

# Chapter 19

## The Dynamic Relationship Between Wealth and Subjective Well-Being Among Mid-Life and Older Adults in Israel



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### 19.1 Introduction

Researchers generally agree that subjective well-being (SWB) tends to be higher among people with abundant economic resources as compared to people with limited economic resources (e.g., Brown and Gray 2016; Diener and Biswas-Diener 2002; Headey and Wooden 2004; Hansen et al. 2008; Plagnol 2011). Although the literature on the relationship between economic standing and SWB has become substantial, only a limited number of studies, to date, have focused on this relationship in mid-life and old age (for notable exceptions, see Hansen et al. 2008; Pinquart and Sörensen 2000; Plagnol 2011; Weidekamp-Maicher and Naegele 2007). And while the overwhelming majority of studies on the issue were conducted within a cross-sectional research design, only very few studies, as far as we know, have addressed the wealth-SWB relationship from a longitudinal perspective, taking into account the dynamics of household wealth and life transition events over time.

The relationship between economic resources and SWB becomes more complex in mid- and later life. By this stage of the life course, economic resources and assets have been accumulated, but households and individuals are faced with a growing risk of wealth depletion due to declining earnings, extended longevity and unexpected out-of-pocket medical expenses (Jivraj et al. 2014; Lee and Kim 2003). The goal of the present research therefore is to contribute to the growing literature on the association between economic resources and SWB in several ways. First,

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415

we focus on individuals in mid-life and old age. Second, we examine the wealth-SWB relationship within a dynamic framework over a period of more than 10 years. Third, we distinguish between variation in wealth within-households and variation between-households; and fourth, we address the consequences for SWB of “over-indebtedness” irrespective of household wealth.

For the purpose of the empirical analysis reported here, we utilize the SHARE (Survey of Health, Ageing and Retirement in Europe) for Israel, which contains rich information on both household wealth and SWB for respondents aged 50 and above in four consecutive waves from 2005 to 2015. In the following sections, we first review previous research on the relationship between economic standing and SWB, focusing on this relationship among older adults. Second, we review the major concepts of SWB and then the measured indicators of economic standing used in the literature. Third, we discuss the data and measurements of the variables that are used in the present analysis. Fourth, we provide a descriptive overview of the data and the results from the multilevel linear regression analysis. Finally, in the last section, we discuss the findings and their meanings and implications in light of previous research.

## 19.2 The Relationship Between Households’ Economic Standing and SWB

The relationship between economic standing and SWB has received considerable scholarly attention. Most studies on the topic have examined the association between income and well-being using several alternative measured indicators of SWB. For example, a series of cross-national studies reveal that people living in poor nations tend to report lower happiness than residents of rich and economically developed countries (Diener et al. 1995). In addition, a large number of country-specific studies (i.e., each of which is carried out within a single country) have found that individuals with a high-income level are more likely to express high SWB than individuals with low income (e.g., Biswas-Diener and Diener 2001; Blanchflower and Oswald 2004; Kasser 2000). These findings, indeed, lead to the conclusion that SWB is likely to increase with income level. The positive association between SWB and economic resources, however, is not linear. In general, a diminishing marginal effect has been observed as income increases (e.g., Diener and Biswas-Diener 2002; Diener and Oishi 2000; Kahneman and Deaton 2010; Lucas and Schimmack 2009). Studies have also found that personality factors and socio-demographic attributes such as age, gender, marital status and physical health, as well as widowhood and retirement, have a mediating effect on the income-SWB relationship (Dolan et al. 2008; Lucas et al. 2004; Pinquart and Schindler 2007; Shmotkin 1990).

Similar to the findings observed for the general population, researchers that focused on the older population observed a positive association between one’s socioeconomic status and quality of life, life satisfaction and self-esteem as well as happiness (Pinquart and Sörensen 2000; Weidekamp-Maicher and Naegelé 2007)

with happiness defined as “the degree to which an individual judges the overall quality of his life-as-a-whole favorably” (Veenhoven 1984; p. 22). However, there are some variations in the association between socioeconomic standing and SWB. For example, in general, the positive associations between various indicators of SWB and economic standing were found to be stronger among males than among females and among ‘younger-old’ than among ‘older-old’ individuals, irrespective of the indicators used to measure SWB and economic standing. Interestingly, the variance of SWB among older adults that is explained by income was found to be very small (3.2–4.4%). Two main explanations for this finding have been offered in the literature. First, older adults tend to adjust their needs and financial aspirations downward to meet their decreasing material resources (George 1992). Second, at older age, health (more than income) seems to be the most central attribute that influences quality of life, happiness and life satisfaction (Deaton 2008; Graham 2008; Michalos et al. 2001).

The body of research that has focused on the association between household wealth and SWB is considerably smaller than the body of research that has examined the relationship between income and SWB. This is largely due to the fact that information on household wealth is more difficult to obtain. Yet there are several reasons to believe that wealth is an important determinant of standard of living, sense of economic security and general life chances, especially in old age (Headey and Wooden 2004; Semyonov and Lewin-Epstein 2011; Spilerman 2000). In general, the findings of the studies on the wealth-SWB relationship have demonstrated that greater wealth leads to higher SWB. Some studies have also demonstrated that the effect of wealth is stronger than the effect of income (Brown and Gray 2016; Hansen et al. 2008; Headey and Wooden 2004; Hochman and Skopek 2013; Maskileyson et al. 2014; Plagnol 2011). It should be noted, however, that the magnitude of the association between wealth and SWB may depend upon the welfare regime and the degree of social support (including type of pension system) provided by the state (Hochman and Skopek 2013).

It is also important to note that in light of the expansion of the consumer credit culture in the Western world, researchers have begun focusing recently on household debt and its potential impact on SWB (Brown et al. 2005; Bridges and Disney 2010; Keese and Schmitz 2014; Richardson et al. 2013). Following the “democratization” and “normalization” of debt in Western countries, older adults have also begun using credit for several reasons such as insufficient retirement funds and replacement rates, intergenerational transfers and out-of-pocket medical expenses (Lewin-Epstein and Raviv 2016; Thorne et al. 2009; Penaloza and Barnhart 2011). Concurrently, a growing number of studies suggest that household assets and debt should be considered separately when studying wealth and its impact on SWB (Brown and Gray 2016; Plagnol 2011; Hansen et al. 2008; Hochman and Skopek 2013). These studies reveal that higher levels of debt are likely to lead to depression and other mental disorders. Specifically, the presence of household debt (either mortgages or consumer credit) is likely to lead to increasing stress, feelings of concern as well as depressive symptoms (Dew and Yorgason 2010; Olson-Garriott et al. 2015;

Plagnol 2011). Focusing on older adults, Plagnol (2011) revealed that increased life satisfaction is partly explained by decreased liabilities and greater financial assets. In other words, older adults feel a sense of relief in the case of absence of debt or when they have low amounts of debt and higher liquid assets that are immediately available for consumption.

To date, only a very few studies have focused on the relationship between economic resources and SWB from a longitudinal perspective (e.g., Barrett and O’Sullivan 2014; Deaton 2012; Diener et al. 2013). These dynamic studies generally indicate that household material resources are associated with mixed trajectories of SWB. Most studies of the issue did not use micro-level indicators such as household income and wealth to measure household economic standing. Rather, they based their analyses on changes in macro-level indicators such as GDP per capita or average aggregated household wealth over time. For example, Diener et al. (2013) showed that rising aggregated household income is associated with an increase in life evaluation and positive feelings, and with less negative feelings over time. In fact, trajectories of SWB were found to be dependent upon the mediating effect of optimism, financial satisfaction, and personal sense of material prosperity. The present study aims to contribute to this body of research by focusing on micro-level processes. To do so, we study the dynamic relations between SWB and household wealth among the mid-life and old age population, using a longitudinal (rather than cross-sectional) research design. This will provide a fuller and more nuanced understanding of the impact of changing economic resources on SWB during a phase in life when many transitions are experienced in a variety of life domains.

### 19.3 Measured Indicators of SWB

In general, there are two major approaches to identifying SWB: the “hedonic approach” and the “eudaimonic approach.” The “hedonic approach” operates under the premise that the highest level of well-being can be achieved by maximizing pleasurable experiences and minimizing suffering (Vanhoutte 2012; p. 3). This approach consists of a cognitive dimension and affective dimensions of well-being; the cognitive dimension is represented by life satisfaction—a holistic evaluation in which individuals judge their lives (Arrindell et al. 1991; Diener et al. 1985; Pavot and Diener 1993). The affective dimensions are represented by positive affects (PA) and negative affects (NA), such as moods and emotions<sup>1</sup> (Diener 1984).

<sup>1</sup>One of the measured indicators for life satisfaction is SWLS (Satisfaction with Life Scale) which was developed in order to represent a cognitive-judgmental process for the overall assessment of life. The affective aspect of well-being is usually measured by PANAS (Positive Affect Negative Affect Scale) for both PA and NA or by CES-D (Center for Epidemiologic Studies Depression Scale) and GHQ (General Health Questionnaire) for NA only.

Unlike the “hedonic approach” (which is based on the cognitive and affective dimensions of well-being and deals with an overall assessment of life, maximizing pleasure and minimizing suffering), the “eudaimonic approach” is associated with self-actualization, personal growth and quality of life. This approach is identified with the “highest” level in Maslow’s needs-based hierarchy (Maslow 1954); that is, the “eudaimonic approach” focuses on self-realization, positive functioning and personal expressiveness (Vanhoutte 2012; p. 6). This approach is often operationalized by using “Quality of Life” measured indicators, among which the CASP-12<sup>2</sup> scale is the preferred instrument for measuring quality of life of older adults (Hyde et al. 2003; Wiggins et al. 2008).

It is noteworthy that because there are two different approaches to and numerous aspects of the conceptualization of SWB, the indicators employed in the body of research on the issue are quite diverse. Although these indicators have been found to have both strengths and weaknesses in terms of methodology, validity and comparability (Brulé and Maggino 2017; Kahneman and Deaton 2010; Kahneman and Thaler 2006), they have also been found to be quite strongly correlated with each other (Clark et al. 2015). Hence, the choice of the ‘right’ indicator in a specific study as a measure of SWB is dependent on the focus of the research and the pragmatic approach adopted in the study (Carver et al. 1999).

For the present study, which focuses on the wealth-SWB relationship among mid-life and older individuals, the CASP scale seems to have several advantages: First, the scale is comprised of four conceptual domains of individual needs that are particularly relevant for later life: (C)ontrol, (A)utonomy, (S)elf-Realization and (P)leasure (Hyde et al. 2003; Von demKnesebeck et al. 2007). Second, the CASP scale encompasses a holistic representation of both the hedonic (in the “Pleasure” subscales) and the eudaimonic (in the Control, Autonomy and Self-Realization subscales) approaches to well-being. An additional advantage of the CASP scale is that it takes into account material aspects of well-being in its (A)utonomy subscale (see Appendix A for a list of the CASP questions). We will therefore be using the CASP scale as a measure of SWB in the analysis that follows.

## 19.4 Measured Indicators of Economic Standing in Mid-Life and Old Age

Researchers that have focused on the relationship between material resources and SWB have relied on several measured indicators to capture the economic standing of individuals and their households. The indicators used were based either on income, wealth (or wealth-related variables such as housing, savings and debt), or socioeconomic status (SES), including level of education and occupational class (Howell and Howell 2008). In a meta-analysis integrating findings from 111

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<sup>2</sup>CASP –Control, Autonomy, Self-Realization and Pleasure.

independent samples from 54 developing countries, Howell and Howell (2008) demonstrated that the choice of a distinct economic indicator(s) used in a particular study is critical for understanding the ways that economic resources are related to SWB. Among other things, the authors found that the stock of wealth, as an indicator of material resources, is more consequential for SWB than the flow of income.

We contend that with respect to persons in mid-life and the old-age population—persons who are retired and out of the labor market—the standard measures of socioeconomic position, such as education, occupational status and household income, are less appropriate indicators of economic standing than wealth (Grundy and Holt 2001; O'Reilly 2002). This is so because the income flows of older adults are less dependent on labor market activity and more on public and intergenerational transfers, including inheritance and housing equity (Brown et al. 2005; Semyonov and Lewin-Epstein 2013). Indeed, there are several advantages to relying on wealth as a proxy for economic standing when the focus is on mid-life and old-age populations. First, individuals in mid- and later life have had the opportunity to accumulate assets, but their income flows are more varied than in earlier life stages (Hochman and Skopek 2013).

According to the cumulative advantage tradition in gerontology, accumulated advantages (including wealth) in earlier stages in the life course may have an enduring effect on households at later stages, leading to increasing inequality among late-life households (Dannefer 2003; DiPrete and Eirich 2006). Second, persons at mid-life and old age experience a variety of trajectories of wealth (Crystal 2016; Ferraro and Shippee 2009), including a growing risk of wealth depletion due to extended longevity and life-course transitions in the work, marital and health domains (Jivraj et al. 2014; Lee and Kim 2003). Lastly, in view of the growing tendency of the older population to use credit in order to maintain desired standards of living, we expand the perspective on economic resources to include household debt as another predictor of SWB (Lewin-Epstein and Raviv 2016; Thorne et al. 2009; Penaloza and Barnhart 2011).

In light of the scarcity of longitudinal studies on the wealth-SWB relationship, in the present chapter we examine the impact of wealth on SWB among mid-life and older adults in Israel (across a period of 11 years), in order to contribute to a better understanding of the wealth-SWB relationship in a period of major life-course transitions. We expect SWB to be positively affected by over-time within-households increasing levels of wealth and negatively affected by over-time within-households decreasing levels of wealth. Moreover, we expect a between-households increasing trajectory (accumulation) of wealth to have a positive effect on SWB over time, and that SWB will be negatively affected by a between-households decreasing trajectory (depletion) of wealth over time. We also expect “over-indebtedness” to negatively affect SWB. Lastly, we expect to find variation in the wealth-SWB relationship among households with different socio-demographic characteristics.

## 19.5 Data and Variables

### 19.5.1 Data

Data from the Survey of Health, Ageing and Retirement in Europe (SHARE)<sup>3</sup> were used in order to answer the research questions and to test the hypotheses that were advanced in the previous section. Respondents are individuals living in households with persons aged 50 and above in Israel (Börsch-Supan et al. 2013). Data were collected using face-to-face interviews and a computer-based questionnaire. Household data includes monetary variables such as income, assets and household debt. Additionally, data were collected on individuals' employment situation, marital status, self-reported health conditions, and other subjective well-being measures, including CASP of all household members (Mehrbrodt et al. 2017). The basic sample of the Israeli segment of SHARE includes 2503 households (6486 individuals) in four consecutive waves, covering 11 years starting in 2005/6 with three subsequent waves in 2009/2010, 2013 and 2015.

The unit of analysis in the study is the individual. In order to capture the dynamics of SWB on one hand and the dynamic of wealth on the other hand, a baseline "cover-screen" respondent<sup>4</sup> was chosen from each household as the household's "representative" across all waves (herewith: "the respondent"). In addition to that individual's own characteristics, household-level information was also attributed to him or her. The decision rule for inclusion in the analysis consisted of two cumulative conditions: first, a household needed to participate in the first wave of the survey; and second, a household needed to participate in at least three waves (not necessarily consecutive). In the framework of these conditions, households whose representative respondents died during the sample period were excluded from the analysis. Ultimately, the database included 1063 respondents from a similar number of households, of which 65% (687 households)

<sup>3</sup>This chapter uses data from SHARE Waves 1, 2, 5 and 6 (DOIs: <https://doi.org/10.6103/SHARE.w1.600>, <https://doi.org/10.6103/SHARE.w2.600>, <https://doi.org/10.6103/SHARE.w5.600>, <https://doi.org/10.6103/SHARE.w6.600>), see Börsch-Supan et al. (2013) for methodological details. The SHARE data collection has been primarily funded by the European Commission through FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812) and FP7 (SHARE-PREP: N°211909, SHARE-LEAP: N°227822, SHARE M4: N°261982). Additional funding from the German Ministry of Education and Research, the Max Planck Society for the Advancement of Science, the U.S. National Institute on Aging (U01\_AG09740-13S2, P01\_AG005842, P01\_AG08291, P30\_AG12815, R21\_AG025169, Y1-AG-4553-01, IAG\_BSR06-11, OGHA\_04-064, HHSN271201300071C) and from various national funding sources is gratefully acknowledged (see [www.share-project.org](http://www.share-project.org)).

<sup>4</sup>At the beginning of an interview, one respondent per household was asked to answer the cover-screen module (cv), which contains basic questions referring to the household as a whole. For the purpose of this study, the "cover-screen" respondent of the baseline (W1) interview, its SWB and other individual-level characteristics are consistently related to him/her across all waves.



were interviewed in all four waves and 35% (376 households) were interviewed in three waves only (for a map of household participation patterns across the waves, see [Appendix B](#)).

### 19.5.2 Variables

The CASP scale is used as our measured indicator of *SWB*. Each one of the conceptual domains of the CASP scale is represented by three questions scored from 1 (often), 2 (sometimes), 3 (rarely), to 4 (never). The following reliability scores were obtained for the 12 items in the Israeli sample: W1:  $\alpha = 0.74$ ; W2:  $\alpha = 0.86$ ; W3:  $\alpha = 0.76$ ; W4:  $\alpha = 0.73$ .<sup>5</sup> Subsequently, the total CASP score ranges from 12 to 48, with a higher score indicating higher *SWB*. The score deployed in the descriptive analysis was generated as the average scores of all 12 answers, resulting in values ranging between 1 and 4 (Amit and Litwin 2010).

For the current analysis, monetary data and wealth were based on household-level data and socio-demographic attributes are based on individual-level data. *Wealth* is the primary independent variable in the analysis.<sup>6</sup> It represents household net-worth at each wave and is calculated as the sum of financial and real assets after subtracting household debt. As a time-varying variable, the value of this variable represents the within-household net changes in stock of material resources across waves. Because of a multicollinearity problem between household wealth and income, the data on household income (deriving from all sources of income at the household level) were not included in the multilevel analysis.

*Trajectory of wealth* is the second primary independent variable, a time-invariant variable which reflects an a posteriori total change in household wealth from the first to the last wave. This variable assigned three categories: a trajectory of increasing wealth, representing an accumulation of at least 45% in household wealth as compared to the baseline wave (coded as 1); a trajectory of decreasing wealth, representing a depletion of at least 45% of household wealth compared to the baseline wave (coded as 2); and a trajectory of stable wealth, representing less than a 45% change (either increase or decrease) in wealth, as compared to the baseline wave<sup>7</sup> (serving as the reference group and coded 0). While the *wealth* variable takes

<sup>5</sup>For reliability scores provided for CASP-12 for the SHARE-Israel see also Damri and Litwin 2016.

<sup>6</sup>In order to solve the problem of non-response to the monetary measures, missing data were imputed. For the imputation procedures (see Christelis et al. 2005). In the case of income, wealth and debt, we used the first estimated value out of the five imputations that were provided by the SHARE team.

<sup>7</sup>A 45% change in the amount of wealth was chosen as a cutoff in order to achieve a minimum number of households in each category. This cutoff should be considered in the context of the increase in housing prices in Israel during the survey period (73%) and the proportion of housing in the assets portfolio of Israeli households (51%) (CBS 2016; Bank of Israel 2017).



into account within-households time-varying change in level of wealth from one wave to another, the *trajectories of wealth* capture the between-households long-term change in wealth from the first to the last wave. Therefore, in contrast to the *wealth* variable, the generated categories of *trajectory of wealth* “ignore” short-term fluctuations in household wealth that may occur between specific waves.

“*Over-indebtedness*” is a time-varying measure of a precarious situation captured by a binary variable indicating whether a household is above (coded 1) or below (coded 0) a certain proportion of debt to assets. The threshold is 10% of mortgage debt in the case of real assets or 6% of consumer credit in the case of financial assets. These percentages were taken from the average proportion of household indebtedness characterizing the aggregated balance sheet of Israeli households in 2015 (Bank of Israel 2017).

In addition to the monetary variables, the mediating effects of individual differences in socio-demographic characteristics and life-course transitions were included in the analysis. *Age* was included because studies of the older population reveal higher levels of SWB in older cohorts than in younger cohorts. Older adults are characterized by a peak of SWB at the range between 60 and 70 years old, followed by a decline thereafter and a faster deterioration among older cohorts (e.g., Carstensen et al. 2000; Jivraj et al. 2014; Mroczek and Spiro 2005). In addition, because highly educated individuals were found to have better access to paid work and material resources, resulting in an increased sense of control over life (Ross and Van Willigen 1997), a three-category measure of *Education level* was added to the analysis. Based on the ISCED97 scale and on the education level of the respondents, the following categories were added: holding an elementary education (coded 1); holding a secondary education (including non-academic and post-secondary education, coded 0 and serving as the reference category); and holding an academic education (coded 2).

*Health condition* is a variable composed of three categories based on the number of chronic illnesses and level of limitation in daily activities of each respondent in the sample. The three categories are: healthy (the reference group, coded 0), which is represented by a maximum of one chronic illness and no limitations in activities of daily living (ADL), i.e., mainly maintenance of self-care, nor in instrumental activities of daily living (IADL), i.e., managing more complex tasks such as shopping and managing finance and medications; mild health condition (coded 1), which is represented by a range of 2–4 chronic illnesses together with a mild level of limitations in ADL or IADL; and severe illness and disability (coded 2), which is represented by at least five chronic illnesses together with severe limitations in ADL or IADL.

Two additional variables were used as indicators of health conditions: “*Transition*” to mild health condition and “*Transition*” to severe health condition. These binary variables represent the onset of illness and limitations or the exacerbation of a former health condition, respectively. These two variables were coded 1 (experiencing any transition from one health condition to another) and 0 (no change in health condition). A Change in household type is captured by “*Transition*” to a lone male-household or “*Transition*” to a lone female-household. These variables

are included in the analysis as a control, mainly because widowhood (coded 1 for experiencing this transition and 0 for not) is likely to impact SWB. In addition, we included in the analyses two variables representing retirement status: *Retired* was defined according to the job situation reported by the respondent; coded 1 for retirement and 0 for work or unemployment. Concurrently, “*Transition*” to retirement was defined as a shift from work and unemployment to retirement during the period (coded 1 for experiencing this transition and 0 for no change in job situation from the first to the last wave). Table 19.1 displays the mean values (and standard deviation) of the CASP scores and the definitions and mean values (standard deviation) of the variables that are utilized as predictors of change in SWB over time.

## 19.6 Analysis and Findings

### 19.6.1 Descriptive Findings

In Table 19.2 we present descriptive statistics for three categories of the population according to trajectories of household wealth over the years (i.e., decrease in wealth, stable wealth and increase in wealth). Whereas the decreasing and increasing trajectories of wealth are of primary interest, the stable wealth trajectory serves us as a point of reference for the other two groups. Based on Tables 19.2, 23% of households in the sample had a stable trajectory of wealth and 17% experienced resource depletion. Interestingly, 60% of households in mid-life and old age experienced an increase of wealth over the period. We believe that much of the rise in wealth can be attributed to the rise in housing prices. Additionally, Table 19.2 includes mean CASP scores (ranging from 1 to 4), average wealth and income, proportion of “over-indebtedness” and proportions of socio-demographic and health characteristics of respondents.

All three categories of wealth trajectories share a convex trend in CASP scores across the waves, with the highest scores at wave two and lowest scores at the final wave. However, the decreasing wealth category had the lowest CASP scores, significantly lower than the other two categories. More specifically, the baseline score of the decreasing wealth category is 2.86 in comparison to 3.00 and 2.96 points for the stable and increasing categories, respectively ( $F(2;833) = 3.52, p < 0.05$ ). At the last wave of the survey, the decreasing wealth category shows a score of 2.70, still considerably lower than the other two categories ( $F(2;833) = 7.71, p < 0.001$ ).

In terms of wealth, the decreasing and stable wealth categories reveal similar levels of average wealth at the base line of €440,604.50 and €411,616.40, respectively, in comparison to €213,127.50 in the increasing wealth category. This considerable

**Table 19.1** Definitions and distributions of the variables included in the analysis<sup>a</sup>

Variables		Mean /Proportion	SD	Level of Data <sup>b</sup>
Subjective well-being (CASP-12):	Average scores (range of 1-4)			Individual
	W1 (baseline)	2.95	0.47	
	W2	3.04	0.46	
	W3	2.97	0.44	
	W4	2.94	0.43	
Wealth <sup>c</sup>	Net-worth, Sum of real and financial assets minus debts	€ 309,160.60	€ 358,090.30	Household
Trajectories of wealth	Three categories reflecting long-term patterns of changes in household wealth			Household
	Stable Trajectory of wealth	0.23		
	Increasing trajectory of wealth	0.60		
	Decreasing trajectory of wealth	0.17		
Income <sup>c</sup>	Household annual income from all available sources	€ 44,561.45	€ 53,653.66	Household
"Over-indebtedness"	Indicating whether a household is above a certain threshold of debt to assets ratio	0.29		Household
Age at baseline	in years	63.31	9.26	Individual
Education level	Based on ISCED 1997:			Individual
	Elementary	0.39		
	Secondary	0.36		
	Academic	0.25		
Household Type	Family formation of the household:			Household
	Couple	0.76		
	Lone-male	0.05		
	Lone-female	0.19		
Retired	Reported as a retiree	0.38		Individual
Health condition	A generated variable based on the number of chronic illnesses, ADL and IADL limitations			Individual
	Healthy	0.48		
	Mild illness & disability	0.43		
	Severe illness & disability	0.09		
"Transition" to Lone-male/female household	Change in family formation	0.08/0.20		Household
"Transition" to Retirement	Change in current job situation	0.44		Individual
"Transition" to mild/severe health condition	Change in health from healthy condition to mild/severe illness and limitations	0.13/0.19		Individual

<sup>a</sup>Proportion and SD are referred to the baseline, unless otherwise stated

<sup>b</sup>Individual data is referred to the household's "cover-screen" respondent

<sup>c</sup>All monetary amounts were converted from NIS to Euro and adjusted to purchase price parity (PPP)

**Table 19.2** Sample descriptive statistics by trajectories of wealth during the sample period (unweighted)<sup>a,b</sup>

	Decrease in wealth	Stability in wealth	Increase in wealth
	Mean (SD)/Proportion		
Subjective well-being (CASP-12):			
W1 (baseline)	2.86 (0.50)	3.00 (0.48)	2.96 (0.46)
W2	2.94 (0.46)	3.05 (0.48)	3.06 (0.46)
W3	2.84 (0.43)	2.96 (0.42)	2.99 (0.45)
W4	2.70 (0.43)	2.86 (0.51)	2.92 (0.51)
Net-worth at baseline (€)	440,604.50 (615,967.60)	411,616.40 (320,109.90)	213,127.50 (221,857.90)
Annual income at baseline (€)	46,479.79 (77,782.76)	51,450.56 (56,419.76)	38,361.24 (41,668.65)
“Over-indebtedness” at baseline	0.21	0.27	0.32
Age at baseline	66.45 (9.70)	63.70 (8.63)	63.06 (9.23)
Education level:			
Elementary	0.44	0.34	0.38
Secondary	0.42	0.35	0.36
Academic	0.14	0.31	0.26
Household type at baseline:			
Couple	0.72	0.76	0.75
Lone-male	0.05	0.07	0.05
Lone-female	0.23	0.17	0.20
Retiree at baseline	0.42	0.40	0.36
Health condition at baseline:			
Healthy	0.40	0.55	0.46
Mild illness & disability	0.51	0.37	0.45
Severe illness & disability	0.09	0.07	0.11
Life course “transitions”:			
“transition” to lone-male	0.09	0.03	0.08
“transition” to lone-female	0.22	0.18	0.16
“transition” to retirement	0.40	0.44	0.46
“transition” to a mild health condition	0.15	0.16	0.13
“transition” to a severe health condition	0.28	0.13	0.14
N <sup>a</sup> =	<b>183</b>	<b>242</b>	<b>638</b>

<sup>a</sup>Effective sample size could be smaller for monetary data

<sup>b</sup>All monetary amounts were converted from NIS to Euro and adjusted to purchase price parity (PPP)

difference in wealth level between the increasing and the other two categories can be partly explained by their rate of “over-indebtedness” at the baseline, resulting in a set of households with negative net-worth within the increasing wealth category. Specifically, households experiencing an increasing trajectory of wealth were more likely to be “over-indebted” at the baseline (0.32) in comparison to 0.21 and 0.27 for

the decreasing and stable wealth trajectories, respectively. This curious pattern can be explained by the interconnected nature of assets and liabilities. It appears that the relatively higher rates of indebtedness observed in the category of increasing wealth trajectory are associated with mortgage debt, which in turn played an important role in the rising value of housing assets. Consequently, it raised the value of the assets of this category over the period of the study.

The average annual income of the decreasing wealth category, €46,479.79, falls between the average income of the stable and increasing categories, which is €51,450.56 and €38,361.24, respectively. Because the decreasing wealth category consists of an older population and has a higher proportion of retirees at the baseline (0.42) as compared to the increasing and stable wealth categories (0.36 and 0.40, respectively), the lower proportion of “over-indebtedness” of the decreasing wealth category may also be attributed to reduced labor market activity, which may lead, in turn, to more limited access to the financial markets or possibly a lower certainty of repayment of debts.

Households associated with the three categories of wealth trajectories differ not only in their monetary variables but also in their socio-demographic characteristics. The average age at the baseline of those who experienced a decreasing trajectory of wealth was 66.45, about 3 years older than the average age of the other two categories. With respect to education, households which experienced stable wealth had the highest proportion of respondents with academic education (0.31), followed by households in the increasing category (0.26), and then households in the decreasing category (0.14). The stable wealth category had the highest proportion of respondents living in couple-households (0.76), and concomitantly, the lowest proportion of lone-female households (0.17). The decreasing wealth category consists of the highest proportion of respondents who experienced a “transition” to lone-male or lone-female households across the sample period.

Respondents in the decreasing wealth category had the lowest proportion of healthy respondents (0.40) and the highest proportion of respondents who experienced a “transition” to a severe health condition, meaning an exacerbation of a prior health condition (0.28), in comparison to the increasing (0.14) and stable (0.13) wealth categories. Apparently, deteriorating health could lead to medical expenses, which may, in turn, lead to decreasing economic resources. The decreasing wealth category had the lowest proportion of respondents who made the “transition” to retirement (0.40), in comparison to the increasing (0.46) and the stable (0.44) categories of wealth. Although the causal relation between the two variables is not clear, it is possible that due to decreasing wealth individuals postpone their transition to retirement.

## 19.6.2 Estimating the Relationship Between Wealth, Trajectories of Wealth and SWB Over Time

In order to evaluate the extent to which change in household wealth and trajectories of wealth are associated with individuals' SWB in mid-life and old age, we estimated unconditional and linear multilevel models predicting change in SWB. By using these models, change in SWB can be compared across both levels of wealth and trajectories of household wealth (i.e., increasing, decreasing or stable). The main advantage of the model utilized here is that it takes into account the dependence between observations and it can decompose the variance of SWB into between-households and within-households over time (Longford et al. 1993; Sasson and Umberson 2014; Singer and Whillett 2003). Another advantage of this model is that it takes into account changes in time-varying levels of wealth and "over-indebtedness" (level 1), as well as in time-invariant attributes such as between-households trajectories of wealth, education and baseline age (level 2), by their relationship with SWB.

The two-level model specification is as follows:

$$\text{Level - 1 : } Y_{it}=0i + \beta_{1i}\text{TIME}_{it} + \sum \beta_{pi}Z_{pit} + \varepsilon_{it}$$

$$\text{Level - 2 :}$$

$$\beta_{0i} = \gamma_{00} + \sum \gamma_{0k}X_{ki} + U_{0i}$$

$$\beta_{1i} = \gamma_{10} + \sum \gamma_{1m}X_{mi} + U_{1i}$$

where  $Y_{it}$  is the scale of CASP of the respondent  $i$  at wave  $t$ .  $0i$  and  $\beta_{1i}$  are random effects of intercept and slope, respectively,  $\text{TIME}_{it}$  is the time period from baseline to wave  $t$ ,  $\beta_{pi}$  is level-1 fixed effects related to  $p$  time-varying covariates,  $Z_{pit}$ , and  $\varepsilon_{it}$  is the error term for household  $i$  at wave  $t$ . Level-2 equations are random effects reflecting between-households differences at the baseline point (random intercept) and overtime (random slope). Because the distribution of monetary variables is highly skewed and often contains both negative and zero values, we followed the procedures adopted by previous studies (Campbell and Kaufman 2006; Semyonov and Lewin-Epstein 2011) and transformed the distribution by adding the lowest negative value in the distribution plus 1 to each original value. This modified indicator was then further transformed to its natural logarithm of [(wealth) + (minimum+1)]. In addition, for the purpose of the multilevel analysis, the CASP scores ranging from 1 to 4 were transformed by raising the raw score to the power of two, in order to normalize the skewed distribution, hence meeting the assumption of linearity.

In Table 19.3, we display an unconditional means model as Model A. Its fixed effect of 9.04 represents the grand mean of the squared CASP scores across all observations. As the quadratic number of 3.00 points of the average scale, 9.04 falls in the third quartile of the CASP range (1–4 or 1–16 in square terms).

**Table 19.3** Multilevel linear regression of SWB (measured by CASP-12), wealth level and wealth Trajectories over time in Israel<sup>a,b</sup>

	Model A	Model B	Model C	Model D	Model E <sup>f</sup>
	Unconditional means model	Unconditional growth model			
<b>Fixed effects, initial status:</b>					
Intercept	9.04*** (133.91)	9.24*** (115.12)	2.89*** (4.56)	3.98*** (5.65)	6.08*** (6.94)
<b>Wealth trajectories:</b>					
Stability in wealth				(ref)	(ref)
Increasing wealth				-0.00 (-0.05)	0.11 (0.64)
Decreasing wealth				-0.60** (-2.50)	-0.27 (-0.91)
Age at baseline (centered) <sup>c</sup>					0.02 (0.12)
<b>Education level:</b>					
Secondary					(ref)
Elementary					-0.84*** (-3.84)
Academic					0.80*** (3.30)
Retired at baseline					-0.17 (-0.86)
<b>Health condition at baseline:</b>					
Healthy					(ref)
Mild illness & disability					-0.99*** (-5.85)
Severe illness & disability					-2.67*** (-8.10)

(continued)



**Table 19.3** (continued)

	Model A Unconditional means model	Model B Unconditional growth model	Model C	Model D	Model E <sup>f</sup>
<b>Fixed effects, rate of change:</b>					
Intercept (time)		-0.04*** (-5.70)	-0.04*** (-4.25)	-0.05*** (-5.34)	-0.09*** (-2.99)
Wealth trajectories:					
Stability in wealth					(ref)
Increasing wealth					0.02 (0.74)
Decreasing wealth					0.01 (0.56)
Age at baseline (centered) <sup>c</sup>					-0.01*** (-3.02)
Education level:					
Secondary					(ref)
Elementary					0.04 (1.77)
Academic					0.02 (0.80)
Life-course “transitions”:					
“transition” to lone-male					-0.57* (-1.92)
“transition” to lone-female					-0.14 (-0.73)
“Transition” to retirement					-0.46*** (-2.72)
“Transition” to a mild health condition					-0.52* (-2.37)
“transition” to a severe health condition					-1.42*** (-6.67)

<b>Time-varying covariates:</b>					
Wealth (ln) <sup>d</sup>			0.48*** (10.05)	0.41*** (7.97)	0.36*** (5.89)
“Over-indebtedness”				-0.26** (-2.64)	-0.32*** (-2.81)
<b>Variance components<sup>e</sup>:</b>					
Level 1: Within-households	2.61 (0.05)	2.76 (0.08)	3.06 (0.10)	3.02 (0.11)	3.23 (0.13)
Level 2: In initial status	4.32 (0.21)	4.77 (0.30)	4.23 (0.30)	4.51 (0.35)	2.87 (0.32)
In rate of change		0.02 (0.00)	0.02 (0.00)	0.02 (0.00)	0.02 (0.00)
Covariance		-0.10 (0.02)	-0.10 (0.02)	-0.12 (0.03)	-0.12 (0.03)
Log likelihood	-11,283.91	-9445.91	-8637.15	-7185.02	-5233.53
N	1063	1063	1063	836	619
Observations	4252	4252	3830	3191	2360
AIC	22,573.83	18,903.82	17,282.31	14,390.05	10,515.67
BIC	22,593.57	18,941.95	17,326.06	14,450.73	10,654.06

<sup>a</sup> *p* < .05; <sup>\*\*</sup> *p* < .01; <sup>\*\*\*</sup> *p* < .001

<sup>b</sup> *z* statistics in parentheses

<sup>c</sup> Age at baseline centered at 63.31

<sup>d</sup> Wealth is measured as the logarithm of net worth according to the formula:  $\ln [(wealth) + (minimum + 1)]$

<sup>e</sup> SE in parentheses

<sup>f</sup> Comparison categories: stable wealth = 0; secondary education = 0; working or unemployed at baseline = 0; continuously married or widowed male = 0; continuously married or widowed female = 0; continuously retired or working = 0; continuously healthy, in a mild or severe health condition = 0

Estimated within and between, individual variances at the baseline (2.61 and 4.32, respectively) are presented in the lower part of the column. Thus, the partition of total variance calculated by the intra-class correlation is 62% ( $4.32/(4.32 + 2.61)$ ), indicating that 38% ( $2.61/(4.32 + 2.61)$ ) of the variance derives from the change in CASP scores within households over time. Model B displays an unconditional growth model for the CASP score in the sample. It shows the fixed-effects estimates for the baseline and change of CASP over time. The average baseline point (intercept) is 9.24 and the fixed effect of the rate of change (slope) is  $-0.04$  points, implying a trend of decreasing CASP scores over the years.

The coefficients of Model B indicate a starting point which is quite similar to the previous model, with a deterioration of 0.04 points in CASP score across the sample period and reaching a score of 8.80 points by 2015, the last year of the survey. The variance components of Model B lend firm support to the conclusion that the average CASP score differs both among respondents and over time, providing strong justification for using a multilevel approach. The negative coefficient of  $-0.10$  for this model, which represents the covariance between the intercept and slope, leads us to conclude that respondents who benefitted from a higher SWB at the baseline subsequently experienced the fastest decline in SWB over the years.

Model C addresses the primary interest of this study—the relationship between the within-households change in the amount of wealth and SWB over time. Model C shows that changing levels of within-households wealth have a positive effect on SWB. More specifically, it is shown that the effect of within-households change in wealth on SWB over time is 0.48 on the CASP score. In addition, this model demonstrates that the average baseline CASP score decreased from 9.24 to 2.89 points in comparison to the previous model, while the fixed effect of the slope did not change. That is, the pace of deterioration in SWB did not change in comparison to the previous model.

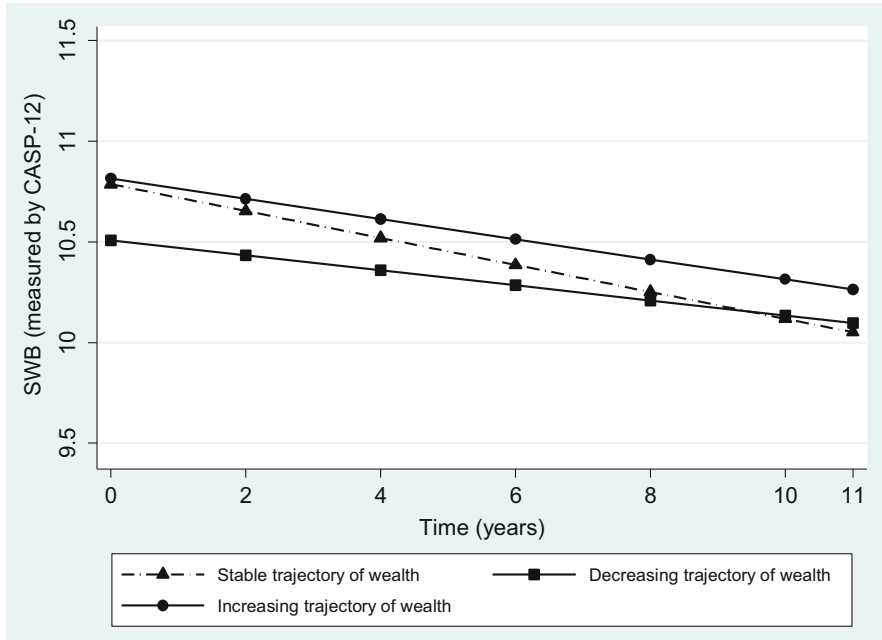
In Model D, we estimate the relationship between wealth and SWB while taking into account between-households patterns of wealth (wealth trajectories) and “over-indebtedness.” Model D reveals that net of all other covariates, the relationship between within-households wealth and SWB decreased from 0.48 CASP points in the previous model to 0.41 in the current one. Additionally, Model D suggests that a decreasing trajectory of wealth is the only trajectory which exerts a significant effect on SWB at the baseline. More specifically, a trajectory of decreasing wealth exerts a negative effect of  $-0.60$  on SWB, in comparison to a stable trajectory of accumulated wealth. This may be due to the fact that a decreasing trajectory of wealth contradicts the local market trend (that was associated with rising housing values), and may therefore be the reason why it is the only trajectory with a significant effect on SWB over time. In addition, we examined whether interactions between level of wealth and trajectories of wealth affected SWB. We found that these interactions were not significant at conventional statistical levels (results not shown). Moreover, Model D reveals that “over-indebtedness” exerts a negative effect of  $-0.26$  on the CASP score, suggesting that wealth and “over-indebtedness”

influence SWB in two mutually contradictory ways. On one hand, debt (of all kinds) has a negative effect on SWB, and on the other hand, debt and especially housing mortgage may be associated with an upgrade of the value of household wealth. Lastly, the estimated coefficients of Model D imply that net of all other covariates, the effect of time on SWB decreased from  $-0.04$  to  $-0.05$  (as compared to the previous model). Indeed, the estimated over-time decline in SWB is slightly faster in Model D than in the previous model.

In the final model, Model E, we estimate the relationship between wealth, trajectories of wealth, “over-indebtedness” and SWB, while controlling for socio-demographic characteristics of the respondents, including life-course transitions in the marital, work and health domains. The findings of Model E indicate that net of all other covariates, the positive effect of within-households net change in wealth on SWB decreased from  $0.41$  in Model D to  $0.36$  in the current model, and the negative effect of within-households change in “over-indebtedness” on SWB increased from  $-0.26$  to  $-0.32$ . Moreover, in Model E, net of all other covariates, the significant effect of the decreasing wealth trajectory completely disappeared. Evidently, once variations in socio-demographic attributes are controlled for, the effect of the between-households decreasing trajectory of wealth is no longer significant. However, within-households short-term fluctuations still affect SWB significantly. Evidently, the persistent significance of within-households wealth and “over-indebtedness” across the models, even after socio-demographic characteristics are controlled for, underscores the important role played by changing within-households wealth and “over-indebtedness” as predictors of SWB among mid-life and older adults.

Moreover, Model E demonstrates the mediating effect of socio-demographic characteristics and life-course transitions on the wealth-SWB relationship. Net of all other covariates, the effect of education is monotonous at the baseline. Specifically, the analysis reveals that the effect of academic education on SWB is stronger ( $0.80$ ) than the effect of secondary education, and that the effect of elementary education on SWB is stronger ( $-0.84$ ) than the effect of secondary education. It should be noted that although the differences in the impact of educational level on SWB are significant at the baseline, they are not significant over time. Surprisingly, net of all other covariates, the effect of age on SWB at the baseline is not significant. Yet, the over-time effect of age on SWB is indeed significant, showing a detrimental effect of  $-0.01$  for CASP points across the sample period. In addition, although the effect of retirement at the baseline is not significant, the transition to retirement exerts a negative effect of  $-0.46$  on CASP points over time. The difference between the baseline and over-time effects of retirement underscores the negative effect of the transition to retirement on SWB, which might have diminished over time for persons who are retired for longer periods.

Model E demonstrates that, net of all other covariates, the effects of mild and severe health conditions on SWB at the baseline (as compared to a healthy condition) are  $-0.99$  and  $-2.67$ , respectively. Concurrently, transitions to a mild



**Fig. 19.1** Predicted SWB (by CASP-12 score, squared) over time by trajectories of wealth for median level of wealth. Predicted CASP score for respondents living in a couple household, healthy at baseline and holding an academic degree (random effects are set at their means)

health condition or a severe health condition have negative effects ( $-0.52$  and  $-1.42$ , respectively), on SWB. Evidently, both an existing health problem at the baseline and a new one or an exacerbation of a previous health condition overtime leads to lower SWB. Lastly, marital transitions from mid-life and onwards are consequential to one's SWB. Specifically, the transition from a couple to a lone-male household (mainly because of widowhood) has a negative effect of  $-0.57$  on SWB. By way of contrast, however, the effect of a similar transition to a lone-female household ( $-0.14$ ) is not statistically significant. Also, no gender difference was found with respect to the transitions from couple to lone households ( $\chi^2(2) = 3.73$ , ns).

In order to present the complex relationships in a somewhat simplified form, we display in Fig. 19.1 the predicted SWB level for various wealth trajectories for respondents with the following attributes: median levels of household wealth, living in a couple household with healthy respondents at the baseline and holding an academic education. Figure 19.1 reveals that net of all other covariates, households in all three wealth categories experience deterioration in SWB over time. It should be noted, however, that the decreasing wealth category shows the lowest level of

CASP scores at the baseline in comparison to the other two categories. Figure 19.1 also shows that although households in the stable and increasing wealth categories share similar points of departure, the pace of deterioration of SWB of respondents within the increasing wealth category is considerably slower than that detected in the stable category. In contrast, the decreasing and stable categories differ in their baseline SWB scores. Yet the fastest pace of deterioration in SWB in the stable category (as compared to the decreasing wealth category) leads to a convergence in SWB between the stable and decreasing categories at the end of the period. Curiously, although respondents within the increasing and decreasing wealth categories differ considerably in SWB at the baseline, their slopes are quite similar. That is, all persons, regardless of their wealth trajectory, tend to experience decline in SWB over the years. It should be noted, however, that at the end of the period, SWB of those who experienced increasing wealth is considerably higher than those who experienced a decline in wealth and those with stable wealth.

## 19.7 Discussion and Conclusion

The major goal of the present study was to examine the relationship between household wealth and SWB among the older population (aged fifty and over) in Israel within a dynamic framework. While the majority of previous studies on the topic have investigated the relationship between income and SWB, limited attention has been devoted to the wealth-SWB relationship. This study is quite novel in two major ways. First, it focuses on the wealth-SWB relationship among mid- and late-life households; and second, it examines the relations between wealth and SWB within a dynamic framework. Mid- and late-life households have already accumulated a certain amount of economic resources on which they are expected to be dependent for the rest of their lives. However, levels of household wealth fluctuate over time, with households experiencing a variety of trajectories of wealth in late life, as studies by Crystal (2016), Ferraro and Shippee (2009) and others have shown. Curiously, to date, only very few studies have used a longitudinal statistical approach to investigate the relationship between material resources (either income or wealth) and SWB while taking into consideration life-course transitions.

In the current study, we used detailed monetary data collected as part of the SHARE project in four consecutive waves, in order to examine whether and to what extent fluctuations in household wealth and “over-indebtedness” affect changes in SWB over time. These relationships were examined using a multilevel analysis framework that permitted estimation of the effect of within-households wealth dynamics as well as between-households differences in trajectories of wealth (accumulation, depletion or stability). The CASP-12 scale was used in the present study as the measured SWB because it contains distinct conceptual domains that are particularly relevant for later life (Hyde et al. 2003; Wiggins et al. 2008).

The empirical analysis of the dynamic relationship between wealth and SWB leads to a series of conclusions. First, from a between-households perspective, the data suggest that differential trajectories of wealth lead to disparities in SWB outcomes. Nevertheless, the patterns of correlations between wealth trajectories and SWB outcomes were found to be asymmetric; while the risk of deterioration in SWB for persons with depleted wealth was realized across the waves of the survey, we did not find any mirroring pattern of increasing SWB stemming from accumulation of household wealth. Interestingly, in contrast to the accumulated advantage/disadvantage tradition (Dannefer 2003; DiPrete and Eirich 2006), which would have anticipated an enduring effect of higher wealth at the baseline for an accumulation of wealth along the route (and consequently on SWB outcomes), the depletion trajectory demonstrated the highest level of wealth at the baseline.

This finding underscores the risk of wealth depletion (and consequently the risk of deterioration in SWB) even for persons with abundant economic resources (a finding that could not have been captured in a cross-sectional research design). Even if one had a relatively higher level of wealth at the baseline, wealth depletion may have occurred due to several reasons such as limited replacement rates of pension arrangements, extended longevity and unexpected out-of-pocket medical expenses (Jivraj et al. 2014; Lee and Kim 2003). Evidently, once variation in socio-demographic attributes is controlled for, life-course transitions, including the transition to retirement, net of changing wealth and “over-indebtedness”, the significance of the detrimental effect of wealth depletion on SWB disappears. Among other things, the latter finding reveals the important role of the mediating effect of socio-demographic attributes and life-course transitions, including retirement, on the wealth-SWB relationship (Dolan et al. 2008; Lucas et al. 2004; Pinquart and Schindler 2007; Shmotkin 1990).

The between-households trajectories of wealth could only partly explain the dynamics of SWB among mid- and late-life individuals. Specifically, the second major conclusion of this study provides a complementary explanation for the wealth-SWB relationship. It derives from the following within-households time-varying attributes: level of household wealth and “over-indebtedness.” In general, the findings reveal a positive effect of the net change in household wealth on SWB overtime, similar to previous studies on the wealth-SWB relationship (Brown and Gray 2016; Hansen et al. 2008; Headey and Wooden 2004; Maskileyson et al. 2014; Plagnol 2011). Likewise, this study demonstrated a negative effect of within-households “over-indebtedness” on SWB outcomes over time, as also did previous studies on the debt-SWB relationship (Bridges and Disney 2010; Brown et al. 2005; Keese and Schmitz 2014; Richardson et al. 2013).

Several researchers suggested that household debt should be considered separately and irrespective of household wealth when studying the wealth-SWB relationship (e.g., Brown and Gray 2016; Plagnol 2011; Hansen et al. 2008; Hochman and Skopek 2013). The current study reveals that household wealth



and “over-indebtedness” have mutually contradictory effects on SWB. Whereas “over-indebtedness” had a detrimental effect on over-time SWB, housing mortgage (associated with over-indebtedness) may be associated with an upgrade in the value of housing, hence, with a rise in household wealth and consequently a rise in SWB. The two covariates— wealth and “over-indebtedness” – were consistently contradictory and statistically significant across all models estimated in the analysis, before and even after wealth trajectories and socio-demographic attributes were controlled for.

The last conclusion of this study is that SWB among mid-life and old aged individuals is affected by socio-demographic attributes and life-course transitions in major life domains. As in previous studies, the data reveal that health becomes one of the major predictors of SWB in late life (Deaton 2008; Graham 2008; Michalos et al. 2001). The findings of the study show the strong and negative effect of ill health both at the baseline and as a result of the onset or an exacerbation of a former health condition. Apparently, deterioration in health is likely to lead to deterioration in SWB. In addition, the analysis reveals, like other studies, that transition to widowhood is likely to decrease SWB (e.g., Sasson and Umberson 2014). However, the negative effect of transition from a couple- to a lone-household on SWB is evident only in the case of males, but not in the case of females. The last transition that was found to impact SWB is the transition to retirement. Although previous studies report mixed results regarding the effect of retirement on SWB (Pinquart and Schindler 2007), the data of the present study reveal a negative effect. It should be noted, however, that there may be an endogenous relationship between labor market activity and household debt. While diminishing labor market activity of respondents in this age range may limit their access to credit, at the same time, the absence of household debt may permit respondents to exit from the labor market and benefit from a sense of relief deriving from the absence of debt (Plagnol 2011). This sense of relief, in turn, may increase their SWB.

Taken as a whole, the research reported in this chapter underscores several processes related to the process of aging of mid-and late-life persons and the dynamic role of wealth as a determinant of SWB. Concurrently, given the predominant decline in SWB at mid- and old age, this study reveals that the wealth-SWB relationship is shaped by the risk of depletion of wealth, access to paid work and household debt, as well as marital and health condition. This study also underscores the disparities in SWB among households with changing wealth and different trajectories of wealth over time. In addition, the findings underscore the detrimental impact of “over-indebtedness” on SWB. In order to better understand the way in which wealth and “over-indebtedness” jointly impact SWB, one would need information on anticipation of future wealth. Yet such possible ‘bias’ effects are beyond the scope of our study. It is our hope that future studies will try to incorporate such “anticipation effects” as a predictor of SWB in order to better understand the mechanism involved in the wealth-SWB relationship, not only in Israel but in other countries as well.

## Appendices


### Appendix A: List of CASP-12 Questions by Subscales

Num.	Question	Subscale
1	How often do you think your age prevents you from doing the things you would like to do?	Control
2	How often do you feel that what happens to you is out of your control?	Control
3	How often do you feel left out of things?	Control
4	How often do you think that you can do the things that you want to do?	Autonomy
5	How often do you think that family responsibilities prevent you from doing what you want to do?	Autonomy
6	How often do you think that shortage of money stops you from doing the things you want to do?	Autonomy
7	How often do you look forward to each day?	Pleasure
8	How often do you feel that your life has meaning?	Pleasure
9	How often, on balance, do you look back on your life with a sense of happiness?	Pleasure
10	How often do you feel full of energy these days?	Self-Realization
11	How often do you feel that life is full of opportunities?	Self-Realization
12	How often do you feel that the future looks good for you?	Self-Realization

### Appendix B: Map of Households Participation Patterns Across the Waves

Num. of Households	Waves				Observed	Missing
	W1	W2	W3	W4		
687	Observed	Observed	Observed	Observed	65%	35%
194	Observed	Observed	Observed	Missing	18%	
77	Observed	Observed	Missing	Observed	7%	
105	Observed	Missing	Observed	Observed	10%	
1063					100%	100%

legend:

Observed	
Missing	

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## References

- Amit, K., & Litwin, H. (2010). The subjective well-being of immigrants aged 50 and older in Israel. *Social Indicators Research*, 98(1), 89–104.
- Arrindell, W. A., Meeuwesen, L., & Huyse, F. J. (1991). The satisfaction with life scale (SWLS): Psychometric properties in a non-psychiatric medical outpatients' sample. *Personality and Individual Differences*, 12(2), 117–123.
- Bank of Israel. (2017). *Report on financial stability*, June 2017. Jerusalem: Bank of Israel publications (in Hebrew). Accessed at <http://www.boi.org.il/he/NewsAndPublications/RegularPublications/DocLib3/Financial%20Stability%20Report/FSR201701h.pdf>, on Mar 8, 2018.
- Barrett, A., & O'Sullivan, V. (2014). The wealth, health and well-being of Ireland's older people before and during the economic crisis. *Applied Economics Letters*, 21(10), 675–678.
- Biswas-Diener, R., & Diener, E. (2001). Making the best of a bad situation: Satisfaction in the slums of Calcutta. *Social Indicators Research*, 55(3), 329–352.
- Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics*, 88(7–8), 1359–1386.
- Börsch-Supan, A., Brandt, M., Hunkler, C., Kneip, T., Korbmacher, J., Malter, F., Schaan, B., Stuck, S., & Zuber, S. (2013). Data resource profile: The survey of health, ageing and retirement in Europe (SHARE). *International Journal of Epidemiology*, 42(4), 992–1001.
- Bridges, S., & Disney, R. (2010). Debt and depression. *Journal of Health Economics*, 29(3), 388–403.
- Brown, S., & Gray, D. (2016). Household finances and well-being in Australia: An empirical analysis of comparison effects. *Journal of Economic Psychology*, 53, 17–36.
- Brown, S., Taylor, K., & Wheatley Price, S. (2005). Debt and distress: Evaluating the psychological cost of credit. *Journal of Economic Psychology*, 26(5), 642–663.
- Brulé, G., & Maggino, F. (2017). Towards more complexity in subjective well-being studies. In G. Brulé & F. Maggino (Eds.), *Metrics of subjective well-being: Limits and improvements* (pp. 1–17). Dordrecht: Springer.
- Campbell, L. A., & Kaufman, R. L. (2006). Racial differences in household wealth: Beyond Black and White. *Research in Social Stratification and Mobility*, 24(2), 131–152.
- Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79(4), 644–655.
- Carver, D. J., Chapman, C. A., Thomas, V. S., Stadnyk, K. J., & Rockwood, K. (1999). Validity and reliability of the Medical Outcomes Study Short Form-20 questionnaire as a measure of quality of life in elderly people living at home. *Age and Ageing*, 28(2), 169–174.
- Central Bureau of Statistics. (2016). *The annual statistical report for year 2015*. Accessed at <http://cbs.gov.il/shnaton67/np20.pdf>, on Mar 8, 2018.
- Christelis, D., Jappelli, T. & Padula, M. (2005). Wealth imputation. In: A. Börsch-Supan et al. *Health, Ageing and Retirement in Europe – First Results from the Survey of Health, Ageing and Retirement in Europe*, 358–359. Mannheim: MEA.
- Clark, A. E., Bayliss, D., Cummins, B., Diener, E., Easterlin, D., Fischer, J., & VanPraag, B. (2015). SWB as a measure of individual well-being. In: *Oxford handbook of well-being and public policy*, (Vol. 1(0), pp. 33–43). New York, Oxford University Press.
- Crystal, S. (2016). Late-life inequality in the second gilded age: Policy choices in a new context. *Public Policy & Aging Report*, 26(2), 42–47.
- Damri, N., & Litwin, H. (2016). Minority population group status and QOL change: The case of older Israelis. *European Journal of Ageing*, 13(4), 299–309.
- Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: Cross-fertilizing age and social science theory. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 58(6), S327–S337.

- Deaton, A. (2008). Income, health, and well-being around the world: Evidence from the Gallup World Poll. *Journal of Economic Perspectives*, 22(2), 53–72.
- Deaton, A. (2012). The financial crisis and the well-being of Americans. *Oxford Economic Papers*, 64(1), 1–26.
- Dew, J., & Yorgason, J. (2010). Economic pressure and marital conflict in retirement-aged couples. *Journal of Family Issues*, 31(2), 164–188.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575.
- Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? A literature review and guide to needed research. *Anonymous Social Indicators Research*, 57, 119.
- Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 185–218). Cambridge, MA: MIT Press.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, 69(5), 851–864.
- Diener, E., Tay, L., & Oishi, S. (2013). Rising income and the subjective well-being of nations. *Journal of Personality and Social Psychology*, 104(2), 267–276.
- DiPrete, T. A., & Eirich, G. M. (2006). Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments. *Annual Review of Sociology*, 32(1), 271–297.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1), 94–122.
- Ferraro, K. F., & Shippee, T. P. (2009). Aging and cumulative inequality: How does inequality get under the skin? *The Gerontologist*, 49(3), 333–343.
- George, L. K. (1992). In N. E. Cutler, D. W. Gregg, & M. P. Lawton (Eds.), *Aging, money, and life satisfaction: Aspects of financial gerontology Economic status and subjective well-being: A review of the literature and an agenda for future research* (pp. 69–99). New York: Springer.
- Graham, C. (2008). Happiness and health: Lessons – And questions – For public policy. *Health Affairs*, 27, 72–87.
- Grundy, E., & Holt, G. (2001). The socioeconomic status of older adults: How should we measure it in studies of health inequalities. *Journal of Epidemiology and Community Health*, 55(12), 895–904.
- Hansen, T., Slagsvold, B., & Moum, T. (2008). Financial satisfaction in old age: A satisfaction paradox or a result of accumulated wealth? *Social Indicators Research*, 89(2), 323–347.
- Headey, B., & Wooden, M. (2004). The effects of wealth and income on subjective well-being and ill-being. *Economic Record*, 80(s1), S24–S33.
- Hochman, O., & Skopek, N. (2013). The impact of wealth on subjective well-being: A comparison of three welfare-state regimes. *Research in Social Stratification and Mobility*, 34, 127–141.
- Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being in developing countries: A meta-analysis. *Psychological Bulletin*, 134(4), 536–560.
- Hyde, M., Wiggins, R. D., Higgs, P., & Blane, D. B. (2003). A measure of quality of life in early old age: The theory, development and properties of a needs satisfaction model (CASP-19). *Aging and Mental Health*, 7(3), 186–194.
- Jivraj, S., Nazroo, J., Vanhoutte, B., & Chandola, T. (2014). Aging and subjective well-being in later life. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 69(6), 930–941.
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences*, 107(38), 16489–16493.
- Kahneman, D., & Thaler, R. H. (2006). Anomalies: Utility maximization and experienced utility. *Journal of Economic Perspectives*, 20(1), 221–234.
- Kasser, T. (2000). Two versions of the American dream: Which goals and values make for a high quality of life? In: *Advances in quality of life theory and research* (Vol. 3, pp. 3–12). Dordrecht: Kluwer.

- Keese, M., & Schmitz, H. (2014). Broke, ill, and obese: Is there an effect of household debt on health? *Review of Income and Wealth*, 60(3), 525–541.
- Lee, J., & Kim, H. (2003). An examination of the impact of health on wealth depletion in elderly individuals. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 58(2), S120–S126.
- Lewin-Epstein, N., & Raviv, O. (2016). The correlates of household debt in late life. In N. Khattab, S. Miaari, & H. Stier (Eds.), *Socioeconomic inequality in Israel* (pp. 13–40). New York: Palgrave Macmillan.
- Longford, N. T., Bryk, A. S., & Raudenbush, S. W. (1993). Hierarchical linear models: Applications and data analysis methods. *Contemporary Sociology*, 22(2), 293.
- Lucas, R. E., & Schimmack, U. (2009). Income and well-being: How big is the gap between the rich and the poor? *Journal of Research in Personality*, 43(1), 75–78.
- Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science*, 15(1), 8–13.
- Maskileyson, D., Semyonov, M., & Lewin-Epstein, N. (2014). Wealth and mental-health: Analysis of the older population in Germany and Israel. In L. Wolfgang, H. Michael, & M. Ströing (Eds.), *Reichtum, Philanthropie und Zivilgesellschaft* (pp. 99–113). Wiesbaden: Springer Fachmedien.
- Maslow, A. H. (1954). The Instinctoid nature of basic needs. *Journal of Personality*, 22(3), 326–347.
- Mehrbrodt, T., Gruber, S., & Wagner, M. (2017). *Scales and multi-item indicators*. Accessed at [http://www.share-project.org/fileadmin/pdf\\_documentation/SHARE\\_Scales\\_and\\_Multi-Item\\_Indicators.pdf](http://www.share-project.org/fileadmin/pdf_documentation/SHARE_Scales_and_Multi-Item_Indicators.pdf) on Mar 8, 2018.
- Michalos, A., Hubley, A., Zumbo, B., & Hemingway, D. (2001). Health and other aspects of the quality of life of older people. *Social Indicators Research*, 54(3), 239–274.
- Mroczek, D. K., & Spiro, A. (2005). Change in life satisfaction during adulthood: Findings from the veterans affairs normative aging study. *Journal of Personality and Social Psychology*, 88(1), 189–202.
- O'Reilly, D. (2002). Standard indicators of deprivation: Do they disadvantage older people? *Age and Ageing*, 31(3), 197–202.
- Olson-Garriott, A. N., Garriott, P. O., Rigali-Oiler, M., & Chao, R. C. L. (2015). Counseling psychology trainees' experiences with debt stress: A mixed methods examination. *Journal of Counseling Psychology*, 62(2), 202–215.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5(2), 164–172.
- Penaloza, L., & Barnhart, M. (2011). Living U.S. capitalism: The normalization of credit/debt. *Journal of Consumer Research*, 38(4), 743–762.
- Pinquant, M., & Schindler, I. (2007). Changes of life satisfaction in the transition to retirement: A latent-class approach. *Psychology and Aging*, 22(3), 442–455.
- Pinquant, M., & Sörensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, 15(2), 187–224.
- Plagnol, A. C. (2011). Financial satisfaction over the life course: The influence of assets and liabilities. *Journal of Economic Psychology*, 32(1), 45–64.
- Richardson, T., Elliott, P., & Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: A systematic review and meta-analysis. *Clinical Psychology Review*, 33(8), 1148–1162.
- Ross, C. E., & Van Willigen, M. (1997). Education and the subjective quality of life. *Journal of Health and Social Behavior*, 38(3), 275–297.
- Sasson, I., & Umberson, D. J. (2014). Widowhood and depression: New light on gender differences, selection, and psychological adjustment. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 69B(1), 135–145.
- Semyonov, M., & Lewin-Epstein, N. (2011). Wealth inequality: Ethnic disparities in Israeli society. *Social Forces*, 89(3), 935–959.

- Semyonov, M., & Lewin-Epstein, N. (2013). Ways to richness: Determination of household wealth in 16 countries. *European Sociological Review*, 29(6), 1134–1148.
- Shmotkin, D. (1990). Subjective well-being as a function of age and gender: A multivariate look for differentiated trends. *Social Indicators Research*, 23(3), 201–230.
- Singer J. D. & Willett J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*, New York: Oxford University Press.
- Spilerman, S. (2000). Wealth and stratification processes. *Annual Review of Sociology*, 26(1), 497–524.
- Thorne, D., Warren, E., & Sullivan, T. A. (2009). The increasing vulnerability of older Americans: Evidence from bankruptcy court. *Harvard Law and Policy Review*, 3(1), 87–101.
- Vanhoutte, B. (2012). *Measuring subjective well-being in later life: A review* (pp. 1–53). CCSR working paper 2012–06, Centre for Census and Survey Research, University of Manchester.
- Veenhoven, R. (1984). *Conditions of happiness*. Dordrecht: Reidel.
- Von demKnesebeck, O., Wahrendorf, M., Hyde, M., & Siegrist, J. (2007). Socio-economic position and quality of life among older people in 10 European countries: Results of the SHARE study. *Ageing and Society*, 27(2), 269–284.
- Weidekamp-Maicher, M., & Naegele, G. (2007). Economic resources and subjective well-being in old age. In H. Mollenkopf & A. Walker (Eds.), *Quality of life in old age. International and multi-disciplinary perspectives* (Social Indicators Research Series, 31). Dordrecht: Springer.
- Wiggins, R. D., Netuveli, A. G., Hyde, A. M., Higgs, A. P., Blane, A. D., Netuveli, G., & Higgs, P. (2008). The Evaluation of a Self-enumerated Scale of Quality of Life (CASP-19) in the Context of Research on Ageing: A Combination of Exploratory and Confirmatory Approaches. *Soc Indic Res*, 89, 61–77.