For Better and for Worse: The Relationship between Future Expectations and Functioning in the Second Half of Life

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Objectives. To examine age group differences in the relationship between future expectations about standards of living and physical, mental, and cognitive functioning in the second half of life.

Method. Data from the Survey of Health, Ageing, and Retirement in Europe (N = 27,687, mean age = 64.44).

Results. First, with increasing age, the expectation to improve (ETI) and the expectation to worsen (ETW) in standards of living became more independent of each other. Second, with increasing age, ETI was less strongly correlated with functioning whereas ETW was more strongly correlated with it. Third, with increasing age, the relationship between ETI and functioning was more strongly moderated by ETW, so that adaptive functioning was associated with expectations that no major change is to occur and with expectations for both growth and decline.

Discussion. Late-life positive and negative expectancies are less interdependent than they are in younger age, probably due to their stronger interaction when associating with functioning. Expectancies interact either to reflect an attempt to preserve the functional status quo (low expectancy to improve and to decline) or may signal a highly complex mental organization (high expectancy to improve and to decline).

Key Words: Aging—Functioning—Future expectations—SHARE.

PEOPLE’S physical and psychological functioning levels contribute to their perceptions of the future, but at the same time expectations direct the efforts that individuals invest in health-related behaviors, thereby influencing future health outcomes. Thus, positive expectations and optimism are more frequent among the well-adjusted, and yet they also enhance future functioning (Carver, Scheier, & Segerstrom, 2010; Holahan, Holahan, Velasquez, & North, 2008; Levy, 2003; Rasmussen, Scheier, & Greenhouse, 2009; Sarkisian, Hays, & Mangione, 2002).

Future expectations may be especially paramount to late-life functioning. Beliefs that age-related decrements are preventable or modifiable call for attempts to achieve optimal functioning, but beliefs that future decline is largely inevitable or irreversible are associated with inactivity, and resignation. Accordingly, studies on possible selves show that hoped-for self-representations and feared future self-representations (visions of selves that people hope to achieve or fear of becoming, respectively) may guide late-life health behaviors and ultimately may affect one’s health (Frazier & Hooker, 2006). Similarly, Lachman (2006) found that beliefs about the control one has over late-life physical and cognitive decline are related to health, well-being, and cognitive performance. The aim of the current study is to examine the complex relationship between future expectations and the level of functioning in old age.

Several earlier studies focused on either positive-optimistic or negative-pessimistic expectations (for reviews, see Carver et al., 2010; Rasmussen et al., 2009). These studies were based on the conception that positive and negative expectations invariably represent opposite ends of the same continuum and thus change together though in opposite directions. However, under certain conditions, positive and negative evaluations may become separated, thus being affected by different factors and changing independently from one another. At other times, they may be linked to each other, but may change in the same direction (Cacioppo & Bernston, 1994; Shmotkin, 2005). Indeed, previous studies have shown that the correlation between optimistic and pessimistic expectations varies substantially (e.g., Herzberg, Glaesmer, & Hoyer, 2006; Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997).

The relationship between positive and negative future expectations may also vary across the lifespan and especially during the second part of life. Whereas Herzberg and colleagues (2006) found a negative correlation between optimistic and pessimistic expectations among young adults, this correlation was not seen in older adults. According to...
Herzberg and colleagues, life experience makes older people develop more elaborated expectations regarding the future. Likewise, Charles and Carstensen (2009) proposed that adaptation to aging involves mental reorganization that includes, among other things, the ability to contain inconsistent cognitive and emotional evaluations (see also Lomranz, 1998).

Furthermore, the degree to which positive and negative expectations associate with functioning may change with aging, possibly reflecting a motivational shift from growth-related to maintenance-related orientation. Up to early aging, motivation is targeted at future gains, growth, and self-improvement. In accordance with this motivation, adolescents and young adults show a strong, to some extent unrealistic, positive future expectations (Busseri, Choma, & Sadowa, 2009; Lachman, Röcke, Rosnick, & Ryff, 2008). As people enter young-old age (around age 65), they shift their orientation toward functional maintenance and prevention of loss (Baltes, 1997; Ebner, Freund, & Baltes, 2006). The shift from gain enhancement to loss prevention might be reflected in the strength of the link between expectations of contrasting valences on the one hand and functioning on the other hand. More specifically, among younger adults positive expectations (reflecting growth-oriented cognitions) might be more strongly related to functioning than negative expectations. However, among older people negative expectations (reflecting maintenance-oriented cognitions) might associate more strongly with functioning.

Little research directly examined whether the relationship between expectations and functioning changes with age. However, various studies that examined optimism and pessimism showed that among young- to middle-aged adults optimism, rather than pessimism, was more strongly related to functioning (Chang & Sanna, 2001; Kivimäki et al., 2005), whereas among older people there was a stronger association between pessimism and functioning than between optimism and functioning (Brenes, Rapp, Rejeski, & Miller, 2002; Mahler & Kulik, 2000). Because these studies focused either on young- to middle-aged adults or on older people, rather than on a wider range of age groups, it is unclear whether age indeed moderates the relationship between expectations and functioning.

Finally, there is some basis to assume that in old age either low or high future expectations, rather than contrasting expectations, are associated with more adaptive functioning. On the one hand, a person who holds low positive and low negative expectations believes that no major changes are to occur. As there is greater motivation to maintain current functioning in older age than in younger age (Ebner et al., 2006), such a belief should be associated with favorable functioning. On the other hand, a combination of high positive and high negative expectations may represent greater mental complexity, which might be related to higher resilience in old age (Lomranz, 1998; Ong & Bergeman, 2004) or to coping with declining health (Benyamini, 2005; Larsen, Hemenover, Norris, & Cacioppo, 2003; Reich, Zautra, & Davis, 2003). Hence, we assume that when older individuals express positive and negative expectations that are similarly low or similarly high, their level of functioning will be higher than the level of functioning of individuals whose positive and negative expectations diverge.

The current study focused on two expectations with a contrasting valence: an expectation to improve (ETI) and an expectation to worsen (ETW) in future standards of living. These expectancies are quite general, yet they may reflect one’s belief in one’s longevity (Lang, Baltes, & Wagner, 2007), serving as a heuristic for health-maintaining motivation and behavior (e.g., Frazier & Hooker, 2006). Our first hypothesis is that with increasing age, ETI and ETW will become more independent of each other. This hypothesis is based on theories that propose a shift to a more complex evaluative framework in community-dwelling old people (e.g., Charles & Carstensen, 2009; Lomranz, 1998)—a shift that is also reflected in previous findings attesting to a weaker relationship between optimism and pessimism in old age (e.g., Herzberg et al., 2006). Our second hypothesis is that with increasing age, ETW will be less associated with functioning, whereas ETI will be more associated with it. This hypothesis is based on theories that propose a motivational shift from gain enhancement to loss prevention in old age (Ebner et al., 2006)—a shift that is reflected in previous findings showing the strongest relationship between optimism and functioning in younger samples, but the strongest relationship between pessimism and functioning in older samples (e.g., Brenes et al., 2002; Kivimäki et al., 2005). Our third hypothesis is that with increasing age, both the combination of low ETI and low ETW and the combination of high ETI and high ETW will be associated with better functioning. This hypothesis is based on previous findings that maintenance—orientation on the one hand and greater mental complexity on the other hand are associated with adaptive functioning in late life (e.g., Ebner et al., 2006; Ong & Bergeman, 2004).

METHODS

Participants and Procedure

Data were drawn from the Survey of Health, Ageing, and Retirement in Europe (SHARE; Börsch-Supan et al., 2008). The SHARE data include persons aged 50 years and older from a dozen countries (Austria, Belgium, Denmark, France, Germany, Greece, Israel, Italy, The Netherlands, Spain, Sweden, and Switzerland) and their spouses of any age. Based on probability samples of households in each participating country, SHARE represents the community-dwelling older population. In total, 31,115 persons were queried in the first wave of the SHARE project (2004–2006) by means of computer-assisted face-to-face interviews. Wave 1 of SHARE obtained an overall household response.
rate of 62%, ranging from approximately 40% in Belgium and Switzerland, to 81% in France. The average within household response rate (i.e., the ratio between the number of responding individuals and the number of eligible persons in these households) was 85% and ranged from more than 70% in Spain to more than 90% in Denmark, Belgium, France, and Greece.

The current analyses focused on respondents aged 50 years and older (excluding any younger spouses, n = 1,098). Respondents with missing values in at least one expectation item were also excluded (n = 2,330, but for more details, see Measures and Results). After excluding these respondents, the sample included 27,687 individuals (89% of the original interviewees).

**Measures**

Background characteristics included age, gender, and marital status. Education was recorded by classifying the participants into one of seven education levels according to the International Standard Classification of Educational Degrees (ISCED-97; United Nations Educational, Scientific and Cultural Organization, 1997): pre-primary education (0), primary education (1), lower secondary education (2), upper secondary education (3), post-secondary education (4), first tertiary education (5), and second-stage tertiary education (6). Gross household income was the annual household income (in Euro) adjusted for relative purchasing power parity within the participating SHARE countries and standardized by the household size square root to get the equivalent disposable income per standard person.

Expectations about standards of living were assessed by two questions from a block of 10 probabilistic questions regarding various expectations. These questions asked: “what are the chances that five years from now your standard of living will be better than today?” (expectation to improve; ETI) and “what are the chances that five years from now your standard of living will be worse than today?” (expectation to worsen; ETW). Respondents were asked to rate their answers on a scale ranging from 0 to 100 (for more information, see Litwin & Sapir, 2009; Winter, 2008).

Three major functional markers were assessed: medical conditions, depressive symptoms, and cognitive functioning. We outline the measures of these markers next.

Medical conditions were assessed by a sum of listed illnesses that participants reported to have been diagnosed by a physician. The illnesses consisted of heart disease (e.g., myocardial infarction, coronary thrombosis, or any other heart problem including congestive heart failure), high blood pressure, high cholesterol, stroke or cerebral vascular disease, diabetes or high blood sugar, chronic lung disease such as chronic bronchitis or emphysema, asthma, arthritis (including osteoarthritis or rheumatism), osteoporosis, cancer or malignant tumor (including leukemia or lymphoma, but excluding minor skin cancers), stomach or duodenal ulcer or peptic ulcer, Parkinson disease, cataracts, and hip fracture or femoral fracture (the possible range was 0–14; for similar measures of health problems, see Ben-Ezra & Shmotkin, 2006; Nybo et al., 2003).

Depressive symptoms were assessed by the European Depression scale (Euro-D, Prince et al., 1999). This scale contains 12 items that specify recent depressive symptoms (e.g., “In the last month, have you been sad or depressed?”), scored as either no (0) or yes (1, indicating presence of a symptom), unless phrased such that the positive answer indicates endorsing no symptom (e.g., “do you keep up your interests?”) and thus reverse coded. The score that entered the analysis was a sum of symptoms present, with a range of 0–12. Cronbach’s alpha coefficient for the Euro-D in the current study was 0.71 (for additional psychometric information on the Euro-D in the SHARE, see Ploubidis & Grundy, 2009).

Cognitive functioning was assessed in five domains: (a) time orientation was assessed by number of correct responses naming current year, month, day of the month, and day of the week; (b) verbal learning was assessed by number of words immediately recalled out of a 10-word list; (c) verbal recall was assessed by number of words recalled 5 min after immediate recall; (d) word fluency was assessed by number of correct animal names produced within 1 min; and (e) arithmetic ability was assessed by number of correct answers to four arithmetic questions (e.g., “if the chance of catching a disease is 10%, how many people out of 1,000 are expected to catch the disease?”). Following Ayalon and Litwin (2009), a composite score of all cognitive domains was calculated. The scores in each domain were standardized and then summed together, with a higher score representing better cognitive functioning.

**Data Analysis**

A series of hierarchical multiple linear regression analyses was used to examine the relationship between expectations and functioning, with background characteristics (age, gender, education, household income, and marital status) serving as covariates in the first step of the regression equation. In order to test our first hypothesis, ETW served as the dependent variable whereas ETI and the ETI × Age interaction were added as predictors in Step 2 and Step 3, respectively. In order to test our second hypothesis, the functional markers (medical conditions, depressive symptoms, and cognitive functioning) served as dependent variables, ETI and ETW were added as predictors in Step 2, and their interactions with age were added in Step 3. In order to test our third hypothesis, the functional markers served as dependent variables, ETI and ETW were added as predictors in Step 2, the two-way interactions (ETI × ETW, ETI × Age, and ETW × Age) were added in Step 3, and the three-way interaction (ETI × ETW × Age) was added in Step 4. Although we treated age as a continuous variable for hypotheses testing,
when the analyses showed significant interactions with age we divided the sample into middle-aged adults (50–64 years, \(n = 15,123\)), young–old (65–79 years, \(n = 10,186\)), and old–old (80+ years, \(n = 2,378\)) for descriptive purposes.

### RESULTS

**Preliminary Analyses**

Table 1 presents the descriptive statistics and correlations for the study variables.

Mean scores for both ETI and ETW were below 50% (26.69 and 40.03, respectively). ETI and ETW correlated weakly but significantly \((r = -.15, p < .0001)\). ETI showed a stronger correlation with age \((r = -.25, p < .0001)\) than did ETW \((r = -.02, p < .05)\). ETI and ETW significantly correlated with all functional markers and in most cases ETI showed stronger correlations than did ETW. In all cases, ETI was associated with better functioning (fewer medical conditions, fewer depressive symptoms, and higher cognitive functioning) and ETW was associated with worse functioning. These correlations were small, ranging between -.13 and .10.

Despite the small correlations found between expectations and functioning, the functional difference between the two extreme expectation groups was not negligible (cf. McGrath & Meyer, 2006). When the functioning of those whose ETI was 0% \((n = 10,324)\) was compared with those whose ETI was 100% \((n = 675)\), effect sizes ranged between small to medium (Cohen’s \(d = 0.43\) for medical conditions, 0.21 for depressive symptoms, and 0.40 for cognitive functioning). When the functioning of those whose ETW was 0% \((n = 6,053)\) was compared with those whose ETW was 100% \((n = 2,245)\), effect sizes were smaller (Cohen’s \(d = 0.10\) for medical conditions, 0.25 for depressive symptoms, and 0.02 for cognitive functioning). These effect sizes decreased somewhat after controlling for background characteristics (for ETI Cohen’s \(d\) ranged 0.06–0.17, and for ETW Cohen’s \(d\) ranged 0.00–0.27).

As there were 2,330 respondents who failed to rate at least one expectation item (and 1,891 of them failed to rate both expectation items), we found it informative to compare those who failed to rate at least one expectation item with those who rated both \((n = 27,687)\). The former were significantly older, \(t(30015) = 24.14, p < .0001\), included more women, \(\chi^2(1) = 40.12, p < .0001\), and more unmarried participants, \(\chi^2(1) = 162.43, p < .0001\), had less education, \(t(29697) = -22.22, p < .0001\), and a lower household income, \(t(30010) = -6.73, p < .0001\). After controlling for background characteristics, participants who failed to rate at least one expectation item reported more medical conditions, \(F(1, 29291) = 12.06, p < .0001, \eta^2_p = .001\), more depressive symptoms, \(F(1, 29034) = 53.76, p < .0001, \eta^2_p = .002\), and had a lower cognitive score, \(F(1, 29019) = 600.61, p < .0001, \eta^2_p = .20\), than those who rated both expectation items.

### Hypothesis 1: The Relationship Between Expectations as a Function of Age

The following analysis tested our first hypothesis, according to which ETI and ETW will become more independent of each other with increasing age. After controlling for the background characteristics and for the main effect of ETI \((\beta = -.24, p < .0001)\), ETI and age significantly interacted when predicting ETW \((\beta = .09, p < .0001)\). In order to interpret this interaction, the relationship between ETI and ETW was plotted separately for each age group, as presented in Figure 1. Figure 1 shows that in the older groups, the negative relationship between ETI and ETW is smaller, with this relationship disappearing completely in the old–old group.

### Hypothesis 2: Predicting Functional Markers by Examining Each Expectation as a Function of Age

Before testing our second hypothesis, we looked at the main effects of expectations on functioning. After controlling

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**Table 1. Means, Standard Deviations, and Correlations of the Study Variables**

| Variables                        | M   | SD  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. ETI                            | 26.69| 28.10|     |     |     |     |     |     |     |     |     |     |
| 2. ETW                            | 40.03| 32.10| −.15|     |     |     |     |     |     |     |     |     |
| 3. Medical conditions             | 1.52 | 1.43 | −.13| .03 |     |     |     |     |     |     |     |     |
| 4. Depressive symptoms            | 2.22 | 2.21 | −.08| .08 | .31 |     |     |     |     |     |     |     |
| 5. Cognitive functioning          | 0.00 | 4.72 | .10 | −.01| −.25| −.31|     |     |     |     |     |     |
| 6. Age                            | 64.44| 9.84 | −.25| −.02| .31 | .10 | −.41|     |     |     |     |     |
| 7. Gender                         | 1.54 | 0.49 | −.03| −.01| .07 | .20 | −.03| .00  |     |     |     |     |
| 8. Education                      | 2.55 | 1.52 | .04 | −.01| −.16| −.17| .53 | −.25| −.10|     |     |     |
| 9. Marital status                 | 1.73 | 0.43 | .06 | .00 | −.09| −.14| .13 | −.23| −.19| .06  |     |     |
| 10. Household income              | 41,887.20 | 50,172.56 | .00 | −.01| −.08| −.08| .19 | −.11| −.05| .20  | .19  |     |

**Notes:** \(N = 27,687\). Correlations higher than .00 are significant at the .05 level or below. ETI = expectation to improve; ETW = expectation to worsen.

\(a\) Standardized score.

\(b\) Coded 1 = man and 2 = woman.

\(c\) Coded by seven categories ranked from no schooling to graduate academic degree.

\(d\) Coded 1 = currently not married and 2 = married.
for the background characteristics, ETI and ETW significantly predicted medical conditions ($\beta = -0.03$, $p < .0001$, and $\beta = 0.03$, $p < .0001$, respectively) and depressive symptoms ($\beta = -0.02$, $p < .0001$, and $\beta = 0.08$, $p < .0001$, respectively), but only ETW predicted cognitive functioning ($\beta = 0.03$, $p < .0001$). After controlling for background characteristics and the main effects of ETI and ETW, ETI and ETW significantly interacted when predicting medical conditions ($\beta = -0.02$, $p < .0001$) and depressive symptoms ($\beta = -0.03$, $p < .0001$), but not when predicting cognitive functioning ($\beta = -0.00$, not significant). These interactions showed that the higher the ETI was, the lower was the effect of ETW on functioning.

The following analyses tested the second hypothesis, according to which ETI will be less associated, whereas ETW will be more associated, with functioning with increasing age. After controlling for the background characteristics and the main effects of ETI and ETW, ETI significantly interacted with age when predicting medical conditions ($\beta = 0.01$, $p < .05$) and depressive symptoms ($\beta = 0.02$, $p < .05$), but not when predicting cognitive functioning ($\beta = -0.00$, not significant). ETW significantly interacted with age only when predicting medical conditions ($\beta = 0.01$, $p < .05$), but not when predicting depressive symptoms or cognitive functioning ($\beta = 0.00$ and $0.00$, not significant, respectively). The direction of all the significant interactions showed that the older the participants were, the smaller was the effect of ETI on functioning and the larger was the effect of ETW on functioning.

Table 2. Hierarchical Regression Predicting Functional Markers by Expectations and Age

<table>
<thead>
<tr>
<th>Variables</th>
<th>Medical conditions</th>
<th>Depressive symptoms</th>
<th>Cognitive functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>$-0.14$</td>
<td>$-0.19$</td>
<td>$-0.19$</td>
</tr>
<tr>
<td>Age</td>
<td>$0.28$ ***</td>
<td>$0.05$ ***</td>
<td>$-0.27$ ***</td>
</tr>
<tr>
<td>Gender $^a$</td>
<td>$0.11$ ****</td>
<td>$0.34$ ***</td>
<td>$0.04$ ***</td>
</tr>
<tr>
<td>Education $^b$</td>
<td>$-0.08$ ***</td>
<td>$-0.13$ ***</td>
<td>$0.03$ ***</td>
</tr>
<tr>
<td>Marital status $^c$</td>
<td>$-0.01$</td>
<td>$-0.19$ ***</td>
<td>$0.06$ ***</td>
</tr>
<tr>
<td>ETI</td>
<td>$-0.03$ ***</td>
<td>$-0.02$ ***</td>
<td>$-0.02$ ***</td>
</tr>
<tr>
<td>ETW</td>
<td>$0.03$ ***</td>
<td>$0.08$ ***</td>
<td>$0.00$ **</td>
</tr>
<tr>
<td>ETI $\times$ ETW</td>
<td>$-0.02$ ***</td>
<td>$-0.03$ ***</td>
<td>$-0.00$</td>
</tr>
<tr>
<td>ETI $\times$ Age</td>
<td>$0.01$ *</td>
<td>$0.02$ ***</td>
<td>$-0.00$</td>
</tr>
<tr>
<td>ETW $\times$ Age</td>
<td>$0.01$ *</td>
<td>$0.00$</td>
<td>$-0.00$</td>
</tr>
<tr>
<td>ETI $\times$ ETW $\times$ Age</td>
<td>$-0.01$ *</td>
<td>$-0.01$ *</td>
<td>$0.02$ *</td>
</tr>
</tbody>
</table>

$R^2 = 0.115$, $F(11, 27156) = 320.14$; $R^2 = 0.088$, $F(11, 27162) = 236.91$; $R^2 = 0.366$, $F(11, 27142) = 1422.35$.

Notes: Reported are results after a list-wise deletion of missing data. All continuous variables were standardized. Only additional variables are shown in the results of steps 2–4. ETI = expectation to improve; ETW = expectation to worsen.

$^a$ Coded as 1 = man and 2 = woman.

$^b$ Coded by seven categories ranked from no schooling to graduate academic degree.

$^c$ Coded 1 = currently not married and 2 = married.

$p < .05$; $**p < .001$; $***p < .0001$. 

Hypothesis 3: Predicting Functional Markers Through Both Expectations as a Function of Age

The following analyses tested the third hypothesis, according to which with increasing age both the combination of low ETI and low ETW and the combination of high ETI and high ETW will be associated with better functioning. Table 2 presents the results of the analyses in which the functional markers were regressed on both expectations as a function of age.

After controlling for the background characteristics, the main effects of ETI and ETW, and the three 2-way interactions between expectations and age, there was a significant three-way interaction effect of ETI, ETW, and age on all three functional markers (medical conditions: $\beta = -0.01$, $p < .05$; depressive symptoms: $\beta = -0.01$, $p < .05$; and cognitive...
functioning: $b = .02, p < .001$). Plotting the interactions separately for each age group revealed that the older the participants were, the stronger were the interaction effects of ETI and ETW on functioning. Figure 2 presents the three-way interaction effects for medical conditions.

As can be seen in Figure 2, among middle-aged adults (age 50–64), ETI was negatively related to medical conditions regardless of ETW level. However, in the young-old group (age 65–79), the negative relationship between ETI and medical conditions was especially strong when ETW was high. Therefore, whereas those who were high on ETW reported the most medical conditions when ETI was low, those who were high on ETI reported the least medical conditions when ETI was high. This trend was even more pronounced in the old-old group (age 80+). Similar three-way interactions were found for depressive symptoms and cognitive functioning.

Supplementary Analyses: Between-Country Comparisons

Although between-country comparisons were not the focus of the current study, it is important to determine whether the relationship between expectation for higher or lower standards of living and functioning changed as a function of objective economic circumstances. Therefore, we ran a series of multilevel models (e.g., Peugh & Enders, 2005) that included one Level 1 (i.e., respondent-level) variable (ETI or ETW), five Level 1 covariates (age, gender, education, marital status, and gross household income), and one Level 2 (i.e., country-level) variable (mean gross household income in each country). We added a cross-level interaction between ETI or ETW and the country’s mean income. The final model was parameterized as:

$$Y_{ij} = \gamma_{00} + \gamma_{01}(\text{country income}_j) + \gamma_{10}(\text{ETI/ETW}_{ij}) + \gamma_{11}(\text{country income}_j \times \text{ETI/ETW}_{ij}) + u_{0j} + u_{1j}(\text{ETI/ETW}_{ij}) + r_{ij}$$

In this model, the functioning of a respondent $i$ (medical conditions, depressive symptoms, or cognitive functioning) was calculated as a function of the average income level of the respondent’s country ($\gamma_{01}$), the respondent’s ETI or ETW score ($\gamma_{10}$), an interaction between the two ($\gamma_{11}$), a country-specific deviation ($u_{0j}$), a respondent’s deviation unique to country $j$ ($u_{1j}$), and a residual ($r_{ij}$). There were three dependent variables (medical conditions, depressive symptoms, and cognitive functioning), and each expectation was run separately. Thus, a total of six models were analyzed.

The interaction term was significant in all three models that examined ETI (medical conditions: $\gamma_{11} = .0003, p < .0001$; depressive symptoms: $\gamma_{11} = .0014, p = .001$; and cognitive functioning: $\gamma_{11} = -.0026, p < .0001$), and significant in two models that examined ETW (medical conditions: $\gamma_{11} = -.0002, p < .01$; depressive symptoms: $\gamma_{11} = -.0012, p < .0001$). In the third model that examined ETW, the interaction term was marginally significant (cognitive functioning: $\gamma_{11} = .0012, p = .06$).

When plotting these interactions according to the steps suggested by Aiken and West (1991), a consistent trend emerged: in countries with income level that was 1 SD below the mean of all countries, the relationship between expectations (whether ETI or ETW) and functioning was the strongest. Therefore, expectations regarding standards of living were especially relevant to functioning when the objective economic status was less favorable (as in Greece, Israel, Italy, and Spain). The relationship between expectations and functioning was weaker when objective economic status was more favorable (as in Belgium, France, the Netherlands, and Switzerland).

Discussion

The present study demonstrated age group differences in the expectation–functioning relationship across the second half of life. The correlations between expectations and functioning were small, yet additional analyses showed that the functional difference between individuals at opposing ends of the expectation continua was not negligible. The interaction effects further showed that the relationship between
It has been argued that acknowledging and accepting inconsistency, ambivalence, and relativity may assist the individual in adapting to intrapsychic and interpersonal complex situations that one commonly encounters during the aging process (Charles & Carstensen, 2009; Lomranz, 1998). Similarly, research on stress suggests that a dialectical activation of both positive and negative cognitions and emotions may help in combating adverse conditions, such as chronic or acute illness (Larsen et al., 2003; Reich et al., 2003). Specifically related to expectations, acknowledging realistic age-related decline, but at the same time holding optimistic beliefs (probably regarding other domains), may reflect an adaptive “cautious optimism strategy” (Wallston, 1994). Thus, similar to our findings, Benyamini (2005) showed that old people who suffered from arthritis and who rated themselves high on both optimism and pessimism reported significantly greater use of pain-coping strategies. The co-occurrence of two contradicting expectations, hoped-for and feared selves in the same domain, was also found to be adaptive in the possible-selves literature (Frazier & Hooker, 2006). In later life, it might be especially important to maintain a realistic equilibrium between what one hopes to achieve and what one fears of becoming.

It should be added that our findings refer to individuals whose functioning level might be better than the average, as those whose functioning was worst did not rate their expectations at all. The majority of the nonraters rated neither expectation, possibly signaling a more general avoidance of the future. A failure to explicitly address one’s future could be interpreted not only as an unsettled anxiety of confronting one’s aging and approaching death but also as an adaptive reaction of older people to avoid pondering on a threatening future. In accordance with previous findings (Palgi & Shmotkin, 2010; Shmotkin, 1992), those who failed to report their expectations also reported the worst functioning. Therefore, it is possible that failing to address future standards of living is an informative marker for imminent deterioration in vital domains and a possible form of psychological exhaustion.

Our supplementary between-country comparisons show that the relationship between expectations and functioning is stronger in countries with lower objective economic status. This finding attests to the importance of the sociopolitical context of aging when examining the effect of expectations regarding one’s standards of living.

Some methodological limitations should be acknowledged. First, the current study relies on cross-sectional rather than on longitudinal data, and therefore it cannot establish a causal relationship between expectations and functioning. However, it should be noted that abundant evidence suggests that there is an intricate bi-directional relationship between people’s evaluations (Carmel, Baron-Epel, & Shemy, 2007) and expectations (Rasmussen et al., 2009; Sarkisian et al., 2002) on the one hand, and their functioning on the other hand. Although the bi-directional paths between expectations and functioning have been discussed.
before, the specific effect of expectations on functioning deserves special attention from the viewpoint of self-adaptation and development (e.g., Levy, 2003). Second, due to our cross-sectional design, age-related and cohort-related effects could not be separated. Accordingly, most of the participants in the old-old group had gone through the Great Depression. They, as well as most of the young-old participants, underwent World War II. Most of the middle-aged adults were born after World War II. Lifetime adversity, which is substantially rooted in historical circumstances, may be positively related to cognitive and emotional complexity (e.g., Lomranz, 1998). It remains to be established whether the high expectation complexity found here for the oldest participants reflects age-related or cohort-related effects (or a combination of these two). Third, the probabilistic expectations used in the SHARE survey were probed in a context of economics-related questions, even though their meaning was fairly general in nature. Further research is required in order to focus on expectations regarding specific life domains and aging (as in Sarkisian et al., 2002). It is especially relevant to study expectations regarding physical (Frazier & Hooker, 2006) and cognitive functioning (cf. Lachman, 2006).

In conclusion, the current study shows that the relationship between expectations and functioning varies across different age groups in the second half of life. The results demonstrate that within the oldest age group, negative expectations are gradually disentangled from positive expectations, they are more relevant to functioning than are positive expectations (though the relationship between negative expectations and functioning is small), and are more significant in regulating the relationship between positive expectations and functioning.

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