatives). For each type of income, any missing values are imputed by PSID (with the approach varying by source; 24); overall about 20% of PSID families have at least one income source imputed. These sources are then summed to create total (pre-tax) income, which we use to create quartiles in order to allow for nonlinearities. Note that our interest here is in the effect of total income rather than discretionary income (e.g. after subtracting costs of food, housing, healthcare, transportation, and other basic necessities), since those necessities may vary by disablement status. We recognize that our measure of pre-tax income may be a less accurate reflection than post-tax income of the level of disposable income; however, our approach of using a relative income measure (quartiles) minimizes the influences of omitting consideration of taxes, which are not directly available in PSID.

Family wealth reflects net worth and includes eight asset types (value of farm and business assets, checking and savings accounts, real estate other than main home, stocks, vehicles, annuity/IRA, home value, other assets) minus nine sources of debt (farm or business debt, real estate debt other than main home mortgage, credit card debt, student loan debt, medical bill debt, legal bill debt, family loan debt, home mortgage, all other debts).[25] For respondents unable to report an exact amount, the question series includes follow-up questions that ask respondents if amounts fall in pre-specified ranges (or "brackets"). This approach helps minimize amounts of missing asset component data (less than 5% on average across sources[26];). For each type of wealth, missing values are imputed by PSID using an imputation procedure that matches cases to other similar cases (called a "hot deck" imputation). These sources are then summed to create the total wealth and are used to create quartiles. The income and wealth measures were moderately correlated ($r = 0.53$).

Control variables

Other coping resources (or liabilities) may confound the associations among disability, economic resources, and experienced wellbeing. Psychological and social resources are strongly related to all three constructs. For instance, psychological resources, including spirituality and personality traits such as neuroticism, are associated with one's tendency to appraise one's life positively and negatively,[27] and conscientiousness may signal proactive tendencies that help one to cope with stress effectively.[28] Social support, which encompasses both the presence and quality of one's

relationships including marital status, quality of marital and family relationships, and number of household members to draw upon, is linked with both disability risk and one's psychological adjustment to disability.[13] Social engagement or participation in preferred activities also is a potentially important confounder, as it may be impeded by functional decline and may be a source of satisfaction and pleasure.[7] Finally, demographic factors — such as age, sex, race, and education — are also well-established correlates of disablement, economic resources, and wellbeing and are therefore important to control.[9]

We therefore controlled for demographic (age, sex, race, years of completed education), psychological (personality, religiosity, self-efficacy), and social factors (marital status and quality, number of persons in household) and activities in the last week (see Table 1) in fully adjusted models because these factors potentially confound associations among disability, economic resources and well-being. Personality was measured using a five-domain instrument.[29] For the three domains with the strongest relationship to disability—extraversion, neuroticism, and conscientiousness—we created scales by averaging the three items in each domain, with higher scores indicating a greater degree of the trait (alphas ranged from 0.51 to 0.63). Spirituality ($\alpha = 0.87$) was measured by averaging four items that reflected how much respondents agreed with statements regarding the strength and influence of their religious beliefs.[30] Self-efficacy was comprised of five items, with one point given for each endorsed statement reflecting greater self-efficacy ($\alpha = 0.54$).[31] Marital/romantic ($\alpha = 0.79$) and family relationship ($\alpha = 0.47$) quality are derived from items drawn from standardized instruments reflecting both strain and support.[32] We constructed scales so that higher values reflect more positive assessments.

Table 1
Demographic, psychological, social Characteristics and activities in the last week among adults ages 60 and older.

	Weighted Percent/Mean (SD)
Demographic Characteristics	
Age	
60-64	32.2
65-69	25.4
70-74	15.1
75-79	12.3
80+	15.0
Female	56.1
Black (vs. non-Black)	8.5
Education	
Less than 12 years	10.0
12 years	29.6
More than 12 years	60.4
Income 2012 (in $000s)	
1st quartile (<$31)	25.0
2nd quartile ($31-<$58)	25.0
3rd quartile ($58-$97)	25.0
4th quartile (>$97)	25.0
Wealth 2013 (in 10,000s)	
1st quartile (<$87)	25.3
2nd quartile ($87-<$308)	24.8
3rd quartile ($308-$780)	25.0
4th quartile (>$780)	24.9
Psychological Characteristics (mean)	
Neuroticism (0—3)	1.2 (0.70)
Extroversion (0—3)	1.9 (0.66)
Conscientiousness (0—3)	2.4 (0.56)
Spirituality (0—3)	2.2 (0.89)
Self-efficacy (0—5)	3.3 (1.37)
Social Resources	
Marital Status	
Never married	3.0
Married/partnered	70.8
Widowed	13.2
Divorced	13.1
Mean spouse/partner relationship quality (0—4)[a]	3.2 (0.56)
Mean family relationship quality (0—4)	3.3 (0.60)
Mean household size	2.1 (1.04)
Participated in activity in last 7 days	
Work for pay	27.7
Volunteer	21.5
Care for others	27.8
Socialize	84.8
Exercise	65.4
Go out for pleasure	68.2
Laundry	70.1
Household chores	85.4
Prepare food	78.7
Financial management	68.0
Shopping/errands	82.0

Data Source: 2013 Disability and Use of Time Supplement to Panel Study of Income Dynamics.
N = 1607 respondents.
  [a] Among respondents who are married or in a romantic relationship.

Finally, we included measures reflecting common productive, social and physical activities that one engaged in during the last seven days. Descriptive statistics for all covariates are presented in Table 1.

Statistical analysis

We tested for differences in mean experienced wellbeing scores by presence of disability, severity of impairments (in quartiles), duration of limiting condition (in categories), history of work limitation, and income and wealth quartiles using *t*-tests.

To examine the buffering effects of economic resources, we estimated multi-level linear regression models. Multi-level models adjust standard errors to account for the clustering of individuals within couples. We estimated three models: a model with markers of disablement only, with both disablement and economic resource measures, and a full model including disablement markers, economic resources and all covariates. In exploratory analyses, we found no difference between continuous and categorical versions of severity impairment and duration variables so we include the more parsimonious continuous versions. Finally, we tested a set of models with two-way interactions between each of the material resources indicators (income and wealth) and each of the disablement measures that emerged as statistically significant in the full model. We used coefficients from these models to calculate predicted values of wellbeing by disability and quartiles of economic resources, holding other variables at their observed values.

All analyses were run in Stata 14.2[33] with sampling weights that take into account the PSID and DUST sample designs and nonresponse.[34]

Results

Univariate and bivariate results

Adults ages 60 and older reported high experienced wellbeing: on average 5.20 out of a maximum of 6.00. Those with activity limitations, with higher impairment severity levels, and who reported work limitations earlier in life reported significantly worse experienced wellbeing (Table 2). Wellbeing was also lowest for those with limiting health conditions for 10 or more years, relative to those with shorter-term conditions.

Main effects of disablement

Severity of impairment is inversely related to experienced wellbeing in our baseline (unadjusted) model ($\beta = -0.04$, $p < .001$; see Table 3). Measures of activity limitations and work limitation earlier in life have coefficients of similar magnitude, but they are not statistically significant at conventional levels ($p < .05$).

Neither income nor wealth quartiles are statistically significant predictors of experienced wellbeing, nor does their inclusion in the model change the coefficient for impairment severity ($\beta = -0.04$, $p < .001$). Likewise, neither the magnitude nor significance of the three other disablement indicators changes. In the fully controlled model, however, the effect of severity impairment is reduced by half ($\beta = -0.02$, $p < .001$) and high wealth emerges as inversely associated with experienced wellbeing.

Other covariates that are inversely (and significantly) associated with experienced wellbeing include having more than 12 years of education, neuroticism, and having worked for pay in the last 7 days. Covariates that predict higher experienced wellbeing include psychological resources such as conscientiousness, spirituality, and self-efficacy; being in a high quality romantic partnership; having good relationships with one's family; and socializing in the last 7 days.

Buffering effects

Out of the six two-way interactions we tested (income quartiles x severity and wealth quartiles x severity), only two were statistically significant at the $p < .05$ level (see Table 4). Having income in the 2nd and 3rd quartiles buffered the negative effects of impairment severity on experienced wellbeing ($\beta = 0.02$, $p < .05$). That is, for the lowest and highest quartiles, each additional point on the severity of impairment scale lowered wellbeing by a slope of -0.04, but for those in the middle income quartiles the slope was reduced to -0.02 (that is, $-0.04 + 0.02$). This result is plotted using predicted values in Fig. 1: for those in the highest and lowest quartiles, impairment severity has a negative association with experienced wellbeing, but for the middle two quartiles, current income buffers those effects so that at higher levels of impairment wellbeing remains essentially flat.

Table 2
Weighted mean (standard deviation) subjective wellbeing by disability status, adults ages 60 and older.

	Percent; Mean (SD)	Mean Wellbeing	
		Experienced Wellbeing (0–6)	*t*-test p-value
All Respondents	100.0	5.20 (0.78)	
Activity limitations			
No	52.4	5.31 (0.63)	
Yes	47.6	5.08 (0.90)	<0.001
Severity of impairment	4.4 (5.30)		
1st quartile (0)	27.3	5.45 (0.60)	
2nd quartile (1–2)	23.6	5.27 (0.71)	<0.001
3rd quartile (3–7)	27.6	5.15 (0.75)	<0.001
4th quartile (8-32)	21.4	4.88 (0.96)	<0.001
Duration of limiting condition	2.3 (4.48)		
0 years	71.4	5.28 (0.69)	
1–2 years	6.9	4.99 (0.97)	<0.001
4–8 years	8.0	5.09 (0.92)	0.017
10 + years	13.7	4.97 (0.97)	<0.001
Work limitation earlier in life			
No	37.7	5.33 (0.67)	
Yes	62.3	5.12 (0.83)	<0.001

Data Source: 2013 Disability and Use of Time Supplement to Panel Study of Income Dynamics.
N = 1607 respondents.

Table 3
Predictors of experienced wellbeing among adults ages 60 and older: Coefficients from multi-level linear regression models.

	Disability Only	Disability and Economic Resources	Full Model
Disablement			
Any current activity limitation	−0.03	−0.03	0.01
Severity of impairment	−0.04***	−0.04***	−0.02***
Years of limiting condition	0.00	0.00	0.00
Any work limitation earlier in life	−0.05	−0.05	−0.05
Economic Resources			
Income 2nd quartile (vs. 1st quartile)		0.04	0.05
Income 3rd quartile		0.04	0.06
Income 4th quartile		0.06	0.10
Wealth 2nd quartile (vs. 1st quartile)		−0.07	−0.07
Wealth 3rd quartile		0.04	−0.04
Wealth 4th quartile		−0.12	−0.15*
Controls			
Demographic Characteristics			
Age 65−69 (vs. 60−65)			0.02
70−74			0.01
75−79			0.00
80+			−0.09
Female			0.08
Black (vs. non-Black)			0.02
12 years education (vs. <12 yrs)			−0.08
More than 12 years			−0.26**
Psychological Resources			
Neuroticism (0−3)			−0.26***
Extraversion (0−3)			−0.00
Conscientiousness (0−3)			0.10*
Spirituality (0−3)			0.06**
Self-efficacy (0−5)			0.05**
Social Resources			
Number of people in the household			0.02
Never married (vs. married/partnered)			0.45**
Widowed			0.23
Divorced			0.29
Partner relationship quality (0−4)			0.09*
Family relationship quality (0−4)			0.15***
Activities in last 7 days			
Work for pay			−0.11**
Volunteer			−0.07
Care for others			−0.02
Socialize			0.13*
Exercise			0.05
Go out for pleasure			0.03
Laundry			−0.06
Household chores			0.08
Prepare food			−0.00
Financial management			−0.05
Shopping/errands			−0.02
Constant			4.30***
var(family)			0.07*
var(e)			0.39***

Data Source: 2013 Disability and Use of Time Supplement to Panel Study of Income Dynamics.
N = 1607 respondents.

Discussion

This study contributes to our understanding of how the disablement process influences emotion in everyday life. Contrary to our expectation that more than one aspect of the disablement process would influence a summary measure of experienced wellbeing, only one of the indicators that we considered, severity of impairments, was consistently associated with this outcome in fully controlled models. This measure of severity of underlying impairment reflected the extent of interference with regular activities over the last 7 days. It may be that interference with activities (rather than difficulty with particular activities as reflected in the activity limitation items) is the key mechanism through which the disablement process reduces experienced wellbeing. Our findings are also consistent with prior studies that suggest duration of limiting conditions is not consistently related to experienced wellbeing.[9]

A second goal was to assess the extent to which economic resources buffer against the deleterious consequences of disability on wellbeing. We found that income buffered the negative effects of impairment severity on experienced wellbeing for those in the two middle-income quartiles only. For those in the lowest income quartile, our result is consistent with Kahneman and Deaton,[17] who found the negative effects of ill health on experienced wellbeing were exacerbated among individuals living in low-income households. For those in the highest income quartile, however, impairment severity also has a sustained negative effect. Why this is the case is not clear. It is possible that the multiple advantages accrued over the life course to the highest income group make the presence of disability even more difficult to adjust to emotionally. Emerging research on stress suggests that persons who have experienced very low levels of stress and adversity over the life course may not have developed skills to adapt to such adversity, whereas their counterparts who experienced modest stress develop efficacious coping skills.[35]

We also found, counter to our expectations, that wealth did not buffer the impact of disability on wellbeing. Although those with higher levels of net worth may have a greater capacity to make lasting adaptations to one's home environment to accommodate disability, home-based adaptations − grab bars, shower/bathing seats, stair glides − do not facilitate participation per se. As such, home adaptations are unlikely to be adequate to address barriers in the broader environment that may undermine daily mood.

Our study has several noteworthy limitations. Previous studies suggest that older Americans cope with economic uncertainties by reducing the goods and services they purchase rather than reducing their wealth.[36] Hence, income and wealth alone do not fully represent the economic wellbeing of older Americans. A potentially fruitful area for future research is the link between consumption in later life and wellbeing. We also did not explore the buffering effects of education, which is often correlated with income and assets, although we did find an inverse association between education and experienced wellbeing. Education might be a signal for coping skills that may complement the financial resources we explored here and is an important topic for additional research. Further, we considered only the total value of one's income, and not discretionary income after basic necessities, nor potentially differential influences by source. Income sources vary substantially by socioeconomic status, with poorer persons receiving mainly Social Security and those with higher incomes drawing a larger share from earnings and private pensions.[16] Future studies should explore the role of discretionary income as well as sources of income as a potential hedge against disablement-related distress.

Additionally, the measures of subjective wellbeing were limited to a single time period. Although we included a work disability measure from earlier in the life course, we were not able to explore the effects on changes in wellbeing. Nor did we explore financial strain over the life course or whether early life hardships exacerbate the effects of disability on wellbeing in later life. Others have found that the negative effects of hardship early in life may be offset

Table 4
Buffering effects of economic resources on the relationship between disability and experienced wellbeing.

	Income by Severity	Wealth by Severity
Main Effects of Disability		
Any current activity limitation	0.01	0.02
Severity of impairment	−0.04***	−0.03***
Duration of limiting condition	0.00	0.00
Any work limitation earlier in life	−0.05	−0.05
Interactions		
Income 2nd quartile X Severity of impairment	0.02*	
Income 3rd quartile X Severity of impairment	0.02*	
Income 4th quartile X Severity of impairment	−0.00	
Wealth 2nd quartile X Severity of impairment		0.02
Wealth 3rd quartile X Severity of impairment		0.01
Wealth 4th quartile X Severity of impairment		−0.01
Constant	4.39***	4.33***
var(family)	0.07*	0.07*
var(e)	0.39***	0.39***

***p < .001, **p < .01, *p < .05.
Note: Results are coefficients from multi-level linear regression models. Models control for psychological, social, and demographic factors in Table 1 and main effects for income and wealth quartiles.
Data Source: 2013 Disability and Use of Time Supplement to Panel Study of Income Dynamics.
N = 1607 respondents.
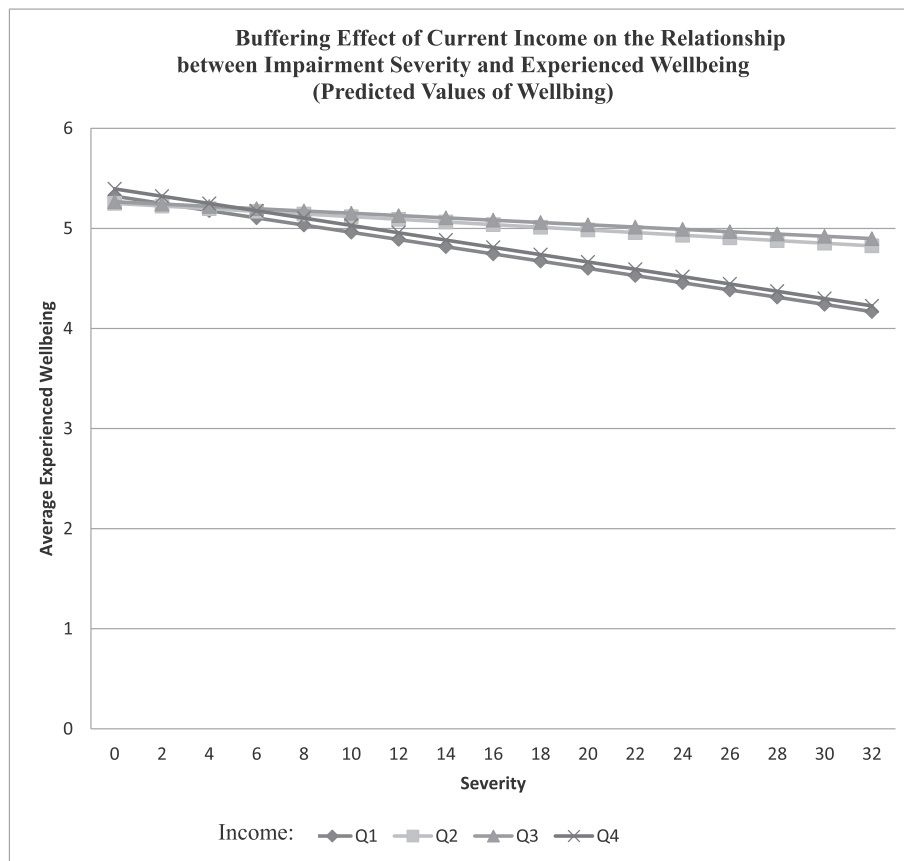
Fig. 1. Buffering effect of current income on the relationship between impairment severity and experienced wellbeing (predicted values of wellbeing).

if economic resources are obtained later in life[37]; hence, this omission is unlikely to alter substantive conclusions found here.

Conclusions

Our findings have implications for buttressing the wellbeing of older Americans facing functional declines. Older adults who make accommodations that allow them to carry out daily activities without assistance or difficulty report wellbeing at levels similar to those who are fully able to do so.[38] Our findings further suggest that those with moderate income may be able to best cope when impairments interfere with regular activities. Prior evaluations of income support programs, which are increasingly targeting families with older adults and with persons with disabilities,[39] demonstrate their ability to reduce income poverty.[40] Research into whether such programs are ample to buffer declines in wellbeing may be a

useful direction for additional research in light of our findings. In addition, a valuable next step would be to explore the mechanisms through which income buffers the negative effects of impairment severity and to specify the accommodations that enable economically disadvantaged and advantaged older adults alike to withstand physical declines while maintaining wellbeing.

Funding

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