# AGE AND MATERIAL WELL-BEING IN THE SURVEY OF INCOME AND PROGRAM PARTICIPATION

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## Introduction

Increasing interest has focused on new ways to measure material well-being. Traditional poverty measures have been inadequate to characterize well-being because they don't account for many direct and indirect costs of living. Many of the most salient issues in current poverty research, such as the effects of family structure and the effects of welfare reform, are concerned with understanding how these costs come into play. This requires the use of valid well-being measures to gauge the effects of income, program and family changes.

The effect of age on material well-being has been examined by several authors (Mayer and Jencks 1989, Mirowsky and Ross 1999, Bauman 1999). The surprising finding is that, despite their lower average incomes, older people report higher levels of material well-being than younger ones. Moreover, moving from zero order effects to a full multivariate regression barely shifts shifts the effect of age, except at the youngest ages (age 15 to 25). When age is interacted with any of a number of other variables, the same pattern remains. One might, for example, imagine that the effect of age would have to do with the lower costs of owning a home. However, the effect of age is almost exactly the same for renters as for homeowners (Bauman 1998).

One reason that older people may claim to have greater well-being is that they have lower personal standards for what an acceptable level of material comfort entails. This is confirmed in research by Garner and Short (2002) on assessments of minimum income needed to get by. In order to give this hypothesis a more thorough test, I have also compared measured levels of well-being by the age of persons who reported for other household members. I have also constructed a variable that measures how favorably an individual respondent rates circumstances in his or her household, and use it as a control. In addition, I have used the common method variance approach to control for social desirability bias. At the end of these analyses, I found that systematic differences in judgement or response biases play only a small role in measures of well-being by age.

*Data and methods*

This research makes use of the 1996 panel of the Survey of Income and Program Participation (SIPP) (U.S. Census Bureau 2001). This panel started with 40,188 eligible households in April 1996, and continued interviews every four months through March of 2000. Each interview consisted of a core interview, with standard questions on demographics, labor force and income, and a topical module interview, with questions on topics that changed from one interview (wave) to the next. The eighth wave of the 1996 panel, in the field in August through November of 1998, contained a topical module on "adult well-being." This was an extensive battery of questions on consumer durables, housing conditions, neighborhood conditions, ability to meet basic needs, ability to get help when in need, and food security. The last section had several questions taken from the food security questionnaire developed by the U.S. Department of Agriculture. This research links the answers to the "adult well-being" topical module questionnaire to a longitudinal file constructed by the Census Bureau, containing edited data from the core interviews from wave 1 through 8. In addition, this research uses several questions on asset ownership and health status and medical expenditures, asked in the wave 6 interview (December 1997 through March 1998). Details of the individual questions are available from the Census Bureau web site. A general description of content used in this research will be elaborated along with the analyses described below.

There are several challenges in putting together a usable data file with longitudinal and cross-sectional components from the SIPP. The first is to identify the longitudinal element that matches the family being observed in the cross-sectional interview. This research used information in the longitudinal core file that pertained to the family or household in each month that contained a person who was present during Wave 8. Age, education and race were measured at the individual level. Poverty status, assets, debts, health insurance, disability, changes in circumstances and employment were counted as a family-level phenomena. A family was employed if at least one adult was employed and all over the age of 25 were employed, taking care of family, enrolled in school, or retired. Separate account was

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taken if the reason for non-employment was school enrollment or retirement.

Most of the measures used in this analysis were binary or categorical in nature. In particular, the measures of material well-being which served as dependent variables in many of the analyses were constructed as sums of binary responses, or were "Likert" type response variables measured on a 4 or 5 point scale. Where possible, ordered logit regressions were used when these served as dependent variables. Unfortunately, some analyses required the use of covariance structure modeling, where software constraints required the use of linear models. The comparison of linear regression results with ordinal regression results showed that the assumption of linearity did not seriously affect the validity of the results.

When data were missing, the analysis was based on information from available waves — which is to say, cases were not dropped. A similar approach was taken with data on assets and health status, except that people without a wave 6 record (due to attrition or other causes) were given a missing value code for analysis purposes. Missing data in Wave 8 were imputed by the Census Bureau. Reported standard errors for simple statistics were calculated with linearization methods to allow for complex sampling, while standard errors and fit statistics on regression models used a design effect of 3.6.

*Measures of well-being and family circumstances*

Table 1 shows the relation of age to six types or "domains" of material well-being. Briefly, housing conditions involved items such as problem with pests and unsatisfactory repair. Neighborhood conditions included noise problems, street repair problems, and other problematic physical conditions. Difficulty meeting basic needs was measured by questions on inability to pay basic expenses, having services cut, or needing to see the dentist or doctor but not going. Food security was measured by questions on whether there was worry about food lasting, lack of balanced meals, or cutbacks in consumption. Consumer durables included such things as computers, air conditioners, clothes washers and telephones. Fear of crime was measured by a series of questions on whether respondents stayed at home due to fear, were afraid to walk at night in areas near their home or reported that their neighborhoods or homes were unsafe.

Table 1:
Problems with Material Well-being by Age

(Standard errors in parentheses)

| Age | Percentage of Items Reported as Lacking or as a Problem | | | | | |
|---|---|---|---|---|---|---|
| | Housing repair | Neighbor-hood | Meeting basic needs | Food security | Consumer durables | Fear of crime |
| 15 to 24 | 6.65 | 10.93 | 9.90 | 9.67 | 21.15 | 12.83 |
| | (0.21) | (0.27) | (0.28) | (0.28) | (0.32) | (0.28) |
| 25 to 24 | 6.19 | 11.60 | 8.48 | 7.47 | 21.84 | 12.36 |
| | (0.17) | (0.23) | (0.21) | (0.22) | (0.31) | (0.28) |
| 35 to 44 | 5.74 | 10.55 | 7.95 | 7.26 | 17.76 | 11.74 |
| | (0.15) | (0.23) | (0.19) | (0.21) | (0.24) | (0.28) |
| 45 to 54 | 4.90 | 9.77 | 6.31 | 5.76 | 17.33 | 11.22 |
| | (0.14) | (0.21) | (0.20) | (0.26) | (0.22) | (0.23) |
| 55 to 64 | 4.24 | 9.62 | 4.72 | 4.70 | 18.92 | 11.77 |
| | (0.15) | (0.24) | (0.19) | (0.26) | (0.28) | (0.36) |
| 65 to 74 | 4.04 | 8.73 | 2.98 | 4.02 | 22.54 | 12.26 |
| | (0.17) | (0.26) | (0.17) | (0.26) | (0.29) | (0.35) |
| 75 to 84 | 3.70 | 7.76 | 2.21 | 3.45 | 26.31 | 13.48 |
| | (0.21) | (0.31) | (0.15) | (0.28) | (0.35) | (0.46) |
| 85 & older | 3.93 | 7.44 | 2.10 | 2.75 | 30.47 | 15.11 |
| | (0.32) | (0.41) | (0.28) | (0.39) | (0.73) | (0.66) |

Source: U.S. Census Bureau, Survey of Income and Program Participation, 1996 Panel Wave 8.

The main thing to note from table 1 is that most problems with well-being decline with age. Older people report fewer problems with housing repair, fewer neighborhood problems, fewer difficulties meeting basic needs and less difficulty with food security than younger households. Analyses below will focus on difficulty meeting basic needs, because it is representative of the other problems just mentioned.

The lack of consumer durables and the fear of crime are exceptions to the downward pattern of problems with age. They both have a "U" shaped profile, with younger and older respondents experiencing greater problems than those in middle age. The measure of consumer durables is somewhat different from the other measures, in that the questions refer to concrete facts, with little room for judgement. The high scores of older people on this scale is due to their lack of possession of electronic goods such as computers and cell phones. Fear of crime, by contrast, is very judgmental. The high scores of older people on

Table 2:
Ordinal Logit Regressions of Difficulty Meeting Basic Needs on Age, With and Without Controls for Income, Assets, Employment and Other Factors

|  | Regression without controls | | | Regression with controls | | |
|---|---|---|---|---|---|---|
|  | Coefficient | Std. error | t-ratio | Coefficient | Std. error | t-ratio |
| Age * | -2.93000 | 0.28690 | -10.2 | -3.36000 | 0.32110 | -10.5 |
| Age squared | -0.05800 | 0.01919 | -3.0 | -0.16500 | 0.02109 | -7.8 |
| Age cubed | 0.00051 | 0.00036 | 1.4 | 0.00063 | 0.00038 | 1.6 |
| Age to the fourth | 0.00004 | 0.00002 | 2.0 | 0.00010 | 0.00002 | 5.6 |
|  |  |  |  |  |  |  |
| Ratio of income to poverty |  |  |  | -0.257 | 0.016 | -16.4 |
| Home ownership |  |  |  | -0.311 | 0.046 | -6.8 |
| Value of vehicles |  |  |  | -0.397 | 0.036 | -11.1 |
| Credit card and misc. debts |  |  |  | 0.797 | 0.456 | 1.7 |
| Work status: all worked |  |  |  | -0.097 | 0.047 | -2.1 |
| Work status: in school |  |  |  | -0.588 | 0.114 | -5.2 |
| Work status: retired |  |  |  | -0.800 | 0.167 | -4.8 |
| Disabled |  |  |  | 0.304 | 0.050 | 6.1 |
| Health insurance |  |  |  | -0.384 | 0.050 | -7.6 |
| Health status rating |  |  |  | 0.152 | 0.019 | 8.0 |
| Education |  |  |  | -0.017 | 0.008 | -2.0 |
| Moved recently |  |  |  | -0.099 | 0.051 | -1.9 |
| Changes in circumstance |  |  |  | 0.102 | 0.014 | 7.5 |
|  |  |  |  |  |  |  |
| Ordinal intercept 6 | -8.900 | 0.619 | -14.4 | -7.827 | 0.629 | -12.4 |
| Ordinal intercept 5 | -5.267 | 0.105 | -49.9 | -4.184 | 0.162 | -25.8 |
| Ordinal intercept 4 | -4.064 | 0.064 | -63.8 | -2.958 | 0.139 | -21.3 |
| Ordinal intercept 3 | -2.784 | 0.043 | -64.8 | -1.611 | 0.131 | -12.3 |
| Ordinal intercept 2 | -1.997 | 0.037 | -53.6 | -0.740 | 0.129 | -5.7 |
| Ordinal intercept 1 | -1.443 | 0.035 | -41.5 | -0.105 | 0.129 | -0.8 |
|  |  |  |  |  |  |  |
| Deviance (-2LL) |  |  |  |  |  |  |
| Null model |  | 26442.5 |  |  | 26442.5 |  |
| Residual |  | 25991.0 |  |  | 23548.7 |  |
| Explained |  | 451.5 |  |  | 2893.8 |  |
| Degrees of freedom |  | 4 |  |  | 17 |  |

* Effects of age and its powers multiplied by 100 for presentation.
Source: U.S. Census Bureau, Survey of Income and Program Participation, 1996 Panel Wave 8.

**Figure 1**
Coefficient of Difficulty Meeting Basic Needs on Age, With and Without Controls for Income, Assets, Employment and Other Factors. (Data taken from Table 2)
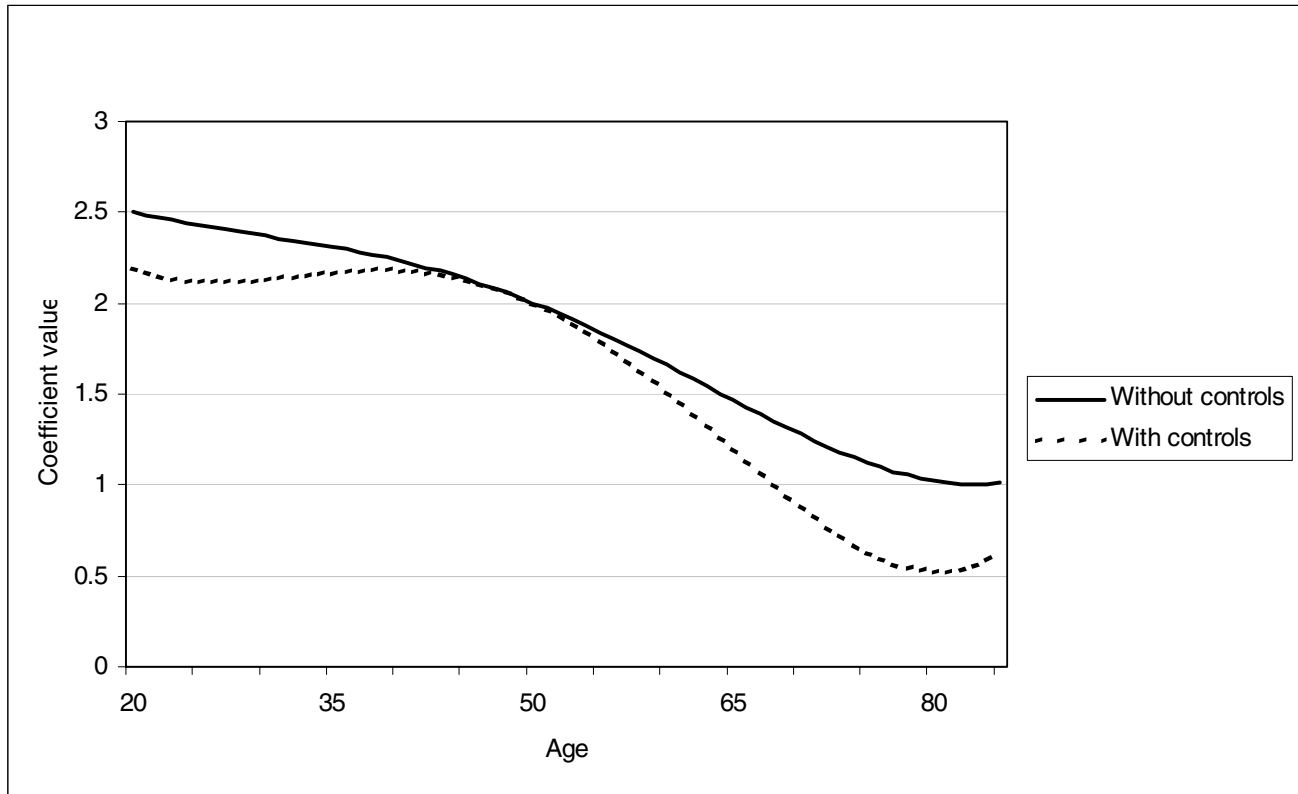


this scale may be related to the influence of judgement on their answers.

The next question is how control variables affect the relationship between age and material well-being. This is examined in Table 2, where the number of difficulties meeting basic needs is regressed on age and a number of controls. These include several financial variables: the ratio of income to poverty in the family, home ownership, the total value of vehicles owned by the family and total credit card, store credit, medical and other unsecured debt. The value of vehicles is a stand-in for total assets, which are a preferred measure, but turned out to have a much smaller statistical impact. Work status is divided into three categories, with the omitted variable consisting of families in which an adult member did not work or keep house for at least part of the period covered by the SIPP. Disability, health insurance, health status, education, recent moves and other changes in circumstances were included in the model due to past research showing they had effects. Nearly all these variables were significant, and some had very large impacts on difficulty meeting basic needs. The effects of age were not diminished by these controls, however. In fact the coefficients seemed to have increased.

Since it is not easy to picture the full relationship with the non-linear terms included in the model it is helpful to examine the results graphically. Figure 1 shows impact of controls on the regression relationship between age and difficulty meeting basic needs. Once controls were in place, the slope of the relationship became flatter for people below the age of 45. In other words, income, assets, employment and the other factors controlled in Table 2 seem to explain the greater difficulty meeting basic needs experienced by young adults relative to those around 45. Above this age, however, the curve with controls is much steeper than the curve without controls. The lower difficulty meeting basic need of older people is not explained by the measures included here. Moreover, this finding is robust. Different measures of income assets, family composition and other factors do not change this result. In short, the standard measures available in a social-economic survey like SIPP cannot explain the relationship between well-being and age.[2]

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[2] I have been examining interaction effects, and these may provide additional insight. These results will be reported in a separate paper.

*Controlling for bias*

Since I am unable to explain the effect of age on well-being with measured characteristics, I now turn to the possibility that age is related to response tendencies or response 'bias.' The results of table 1 suggest that the influence of judgement on response may indeed be important. In order to deal with the influence of judgement on reports of problems, I have taken three approaches. The first is to examine difficulty meeting basic needs by age of the household respondent separately from the age of the individual examined in the survey. To do this I take advantage of the fact that the questions on well-being were asked only once per household. If response bias were at play, the well-being of an older person living with a younger person who served as a respondent would be lower than the well-being of an older person in an otherwise similar household, but where an older person served as respondent.

A second approach to the issue was to examine the difference in answers to questions focusing on concrete issues and contrast them with answers to questions calling for judgement. This was done by comparing responses about specific problems affecting housing and general assessments of satisfaction with the corresponding aspects of their housing situation. The SIPP supplement on adult well-being in the 1996 wave 8 topical module asks about the following:

| Specific condition | General rating |
|---|---|
| persons per room | satisfaction with space |
| geographic location, air conditioning | satisfaction with coolness of home |
| specific repair problems (plumbing, cracks, leaks) | general satisfaction with repair of home |

The residual from a regression of rating on specific conditions should provide a measure of a person's propensity to rate situations favorably. By using all these conditions together, omitted variable bias should be reduced. With this variable introduced to a regression of material well-being on age, the hypothesis outlined above can be tested.

The third and final approach to the issue was to use the common method variance approach to measuring social desirability bias (Kline et al. 2000). This uses a single factor extracted from all attitudinal measures in a survey to partial out the effects of generalized response effects.

*Age of respondent versus age of individual experiencing hardship*

Table 3 shows the average number of difficulties meeting basic needs experienced by persons in four groups, organized by age of household respondent, and age of others in the household. In the first category, all in the household are under 65. The mean number of difficulties for this group is 0.48. In the last category, the household respondent and others being examined are all 65 or over. Here the mean number of difficulties is 0.14. Households composed of people in both categories (over and under 65) have a level of difficulties that falls in-between. However, the households where someone over 65 served as the household respondent on the well-being questions recorded significantly lower levels of difficulty than households where someone younger answered. This implies that the 'response set' or bias of older people when they describe their material well-being may be of some importance. This conclusion must be tempered by the possibility that the age of the respondent in mixed over 65/under 65 households might be linked with other differences that influence hardship. However, an examination of differences in poverty, employment and other factors, showed no significant differences between the groups (data not shown).

| Table 3: Mean Number of Difficulties Meeting Basic Needs by Individual Age and Household Respondent's Age | | | |
|---|---|---|---|
| | Mean number of difficulties | Standard error | Number of cases |
| Household respondent under 65 | | | |
| Others in household under 65 | 0.481 | 0.009 | 45,078 |
| Others in household 65 or over | 0.346 | 0.027 | 1,135 |
| Household respondent 65 or over | | | |
| Others in household under 65 | 0.261 | 0.029 | 1,463 |
| Others in household 65 or over | 0.139 | 0.008 | 8,552 |

Source: U.S. Census Bureau, Survey of Income and Program Participation, 1996 Panel Wave 8.

Table 4 shows how respondent's age might affect the general profile of difficulty meeting basic needs by age. The first regression is a simple regression of material well-being on age, this time coded in ten-year intervals (to avoid the need to plot out the results). The second regression introduces the age of the household respondent as a control variable. The result is a diminishing of the effect of individual's age, but not

Table 4:
Regression of Number of Difficulties Meeting Basic Needs on Age, With and Without Control for Household Respondent's Age

| | Regression with control | | | Regression without control | | |
|---|---|---|---|---|---|---|
| | Coefficient | Std. error | t-ratio | Coefficient | Std. error | t-ratio |
| Individual's age | | | | | | |
| 15 to 24 | 0.735 | 0.069 | 10.7 | 0.555 | 0.077 | 7.2 |
| 25 to 34 | 0.530 | 0.078 | 6.8 | 0.319 | 0.087 | 3.7 |
| 35 to 44 | 0.361 | 0.077 | 4.7 | 0.130 | 0.084 | 1.5 |
| 45 to 54 | 0.067 | 0.088 | 0.8 | -0.043 | 0.093 | -0.5 |
| 55 to 64 | -0.254 | 0.111 | -2.3 | -0.278 | 0.117 | -2.4 |
| 65 to 74 | -0.463 | 0.135 | -3.4 | -0.281 | 0.144 | -1.9 |
| 75 to 84 | -0.727 | 0.193 | -3.8 | -0.429 | 0.203 | -2.1 |
| Household respondent's age | | | | | | |
| 15 to 24 | | | | 0.388 | 0.128 | 3.0 |
| 25 to 34 | | | | 0.320 | 0.107 | 3.0 |
| 35 to 44 | | | | 0.408 | 0.095 | 4.3 |
| 45 to 54 | | | | 0.077 | 0.097 | 0.8 |
| 55 to 64 | | | | 0.087 | 0.112 | 0.8 |
| 65 to 74 | | | | -0.309 | 0.146 | -2.1 |
| 75 to 84 | | | | -0.640 | 0.233 | -2.8 |
| 85 or older | | | | -0.909 | 0.548 | -1.7 |
| Ordinal intercepts | | | | | | |
| Intercept 6 | -9.132 | 0.868 | -10.5 | -9.232 | 0.870 | -10.6 |
| Intercept 5 | -5.489 | 0.150 | -36.6 | -5.587 | 0.162 | -34.5 |
| Intercept 4 | -4.285 | 0.094 | -45.7 | -4.383 | 0.112 | -39.3 |
| Intercept 3 | -3.033 | 0.068 | -44.8 | -3.128 | 0.091 | -34.5 |
| Intercept 2 | -2.234 | 0.060 | -37.2 | -2.327 | 0.085 | -27.3 |
| Intercept 1 | -1.688 | 0.057 | -29.5 | -1.777 | 0.083 | -21.4 |
| Deviance (-2LL) | | | | | | |
| Null model | | 13369.2 | | | 13369.2 | |
| Residual | | 13161.3 | | | 13090.8 | |
| Explained | | 207.9 | | | 278.4 | |
| Degrees of freedom | | 7 | | | 15 | |

Source: U.S. Census Bureau, Survey of Income and Program Participation, 1996 Panel Wave 8.

its elimination. The contrast between individuals aged 15 to 24 and those aged 75 to 84 falls from 1.46 to 0.99.

If the contrast between respondent and other individual in the household is our measure of response bias, then response bias does seem to be a feature of these data. However, the response bias is clearly not the explanation for reports of greater well-being by older people.

*Effect of discrepancy between specific conditions and overall judgements*

The measurement of the effect of discrepancies

between answers to specific conditions and answers to general evaluative questions proceeded in two steps. The first was a least squares regression of each of three general factors on specific conditions and other controls. The second was the residuals from these regressions included as indicators of a general factor which served as a control along with others in the regression of difficulty meeting basic needs on age.

The results of the second step are shown in

Table 5. The first column shows the results of a least-squares regression of difficulty meeting basic needs on age, income, assets, employment and other factors. The difference between this and previously-shown regressions was the use of least squares, to facilitate the comparison of the factor-analytic results. The latter are shown in column two. Listed at the bottom of the table is the effect of the single factor measured by the residuals from the regressions of evaluations of the state of repair, roominess and coolness of homes. This factor has a strong effect on difficulty meeting basic needs,

once again attesting to the possible importance of response bias in these data (assuming that this factor measures pure response bias, which may not be the case). However, the coefficients of the age variables is hardly changed by the addition of this factor. The result from this test, therefore, is similar to the result from the last one. Response bias may influence the data on material well-being, but it doesn't explain the greater well-being of older people.

*Effect of common method variance factor*

Table 5:
Three Models of the Effect of Age on Difficulty Meeting Basic Needs: Ordinary (OLS) Regression Model, Covariance Structure Model with Factor Derived from Residuals of Housing Quality Regressions, Covariance Structure Model with Common Method Variance (CMV) Factor

| | OLS model | | | Residual factor model | | | CMV factor model | | |
|---|---|---|---|---|---|---|---|---|---|
| | Coefficient | Standard error | t-ratio | Coefficient | Standard error | t-ratio | Coefficient | Standard error | t-ratio |
| **Age** | | | | | | | | | |
| 15 to 24 | -0.086 | 0.024 | -3.5 | -0.086 | 0.024 | -3.5 | -0.077 | 0.024 | -3.2 |
| 25 to 34 | -0.041 | 0.024 | -1.7 | -0.036 | 0.024 | -1.5 | -0.036 | 0.024 | -1.5 |
| 35 to 44 | -0.103 | 0.026 | -4.0 | -0.086 | 0.026 | -3.3 | -0.092 | 0.025 | -3.6 |
| 45 to 54 | -0.249 | 0.029 | -8.6 | -0.219 | 0.029 | -7.6 | -0.479 | 0.034 | -13.9 |
| 55 to 64 | -0.550 | 0.035 | -15.8 | -0.505 | 0.035 | -14.6 | -0.209 | 0.029 | -7.3 |
| 65 to 74 | -0.596 | 0.043 | -14.0 | -0.540 | 0.042 | -12.8 | -0.513 | 0.042 | -12.2 |
| 75 to 84 | -0.648 | 0.066 | -9.9 | -0.585 | 0.065 | -9.0 | -0.552 | 0.065 | -8.5 |
| | | | | | | | | | |
| Ratio of income to poverty | -0.027 | 0.003 | -9.0 | -0.029 | 0.003 | -9.7 | -0.021 | 0.003 | -7.1 |
| Home ownership | -0.159 | 0.017 | -9.2 | -0.174 | 0.017 | -10.1 | -0.144 | 0.017 | -8.4 |
| Value of vehicles | -0.072 | 0.009 | -8.1 | 0.042 | 0.007 | 6.1 | -0.063 | 0.009 | -7.2 |
| Credit card and misc. debts | 0.245 | 0.182 | 1.3 | 0.221 | 0.180 | 1.2 | 0.224 | 0.179 | 1.3 |
| Work status: all worked | -0.071 | 0.017 | -4.1 | -0.072 | 0.017 | -4.2 | -0.071 | 0.017 | -4.1 |
| Work status: in school | -0.184 | 0.036 | -5.1 | -0.165 | 0.036 | -4.6 | -0.188 | 0.036 | -5.3 |
| Work status: retired | -0.119 | 0.038 | -3.1 | -0.101 | 0.038 | -2.7 | -0.100 | 0.037 | -2.7 |
| Disabled | 0.163 | 0.019 | 8.5 | -0.060 | 0.009 | -6.7 | 0.143 | 0.019 | 7.6 |
| Health insurance | -0.296 | 0.019 | -15.4 | -0.289 | 0.019 | -15.2 | -0.285 | 0.019 | -15.1 |
| Health status rating | 0.052 | 0.007 | 7.5 | 0.160 | 0.019 | 8.5 | 0.037 | 0.007 | 5.4 |
| Education | -0.008 | 0.003 | -2.7 | -0.008 | 0.003 | -3.0 | -0.006 | 0.003 | -2.4 |
| Moved recently | -0.055 | 0.019 | -3.0 | -0.045 | 0.019 | -2.4 | -0.039 | 0.018 | -2.1 |
| Changes in circumstance | 0.055 | 0.006 | 10.0 | 0.051 | 0.005 | 9.4 | 0.049 | 0.005 | 9.1 |
| Black | 0.149 | 0.022 | 6.8 | 0.130 | 0.022 | 5.9 | 0.097 | 0.022 | 4.4 |
| | | | | | | | | | |
| Intercept | 0.959 | 0.042 | 22.6 | | | | | | |
| Factor based on residuals | | | | 0.132 | 0.009 | 15.2 | | | |
| Common method variance factor | | | | | | | 0.179 | 0.008 | 21.8 |
| | | | | | | | | | |
| R-squared | 0.153 | | | | | | | | |
| Goodness of fit index | | | | .999 | | | .981 | | |

Source: U.S. Census Bureau, Survey of Income and Program Participation, 1996 Panel Wave 8.

Table 5 also shows the results of a regression in which a general factor was measured from a large number of attitudinal questions in the well-being topical module in the SIPP. Included were ten questions asking respondents to rate local public services, their satisfaction with home and neighborhood, their relation with neighbors and their expectation of being able to get help, if needed, from family, friends and groups in the community. The analysis was accomplished in a single step, by use of structural equation modeling software.

The effect of the common method variance factor is listed at the bottom, in the rightmost column of Table 5. As in the previous factor analysis, the effect is strong and significant. Once again, however, the effect of adding this factor is to diminish the effect of age only slightly.

*Discussion and conclusion*

This paper used three methods to measure the impact of response bias on evaluations of material well-being. None of these is perfect. However, it is hoped that the similar results found with all three leads to a fairly strong result. Older respondents seem to be more likely to claim high levels of material well-being in part because they are more likely to give "positive" responses to various types of subjective questions.

Even here, though, the case is not open and shut. The methods used to measure this bias generally included other things besides bias – such as unseen differences between households where older and younger people serve as respondents, or other common influences on responses that were swept into the general factors included in the covariance structure models. By the same token, it is possible that the measures used here under-estimated, rather than over-estimated the effect of response bias. The unseen differences and other influences could easily attenuate or offset the effects of response bias on difficulty meeting basic needs.

Despite these doubts, I believe that the evidence is fairly strong that there are genuine differences between older and younger people that lead to higher well being with age. Two influences that have as yet been unexplored are the role of learning by experience, and the role of availability of free time. Both could be very important to the well-being of an individual with a given set of resources, health and family conditions. These will be the subject of further research.

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