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Robert Schuman Centre for Advanced Studies

Happy Newcomers? Subjective Well-Being of First-  
Generation Immigrants in Germany

Hilke Brockmann



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## **Abstract**

First-generation immigrants in Germany are surprisingly satisfied with their life. We test to what extent selection, adaptation, or resilience explains their comparatively high level of subjective well-being (SWB). Using Panel data from 1984-2014, we run simultaneous probit and growth curve models and identify competing mechanisms of positive integration. We find mixed evidence for health selection: First-generation immigrants are younger but overall less healthy than Germans. Irrespective of selectivity, significant evidence supports purposive adaptation: First-generation immigrants maintain high levels of happiness by using the local German population as a benchmark only to evaluate their economic situation but not to evaluate their family life. Thus, there is economic but not socio-cultural adaptation. Finally, we find some evidence of higher social but not economic resilience among first-generation immigrants than among Germans. We speculate what this implies for family unification for migrants.

## **Keywords**

First-generation migration, selection, adaptation, resilience, growth curve model, Germany.



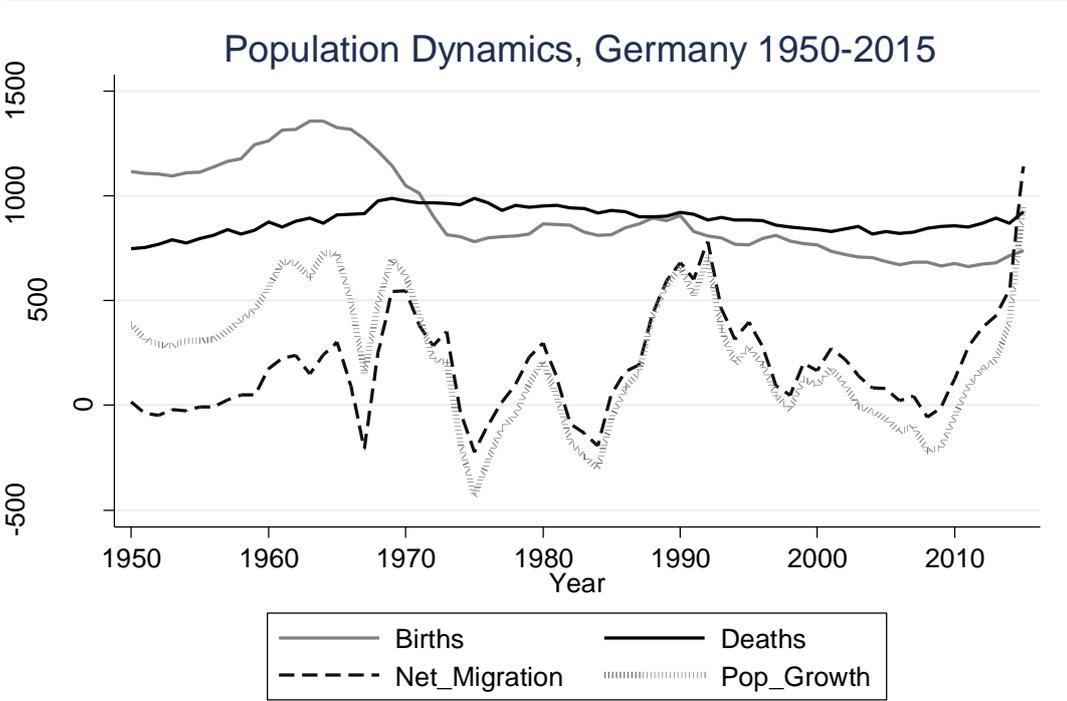
**1. Introduction**

Research on subjective well-being (SWB) or happiness and research on migration are on the upswing. Still there is little overlap and synergy between the two. Studies on the subjective well-being of immigrants are few (e.g. Leopold, Leopold, Lechner 2017; Angelini, Casi, Corrazini 2015; Olgiati, Calvo, Berkman 2013) and results are mixed. Most migration research focuses on large numbers, on the unease of newcomers, and their national-specific integration problems, while subjective well-being studies target a comprehensive understanding of quality of life and universal determinants of happiness. Yet, it is far from obvious whether the happiness of migrants depends on the same factors as the happiness of the local population.

Given the legal, economic, and social disadvantages immigrants face (Dancygier, Laitin 2014), one would expect much lower levels of subjective well-being among newcomers than among natives, particularly in Europe where in-migration is a historically new phenomenon and right-wing xenophobic movements are widespread. On the other hand, lower subjective expectations may boost satisfaction and happiness of migrants despite objective discrimination (e.g. Erlinghagen 2012). Disentangling the mechanisms of the subjective well-being of first-generation migrants provides a more proximate insight into the subjective evaluation and processing of challenges and choices migrants are facing and thus a more accurate understanding of their integration.

In this study, Germany one of Europe’s largest non-traditional immigration countries, serves as a test case. Germany’s population is (comparably) rich and old, its fertility is one of lowest in the world, and population growth depends on positive in-migration. Migrants come in waves and with diverse ethnic backgrounds. In the future, all European and other advanced countries will likely follow this demographic pattern.

**Figure 1**

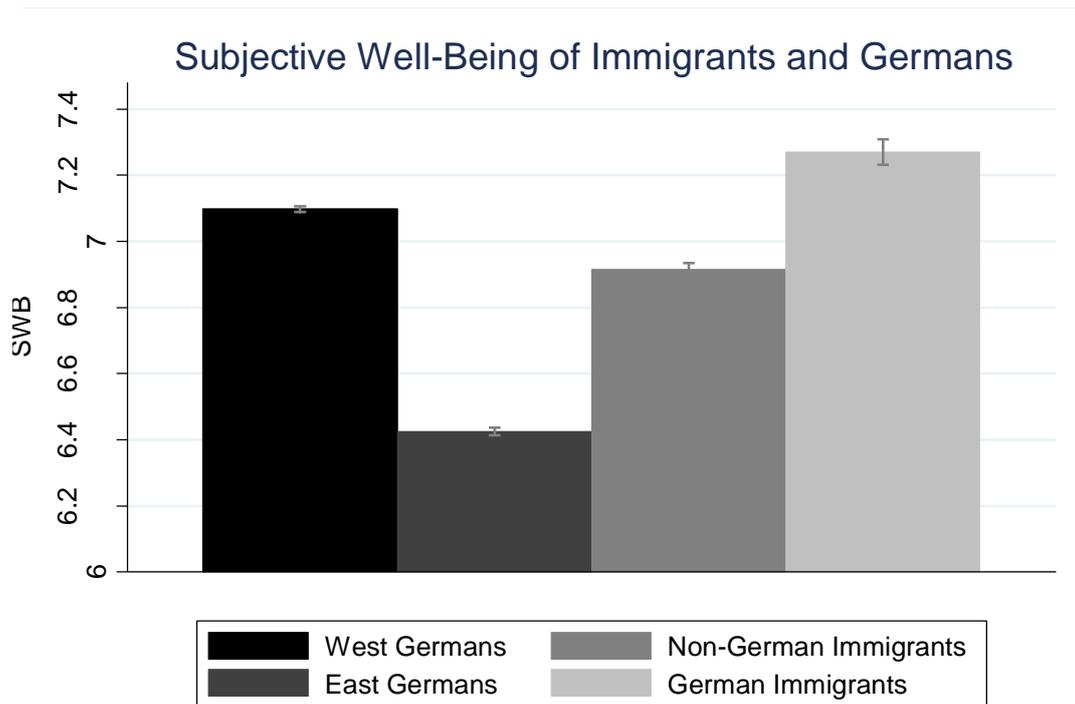


Source: Destatis 2017

<http://www.destatis.de/indicators/d/lrbev04ad.htm>; <http://www.destatis.de/indicators/d/lrbev07ad.htm>

A first pooled snapshot of the subjective well-being of immigrants, alien and naturalized, as well as ethnic German re-settlers shows comparably high levels of happiness in Germany. The data is based on a representative sample of panel data from 1984-2014 and includes 35 different nationalities. According to the German census in 2011, 18.9% of the population had a migration background, most of them came from Turkey (17.7%), Poland (13.1%), the Russian Federation (8.6%) and Kazakhstan (8.1%). The group of foreigners with personal migration experiences make up for 5.8%, Germans who experienced migration themselves account for 6.4% of the entire population (Destatis 2014). This paper explores three possible reasons for it.

Figure 2



Source: GSOEP 1984-2014

A first explanation of the happiness of first-generation immigrants focuses on newcomers as a particularly selective group. In contrast to natives, immigrants have been able and (often) willing to leave their former lives and countries behind. Perhaps as a result (voluntary) migrants are better equipped to lead happier lives.

A second explanation considers international migration as a long lasting process during which migrants make many choices. Being part of two cultures provides immigrants with options for choosing reference standards that the domestic population lacks. They may have an improved capacity to assess circumstances differently, and to compare downwards, hence increasing their happiness.

A third explanation refers to social resilience resulting from the migratory experience itself. The long journeys immigrants make to reach their destinations and start their new life is often fraught with danger and stressful. Also, first-generation immigrants cannot make effective use of their skills which puts them at a higher risk than the local population of losing income, social status and employment. But experiencing stress and loss may have a strengthening effect.

All three mechanisms (selection, adaptation, resilience) are well established in the literature but they have never been jointly compared. The purpose of the paper is to improve our understanding of

the dynamic determination of happiness among immigrants and to put the claim of a universal happiness paradigm to a critical test.

The rest of the paper is structured as follows. In the next section, we review the literature on migration and SWB, and derive the three potential explanations for the happiness of immigrants. The third section introduces the research design. Section four presents the findings. Section five places the results into the broader framework of subjective well-being and migration research and discusses their political implications.

## **2. Background**

### ***2.1 Measuring Happiness***

The terms happiness, SWB or life satisfaction are often used synonymously in the social sciences (Frey and Stutzer 2002; Easterlin 2003; Veenhoven 2008), and refer to the subjective evaluations of life as a whole.

In order to evaluate the quality of their personal lives, people draw on emotional and cognitive information (Veenhoven 2013). Psychologists often treat emotions and cognitions as separate components of well-being (Diener 1984; Diener 2013) and translate them into multi-item, multi-dimensional happiness scales (Ryff 1989; Hills and Argyle 2002). However, such complex measures are often criticized for being unclear and potentially invalid (Cummins 2013).

Economists, political scientists, and sociologists have a more pragmatic view of the concept. Assuming that global judgements of life rest on a “cognitive comparison with standards of the good life (contentment) and affective information from how one feels most of the time (hedonic level of affect)” (Veenhoven 2008), social scientists usually limit their measurement to one or two straightforward questions that are easy to ask in large representative surveys. For instance, the World Values Survey inquires how happy and how satisfied a respondent is with life, “taking all things together”. The Gallup World Polls let people imagine a hypothetical ladder of 11 steps between the best and the worst possible life (Cantril ladder). A question in the German Socio-economic Panel (GSOEP) and other national Panel studies (BHPS, HILDA) also invite people to evaluate their general life satisfaction on an 11 point scale.

These global measures have been shown to be reliable and valid across social and cultural contexts (Diener 1994; Lyubomirsky and Lepper 1999; Diener, Inglehart et al. 2013). Non-response rates are remarkably low in all countries (Veenhoven 2010). Moreover, life satisfaction correlates highly with other elements of well-being like rapports with friends, plausible objective circumstances, external events, or comprehensive behavioural consequences of well-being, as well as physiological measures like levels of cortisol and brain activity (Layard 2010).

SWB is a promising variable for migration research. It is easy to measure and to compare across national backgrounds, and it can help shed new light on the emotional and subjective process of migration on a representative scale. In the case of migrants it is possible to see whether they are emotionally selected and whether their happiness is determined by the same factors as those of the native population. Finally, as a proximate determinant of behaviour, the level and change of SWB gives us important clues as to what makes for successful migrant integration.

### ***2.2 Migrant Selection***

Given the formal disadvantages of non-citizens (Bloemraad, Korteweg, and Yurdakul 2008), informal discrimination of ethnic minorities (Pettigrew 1998; Skrobanek 2009), and generally lower socio-

economic status (Granato and Kalter 2001; Constant and Massey 2005; Frick and Grabka 2009) the high average level of subjective well-being of immigrants in Germany is puzzling.

Selectivity is one potential explanation. Newcomers may be different. Leaving the home country to start a new life abroad is physically and psychologically demanding. Only the fittest dare to do it. According to the healthy-migrant hypothesis in demography and epidemiology migrants tend to have significantly lower morbidity and mortality rates than the local population in many countries (Rubalcava, Teruel et al. 2008; Bostean 2013). Since health is one of the major determinants of life satisfaction this may account for high levels of happiness among immigrants (Dolan, Peasgood et al. 2008).

Yet, migration requires more than just physical fitness. The decision to migrate also requires a certain mental robustness (Bhugra 2004) and risk tolerance (Heitmueller 2005). Research suggests that open and extroverted personalities are more likely to emigrate (Jokela 2009; Canache, Hayes et al. 2013). Also, people who voluntarily leave their country suffer less from migration stress and mental disorders when they are optimistic, actively plan the transition, and have a realistic perception of post-migration difficulties and social support (Mahonen and Jasinskaja-Lahti 2013).

In contrast, refugees who were forced to migrate are less selected on specific personality traits but often share traumatic experiences. They usually have higher rates of mental illnesses and suicidal tendencies (Hansson, Tuck et al. 2012; Matanov, Giacco et al. 2013). Thus our first hypothesis states that voluntary migrants have good health and extroverted personalities which increase SWB.

### **2.3 Purposive adaptation**

Migration is a process. It involves gradual acculturation and assimilation, often stretching over generations (Nauck 2001; Alba, Logan et al. 2002; Esser 2008). From an economic angle, this adaptation is costly. As (most) standards are defined by the majority in the host society, migrants as a minority are at a disadvantage. Particularly at the time of arrival migrants usually lack transferable human capital, have smaller social networks, and earn significantly lower incomes (Büchel and Frick 2005; Hall and Farkas 2008; Frick and Grabka 2009). But their happiness appears to be little affected by this negative socioeconomic stratification in comparison to the native reference group (Luhmann, Hofmann et al. 2012; Obucina 2013).

Social and temporal benchmarks against which individuals evaluate and experience their current lives are important cognitive mediators between objective conditions and subjective well-being. Take the Easterlin Paradox: Easterlin (1974) first showed that individual happiness remained unchanged within the US for decades despite a steady increase in national wealth and despite a positive relationship across countries (Easterlin, McVey et al. 2010; Proto and Rustichini 2013). Drawing on the relative income hypothesis (Duesenberry 1949) and the theory of social reference groups (Stouffer 1949; Merton 1968), Easterlin explains the paradox by the zero-sum game of social status acquisition. In an environment where everybody gets richer, SWB stagnates since comparative standards and aspiration levels rise.

Relative income is an important determinant in the SWB literature (Stutzer 2004; Clark, Frijters et al. 2008). Most economists and sociologists assume that comparative standards are exogenously imposed by spatial or social proximity – neighbours (Luttmer 2005; Firebaugh and Schroeder 2009), colleagues and friends (Clark and Senik 2010), people of the same age, and sex (Perez-Asenjo 2011), or general regional standards (Wolbring, Keuschnigg et al. 2013).

Yet, social psychologists propose that people search actively for comparison groups in order to boost their subjective well-being (Diener and Fujita 1997). People with similar values and social status are more likely to be relevant to each other. Falk and Knell (2004) show that gender and academic achievement play important roles when choosing ‘the Joneses’. Since relative deprivation is also a

driver to leave one's country (Stark and Taylor 1991), we should expect that concerns for social comparison survive in first-generation migrants.

For migrants, picking the 'right pond' (Frank 1985) is an opportunity to engage in selective comparison. Having access to different ways of living in different host countries, migrants can control if, when, and how they want to belong and blend into the mainstream. Research on segmented assimilation (Portes and Zhou 1993) and selected acculturation (Portes, Fernandez-Kelly et al. 2009) show various pathways in which migrants adapt to their new environments. A deliberate preservation of the community culture and traditional values of the home country accompanied by an economic integration into the host society seem to produce very successful outcomes such as high academic achievement (Jimenez and Horowitz 2013) and high income (Reitz, Zhang et al. 2011).

Drawing on these findings, we hypothesize that migrants pursue selective adaptation strategies to preserve happiness despite hardship. In doing so, they may evaluate opportunities differently because they compare themselves to other social standards than the native population. More specifically, we hypothesize that they focus on economic integration first and then social integration at a significantly later stage.

## **2.4 Social Resilience**

Psychologists and psychiatrists have shown that migration is a stressful experience (Bhugra 2004; Breslau, Aguilar-Gaxiola et al. 2007). Starting a new life in a new country increases the risk of adverse events like income loss, unemployment (OECD 2012), and partnership dissolution (Frank and Wildsmith 2005; Boyle, Kulu et al. 2008). Can migrants better cope with negative events because of their experiences of doing without former amenities and old consumption, work, or social habits?

The concept of social resilience (Hall and Lamont 2013) provides plausible arguments and supportive evidence for how people remain healthy and happy under conditions of adversity. Introduced first in ecological and disaster research and in developmental psychology, resilience describes strong responses of (psychological) systems to negative external events. The term social resilience refers to "an outcome in which the members of a group sustain their well-being in the face of challenges to it." (Hall and Lamont 2013) Securing a favourable material, symbolic or emotional outcome is more than adaptation or a return to a previous state. It is also more than exploiting one's resources and encompasses "significant modifications to behaviour or to the social frameworks that structure and give meaning to behaviour." (ibid.)

Social resilience grows from social networks and cultural context. Relationships create "the willingness of people to turn to others for help" and assure "the likelihood it will be supplied" (Hall and Taylor 2009, 91). Migration research highlights the importance of networks for newcomers. Ties to other migrants are one of the strongest predictors of going abroad and settling at a specific destination (Levy and Wadycki 1973). Migration networks constitute social capital as they lower transaction costs and generate higher incomes (Amuedo-Dorantes and Mundra 2007). Ethnic economic enclaves (Portes and Bach 1985) are network economies which absorb newcomers and equip them with better income prospects (Portes and Shafer 2007). Also assimilation processes run through family ties (Diefenbach, Nauck, and Kohlmann 1997).

Against this background, migrants who seek support from fellow migrants should receive more tailored information and more adequate help when they face a crisis. Shared experiences are also the basis for collective identities, moral meaning and a migration culture. We know that migrants and other marginal groups are more resilient when they preserve a minority culture (Sellers, Caldwell et al. 2003; Lamont 2009).

Inferring from these findings, we hypothesize that the SWB of migrants will be less affected by income and partner loss than the local population. The migratory experience has made them more resilient and better able to recover from adverse economic and social events.

### 3. Methodology

#### 3.1 Data

The analysis is based on German Socio-Economic Panel data (GSOEP) from 1984-2014 (Version 31, SOEP 2014, doi: 10.5684/soep.v31). We use samples A to D which provide representative data for the West-German native and foreign resident population since 1984 (Wagner, Frick et al. 2007).

The analysis focuses on variables that have been asked yearly since 1984. We generally deleted cases with yearly missing values but imputed individual-specific missing income variables based on multiple regressions that have a proven systematic effect on happiness. We also imputed missing personality factors because the variable was only asked three times in the panel. Finally, we replaced missing parental birth and death days with average life expectancies of men and women in the respective countries from the WHO.

#### 3.2 Measures

##### 3.2.1 Dependent variable

Life satisfaction: Since 1984, people in the GSOEP have been asked: “How satisfied are you with your life, all things considered?” Answers are measured on an 11-point-scale ranging from completely dissatisfied (0) to completely satisfied (10). This standard question has been widely used in the economic and sociological literature.

##### 3.2.2 Explanatory mechanisms

*Selection:* We measure health selectivity of immigrants with robust indirect individual and national indicators partially matched from other data sources. Unfortunately, GSOEP does not provide direct personal health information prior to immigration. At the individual level we use the person’s age at immigration, his or her formal education, and the life expectancy of parents. In case parents have not died yet or birth and death dates are missing, we use country and sex-specific life expectancy data from the WHO. To further account for mental health and mental strength we draw on the Big 5 personality inventory, measured three times in the GSOEP (2005, 2009, 2013). Using factor analysis we capture two varimax-rotated factors which are known to impact subjective well-being decisively: extroversion and neuroticism (Mouw 2006). Personalities develop early in life. They may also be genetically inherited (Jang, Livesley, and Vernon 1996; Loehlin, McCrae et al. 1998). Usually they are relatively stable across time even if more recent findings report also changes (Specht 2017). At the national level, we added the corruption perception index (CPI) which is yearly published by Transparency International and serves as a proxy for the functionality of the national health care system (Mostert, Njuguna et al. 2015; Vian, 2008). We used all available data from 1995-2014. And to control for periodic changes like legal reforms we included yearly dummies.

*Purposive Adaptation:* In order to measure economic adaptation, we use absolute and relative net income (after taxes and transfers and adjusted for inflation and household size) and define the latter as the difference between personal income and average incomes of the same age, sex, educational background and local or national reference group. We also add an interaction of relative income with time since immigration to account for the process of adaptation.

Beyond material wealth, we use private living arrangements (marital status, household characteristics) to better account for the multi-dimensionality of the adaptation process. We apply comparable absolute and relative measures to capture both, the personal status and the deviation from the mean probability of this status of the respective reference group.

*Social Resilience:* We measure the responsiveness of migrants to loss experiences from two points of view. Economically, we focus again on household and personal income. With respect to the family network we use the loss of a partner. We trace the after effects of these negative experiences over more than three decades and compare them with same-aged natives.

We used the following *controls:* Age, current health status measured by number of doctor visits during the last 3 months, religiosity, occupational status as non-employed and unemployed, asylum seeker status, and length of stay in panel are controlled in this analysis. The first four variables are relevant for happiness and life satisfaction studies (Layard 2010), the last two are important to isolate a general migration effect from negative selection out of the panel.

**Table 1. Descriptives of Pooled GSOEP Samples A-D 1984-2014**

	First- Generation Immigrants	West-Germans
	<i>N</i>	
Sample	5052	14845
Nationalities <sup>1</sup>	34	1
Women	2427	7783
Asylum seekers	153	1
Religious background		
Christian	1858	7887
Muslim	337	93
Undenominational	398	1789
	<i>mean of pooled observation years</i>	
Subjective life satisfaction <i>0 completely dissatisfied to 10</i>	7.0	7.1
Big 5 <i>0 does not apply at all to 7</i>		
Extraversion	4.8	4.9
Neuroticism	4.3	4.2
Age in years	43.4	45.6
Years in Education	9.9	11.5
Household Size	3.6	2.8
Household (Net equivalent) Income <i>inflation adjusted €</i>	1678.98	2020.02
Personal (Net) Income <i>inflation adjusted €</i>	867.04	965.60
Corruption Perception Index (CPI) <i>0 (highest) to 100 (lowest corruption)</i>	36	71
	<i>% of pooled observation years</i>	
Health: No doctor visits <i>last 3 months</i>	79.7	79.1
Marital status		
Married	73.5	58.6
Single Parent	4.0	5.4
Employment Status		
Not employed	16.5	10.9
Unemployed	8.1	3.6

<sup>1</sup> Restricted to cases with 30 or more observations.

### 3.3 Models

The analysis is based on a growth curve model within a multilevel framework to disentangle the effects of individual changes and social processes from persistent personal and cultural characteristics. Mixed random and fixed-effects models are more flexible to account for the nested structure of migration processes and have recently been applied in the literature (Yang 2008; Esser 2009; Snijders and Bosker 2012). A full 3-level model suits the data best given substantive considerations (identification of personal and national differences across time) and goodness-of fit statistics (significantly declining Likelihood values, decreasing Bayesian information criterion (BIC)).

**Table 2. The Multilevel Structure of Subjective Well-Being of Migrants and Non-Migrants**

	(1) Null-Model	(2) 2-Level	(3) 2-level	(4) 2-level	(5) 3-levels
<i>Intercept</i>	7.07*** [0.00]	6.96*** [0.08]	7.00*** [0.04]	7.08*** [0.01]	6.97*** [0.07]
<i>σ residual</i>	3.40*** [0.01]	3.39*** [0.01]	3.39*** [0.01]	2.06*** [0.01]	2.05*** [0.01]
<i>σ person</i>				1.47*** [0.02]	1.47*** [0.02]
<i>σ cohort</i>			0.01*** [0.01]		
<i>σ nation</i>		0.18*** [0.05]			0.08*** [0.05]
<i>ρ (1)</i>					0.57
<i>ρ (2)</i>			0.00	0.42	0.41
<i>ρ (3)</i>		0.05			0.02
N	242298	242298	242298	242298	242298
-2LL	-492101.3	-491635.6	-491867.1	-450963.3	-450794.1

Standard errors in parentheses  
 \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
 GSOEP 1984-2014

Our model has the following general form:

$$y_{tjk} = \beta_{000} + \beta_{100}x_{tjk} + \dots + \beta_{010}z_{0jk} + \dots + \beta_{001}c_{00k} + \dots + \beta_{n00}x_{tjk}z_{0jk} + \tau_{00k} + \tau_{10k}x_{tjk} + \nu_{0jk} + \nu_{1jk} + \varepsilon_{tjk} \quad (1)$$

where  $y_{tjk}$  stands for the life satisfaction at time  $t$  ( $t = 1, \dots, N$ ) nested within person  $j$  ( $j = 1, \dots, M_t$ ) and country  $k$  ( $k = 1, \dots, L_{tj}$ ).  $\beta_{000}$  represents the intercept,  $\beta_{100}$  exemplifies a fixed coefficient for a first level time-varying variable,  $\beta_{010}$  a fixed coefficient for a second level personal variable,  $\beta_{001}$  a fixed third-level country variable, and  $\beta_{n00}$  captures coefficients for first and second level interactions. The model further includes a random intercept and a random slope at level three  $\tau_{00k}$ ,  $\tau_{10k}$ , as well as a random intercept at level two  $\nu_{0jk}$ .  $\varepsilon_{tjk}$  is the level one error term.

Multilevel-models assume that all random terms are normally distributed  $N(0, \Psi)$  with pairs of random effects ( $\tau_{00k}$ ,  $\tau_{10k}$ ) being independent and identically distributed. The random error terms  $\varepsilon_{tjk}$  are also independent and identically normally distributed  $\sim$  i.i.d.  $N(0, \Theta)$ .

To account for health selectivity, we add a probit model (Heckman 1976). This allows us to first identify and partial out selection effects into migration before we calculate the various influences on life satisfaction.

The 2-equation model has the following form and distributional properties:

$$y_{1LS}^* = \beta_1 x + \epsilon_1 \quad (2)$$

$$y_{2M}^* = \beta_2 x + \epsilon_2 \quad (3)$$

$$y = g(y^*) = (y_{1LS}^*, 1\{y_{2M}^* > 0\})' \quad (4)$$

$$\varepsilon = (\varepsilon_1, \varepsilon_2)' \sim N(0, \Sigma)$$

$$\Sigma = \begin{bmatrix} \sigma_{11} & \sigma_{21} \\ \sigma_{12} & 1 \end{bmatrix}$$

Where  $y_{1LS}^*$  represents the short form of our growth curve model for life satisfaction (equation 1) and  $y_{2M}^*$  models the probability of being a first generation migrant. The covariance of the error terms used to estimate the conditional maximum likelihood function which is the product of a one-dimensional normal probability density and a one-dimensional cumulative normal density.

$$L_i(\beta_1, \beta_2, \Sigma; y_i | x_i) = \phi(y_{i1LS} - \beta_1 x_{i1}; \sigma_{11}) \Phi(-\beta_2 x_{i2} - \frac{\sigma_{21}}{\sigma_{11}} (y_{i1} - \beta_1 x_{i1}); 1 - \frac{\sigma_{21}\sigma_{12}}{\sigma_{11}}) \quad (5)$$

For its derivation see (Roodman 2009). All models are estimated by maximum likelihood. We used STATA 14.

## 4. Findings

### 4.1 Health Selection

The physical constitution of people, health resources, and mental strength have a strong influence on the decision to migrate. Unsurprisingly, higher age at immigration indicates less health and has consequently a negative effect on the likelihood of leaving the home country. Each year lowers the likelihood to be a first-generation immigrant. The average probability to migrate to Germany is 35% for a 20 year old and drops to 5.5% for a 5 year older person.

⚠ Bad health and the lack of health care, shown in low values on the CPI scale, operate as push-factors for migration. The effect size on the 100-unit scale is remarkable ( $b=-0.063$ ,  $p<0.000$ ). An increase in corruption by 10%, say Germany with a score of 81 in 2016 becomes as corrupt as Uruguay (71) or Italy (47) as corrupt as Colombia, Indonesia, Liberia, Morocco or Macedonia (37), would increase the likelihood of leaving the country by 63%. In contrast, higher parents' life expectancies, an indirect proxy for a healthy genetic endowment, and more formal education, as an indicator for health literacy, lower significantly the likelihood of leaving the country. In times of falling transportation and communication costs, good health seems to be a less important factor in

leaving the country. Instead, better health care abroad may become a pull-factor which may alter the health composition of current and future migrants.

**Table 3. Multilevel Models Controlling for Selection**

	(1)	(2)	
	Separate Multilevel Model	Full Model	
	<i>First-Generation Immigrant</i>	SE	
<i>Fixed Effects</i>			
Age at Immigration		0.059 ***	[0.000]
Life Expectancy of Parents		0.036 ***	[0.001]
Education ( <i>in years</i> )		0.044 ***	[0.003]
Corruption (CPI)		0.063 ***	[0.000]
Extroverted Personality		1.183 ***	[0.022]
Neurotic Personality		ns	
Constant		8.596 ***	[0.073]
<i>Life Satisfaction</i>			
Immigrant	ns	ns	
Age	-0.039***	-0.040***	[0.002]
Age <sup>2</sup>	0.001***	0.001***	[0.000]
Extroverted Personality	0.478***	0.483***	[0.032]
Extroverted#Immigrant	ns	Ns	
Neurotic Personality	-2.326***	-2.332***	[0.028]
Neurotic#Immigrant	-0.140*	-0.141*	[0.060]
No Doctor's Visit	0.031*	0.039*	[0.018]
No Doctor's Visit#Immigrant	0.073*	0.071*	[0.036]
Women	0.632***	0.625***	[0.020]
Women#Immigrant	ns	ns	
Asylum Seeker	ns	Ns	
Muslim ( <i>yes/no</i> )	-0.119**	-0.122**	[0.039]
Not employed ( <i>yes/no</i> )	0.140***	0.137***	[0.023]
Unemployed	-0.632***	-0.635***	[0.033]
Years in Panel	ns	ns	
Constant	-6.703***	6.680***	[0.096]
<i>Random Effects (Std Dev)</i>			
Nation	0.147	0.426	[0.046]
Person	0.987	0.982	[0.007]
Residual	1.393	1.393	[0.002]
Arc tanh $\rho$		-0.093***	
N of Observations	169,603/242,251	242,950	
Pseudo R <sup>2</sup> (Probit)		64.6%	
Adjusted R <sup>2</sup> (Regression)	24.7%	24.7%	
Log Likelihood		-470,554.0	

Standard errors in parentheses. †  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; GSOEP 1984-2014

Note: The probit equation further controls for each calendar year. The multilevel equation also controls for household income, and marital status.

Moreover, migrants are systematically selected with respect to their personalities and mental strength. They are less likely to be extroverted but not more likely to be neurotic than the local population. This unexpected result is also confirmed with non-imputed personality variables (not shown). On closer inspection, both findings make a lot of sense. Even voluntary migration is a costly endeavour. Socially well-connected, extroverted persons “pay” disproportionately more than people with smaller social networks. Still, newcomers are mentally strong and unimpaired by stressors to which they are more likely exposed to, like neurotic anxiety, insecurity, or even traumatic experiences, than the local German population.

Controlling for these positive and negative health selections explains nearly 65% of the variance and reveals a modest but significant negative correlation between the error terms of both simultaneously calculated models ( $\rho=0.093$ ,  $p>0.000$ ). The z-transformed (inverse hyperbolic tangent)  $\rho$  indicates that immigrants are more likely to be less satisfied with their life than the local population.

Still, accounting for selectivity does not substantially change the effect sizes of the various determinants of life satisfaction in our first full model. In fact, immigrants are not systematically less satisfied with their life than non-migrants when we account for current health and other important determinants of life satisfaction. The effect of an extroverted personality on life satisfaction is the same for first generation immigrants as for the local population. But the stark negative effect of neuroticism on life satisfaction measured in standard deviations is stronger among the former. An increase by one standard deviation lowers the subjective well-being of newcomers by 22.5%. A neurotic character weakens a person more intensively in a new and thus more insecure environment. Distinct is also the more positive impact of one current health indicator measured by having no doctor’s visit in the last 3 months on SWB among migrants.

Interestingly the asylum seeker status has no systematic impact on the life satisfaction while being a Muslim has. However, immigrant Muslims are not more or less satisfied than Muslims with a German passport (the non-significant interaction is not shown in the model). The remaining control variables show expected and well-known patterns like the strong negative effect of unemployment. Panel attrition does not distort the results.

In sum, we find more evidence for negative health selectivity than positive selectivity. The findings do not unambiguously add to the happiness of migrants. The selection of less healthy and less extroverted people into migration has a decreasing effect on the overall happiness of this population group. But migrants are also younger, more physically robust, and therefore happier. In addition the selectivity effect is weak and does not substantially alter the estimation of the life satisfaction model. Thus, our selection hypothesis is only partially confirmed.

## ***4.2 Purposive Adaptation***

### ***4.2.1 Income***

Most variance in life satisfaction accrues at the person and year levels, where adaptation processes take place. We focus on household and personal income first and test whether absolute and relative incomes have different impacts on the life satisfaction of migrants and native Germans.

**Table 4. Purposive Adaption: Income**

	(3)	(4)	(5)	(6)
Household Net Eq. Income (HI) (ln, in 2010 €s)	Ns	-0.288*** [0.049]	-0.248*** [0.035]	-0.284*** [0.036]
# Immigrant	Ns			
Personal Net Labour Income (PI) (ln, in 2010 €s)	0.057* ** [0.019]	0.632† [0.347]	0.537*** [0.150]	0.619* [0.254]
# Immigrant	Ns			
<i>Difference to mean</i>				
German HI		0.352*** [0.056]		0.351*** [0.046]
# Immigrant		ns		
German PI		-0.595† [0.347]		-0.590* [0.254]
# Immigrant		ns		
National HI			0.314*** [0.041]	
# Immigrant			-0.103* [0.043]	
National PI			-0.499*** [0.151]	
# Immigrant			ns	
HI of same nation, age, gender, education				ns -0.109† [0.064]
# Immigrant				
PI of same nation, age, gender, education				ns ns
# Immigrant				
Log-Likelihood	- 279,473.7	- 279,078.4	- 280,134.9	- 280,055.1
N	212,287	212,287	212,287	212,287

Standard errors in parentheses

† $p < 0.1$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$ 

Model 3 estimates the effect of absolute household and personal income and shows that when control for both income sources only personal income affects the SWB of immigrants and non-immigrants positively. The non-linear partial effect is not huge, an increase in personal income by 100 € raises the subjective well-being by 0.26 points, an increase by 10,000 € by 0.53 points on the 11 point scale.

But relative comparisons change this pattern. If we add the individual departure from the mean income of the German population as a first comparative benchmark, the absolute household income turns into a highly significant negative value ( $b = -0.288$ ,  $p < 0.000$ ) (model 4). However, this absolute effect is nearly absorbed by a powerful relative positive household influence ( $b = 0.352$ ,  $p < 0.000$ ). Measured on a log scale, small income deviations make a big difference. For example, a 1,000 € higher household income than the average local population compensates for the entire negative effect of absolute household income. On the other hand, if the household income is below an average German household income, which is the case for more than 70% of all immigrant households, the effect adds strongly to the negative absolute income effect. Relative personal income works in the opposite direction and counterbalances the positive effect of absolute personal income for both first

generation immigrants and the local population. Newcomers show no signs of negative effect from earning less than natives on average, all interactions effects are insignificant<sup>2</sup>

From Model 5 and 6 we learn that the German majority defines the most relevant comparative standards for income. In fact, differences to mean incomes of co-nationals from migrants' home countries have a significantly weaker influence on migrants' SWB than differences to mean income of Germans have. Breaking national groups down by ascribed and meritocratic differences related to nationality, age, gender, and education we see that deviations from the household and personal income of these reference groups have little if any impact on SWB. Adding these distinct reference points to our analysis does not improve the model fit. The log-likelihood values of model 5 and 6 are significantly higher than in model 4.

#### 4.2.2 Family life

Adaption looks different when we compare the private lives of natives to newcomers. We repeat the foregoing analysis for family status while controlling for all effects of the previous best fitting model 4. Using single parenthood, being married and household size as three decisive indicators of family networks reveals significant effects but no systematic difference between first-generation immigrants and the local population. As expected, being a single parent lowers substantially the subjective well-being in both groups. A monthly net household income of approximately 5,000 € or an extra 3,000 € on top of an average German household income is necessary to compensate for this negative effect.

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<sup>2</sup> Note this difference is centered at mean German income.

**Table 5. Purposive Adaption: Family Status**

	(7)	(8)	(9)	(10)	(11)
Single Parent (reference: no single parent) # Immigrant	-0.172** [0.065] ns				- 8.257* [3.373]
Married (reference: non-married) # Immigrant	0.301*** [0.036] ns				- 4.639*** [1.163]
Household size # Immigrant	0.031* [0.012] ns				- 0.634* [0.234]
<i>Difference to mean (prob.) of</i>					
German single parents # Immigrant		-0.169*** [0.045] ns			7.950* [3.374]
German married couples # Immigrant		0.304*** [0.024] ns			4.839*** [1.163]
German household size # Immigrant		0.033*** [0.008] ns			0.683** [0.234] -0.039† [0.020]
National single parents # Immigrant			- 0.168*** [0.444] ns		
National married couples # Immigrant			0.303*** [0.24] ns		
National household size # Immigrant			0.033*** [0.01] ns		
Single parents of same age, gender, education, nationality # Immigrant				0.131** [0.051] ns	0.179† [0.095] ns
Married couples of same age, gender, education, nationality # Immigrant				0.360*** [0.030] ns	0.163*** [0.049] ns
Household size of same age, gender, education, nationality # Immigrant				0.021* [0.010] ns	ns ns
Log-Likelihood	- 279,410.4	-280,802.3	-280,761.5	-280,874.4	-280,656.9
N	212,287	212,287	212,287	212,287	212,287

Standard errors in parentheses

† $p < 0.1$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$ 

Note: all models are based on model 4.

On the other hand, having a marriage partner is a big plus and living in larger households adds to people's happiness. But it takes 8 additional people in the household to compensate for the positive marriage effect in first-generation immigrants and native Germans. Only 1 to 2% of German and foreign households have so many household members. All interactions with the immigrant status are insignificant despite a weak negative deviation of immigrants on the impact of relative household size (model 11).

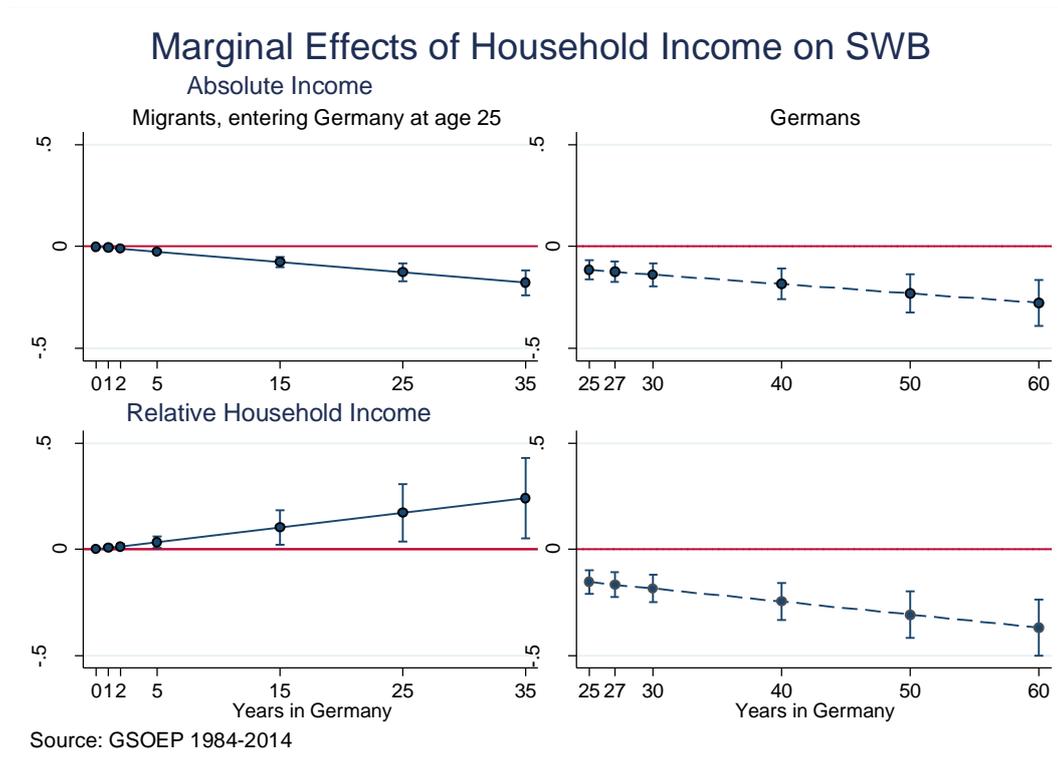
Interestingly, relative measures do not add to the explanatory power of the model. In model 9 and 10 we see that relative household and family characteristics absorb the absolute effects. But the log likelihood remains higher than in the initial model 7. Model 10 sets a population of the same age, sex, education, and national background as the reference group and then isolates a surprising positive relative effect of single parenthood. Dissatisfaction of lone mothers and fathers appears relative to the social environment but small reference groups are not a stable anchor and correlate with absolute effects as the pooled model 11 demonstrates. The impact of family networks on subjective well-being is best explained by absolute effects and does not differ between immigrants and locals (model 7).

#### 4.2.3 Income and Family Dynamics

In a final step, we expand model 7 and test for the dynamics of adaptation. In fact, grouping immigrants by years lived outside and in Germany reveals differences in the impact of income and family characteristics on SWB between newcomers and the local population, particularly during the early years of migration. Many but not all erode.

Figure 3 displays significant marginal differences for absolute household income during the first (approximately) 15 years migrants are living in Germany compared to their same-aged German reference group. After that time the effect of income converges towards the post-material level we observe for 25 years and older Germans. Please note that the different x-axis for newcomers and Germans account for both, age and time length lived in Germany to make both groups comparable.

**Figure 3**

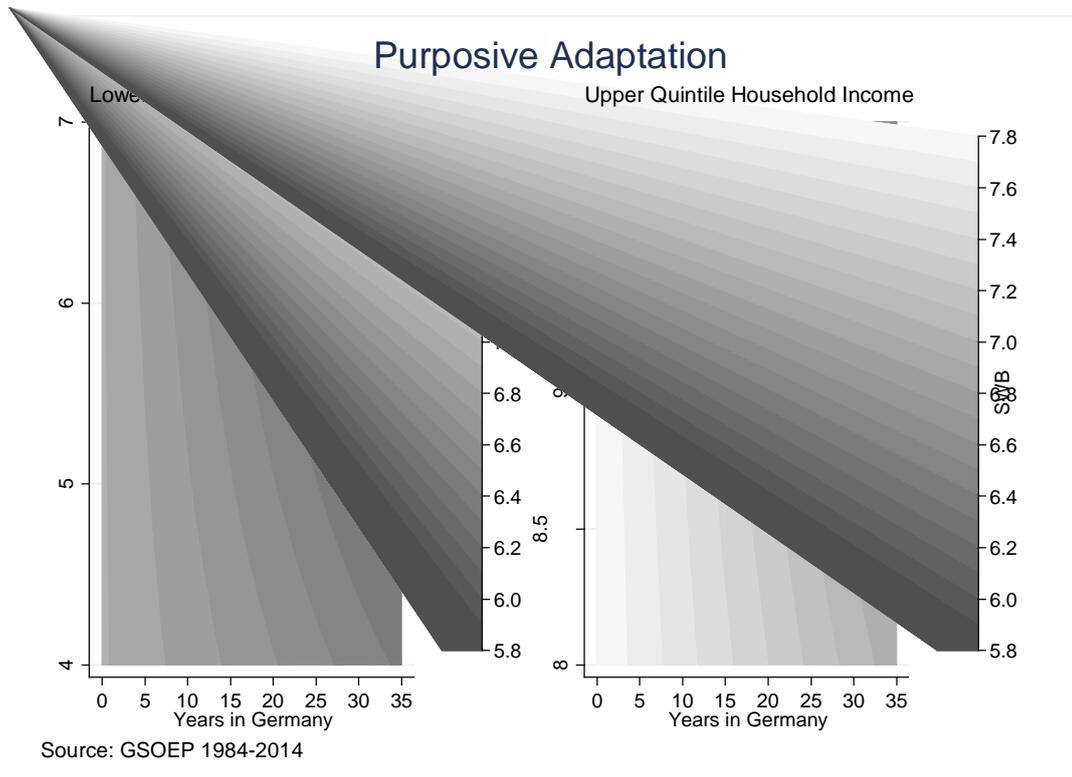


Note: Overall mean income, mean migrant and mean German income are used for calculations.

One reason for such a remarkable (value) shift and trigger for adaptation is the alignment of newcomers with local economic standards as their happiness depends on the relative positioning in the hosting society. Relative income has a significant and increasingly positive impact on the SWB of migrants and a negative impact on the SWB of Germans.

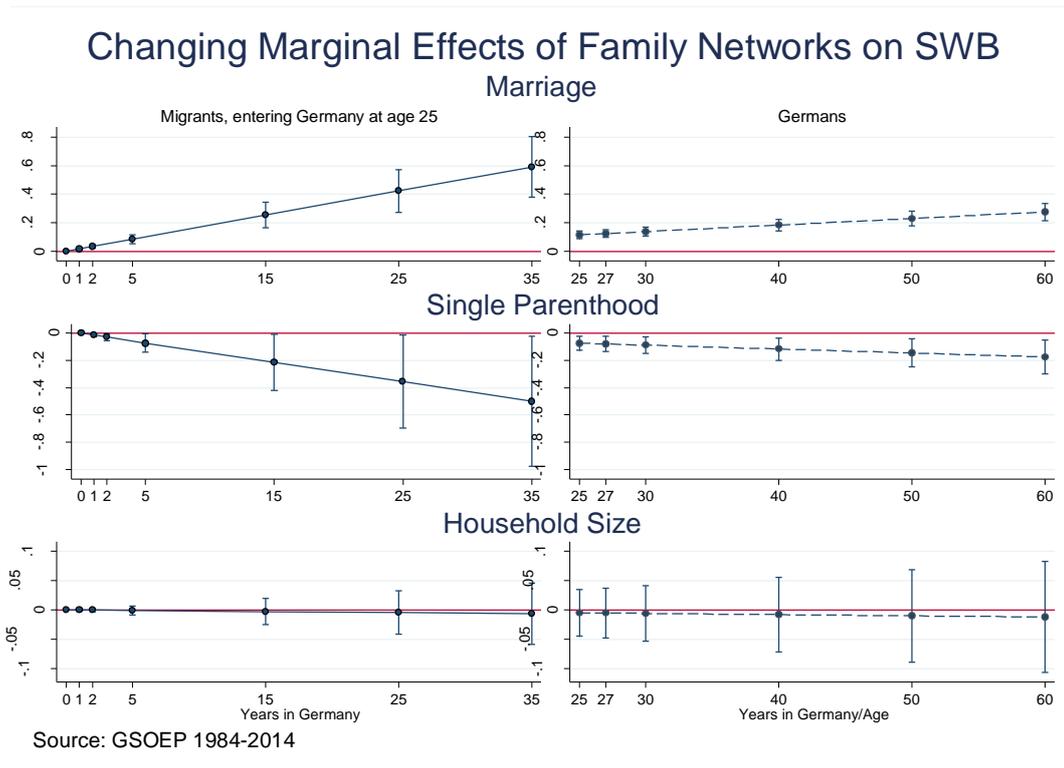
Still, contour plots (figure 4) illustrate how the interplay of these various sources of income results in a comprehensible, overall positive impact of income on subjective well-being. In two realistic scenarios we compare the same 25 year old male migrant as in previous examples and let him belong either to a household from the highest or the lowest income quintiles. Respectively, we account for a negative and a positive deviation from the mean German income group (relative income), assume lower or higher education and set all other influences to mean. Overall, people with money are happier. Still, this positive income effect washes out over time. At both ends of the income distribution material resources are devalued. Higher income groups align even quicker to the post-material norms of the local population than migrants at the lowest income quintile. With respect to money, newcomers adapt relatively quickly to German norms (roughly one and a half decades).

**Figure 4**



With respect to family norms, newcomers remain distinct over the course of an entire generation.

Figure 5



What is more we observe effect sizes diverging consistently from the German reference group across time since immigration. In fact, living as a single parent does not harm the happiness of immigrants during the first years in Germany while raising a child alone has always a significant negative effect on the subjective well-being of same-aged locals. In later years though single parenthood seem to impact the subjective well-being of migrants much more negatively than Germans. But confidence intervals are wide.

However, findings for marriages are stronger and confirm a similar diverging, mirror-inverted pattern. Across time a marriage partner affects the subjective well-being of newcomers and locals in an increasingly positive way. However, the change of the effects sizes is much stronger for newcomers than for locals. Over 35 years it increases by the factor 75 for newcomers and by the factor two for locals. Thus, marrying is producing less life satisfaction during the first years after immigration and more satisfaction in later years compared to Germans. While the null effect of household size persists as is shown in figure 5, our results reveal the importance of quality (not quantity) family life on subjective well-being for first-generation immigrants who do not adjust to German norms in their private life.

### 4.3 Social Resilience

Preserving home country norms, despite the fact that one has to leave old friends, old habits and a familiar environment behind, suggests a certain resilience. We finally test the resilience of newcomers explicitly. To what extent do loss experiences strengthen first-generation migrants against other negative experiences after their arrival in Germany? We include household and personal income losses, as well as losing one's partner and other members in the household during the previous year and insert these variables in model 7. Results are similar with our best fitting model 4 in which we do not control for (stable) family constellations. Table 6 displays the results.

**Table 6. The Resilience of Immigrants to Recent Loss Experiences.**

	(12)	[SE]
<i>Fixed (SE)</i>		
Household Income Loss ( <i>log</i> )	- 0.127*	[0.057]
# Immigrant	- 0.096	[0.118]
Personal Income Loss ( <i>log</i> )	- 0.120†	[0.063]
# Immigrant	- 0.06	[0.147]
Partner Loss	- 0.635***	[0.125]
# Immigrant	0.526**	[0.187]
Household Member Loss	- 0.125*	[0.050]
# Immigrant	0.051	[0.096]

Standard errors in parentheses

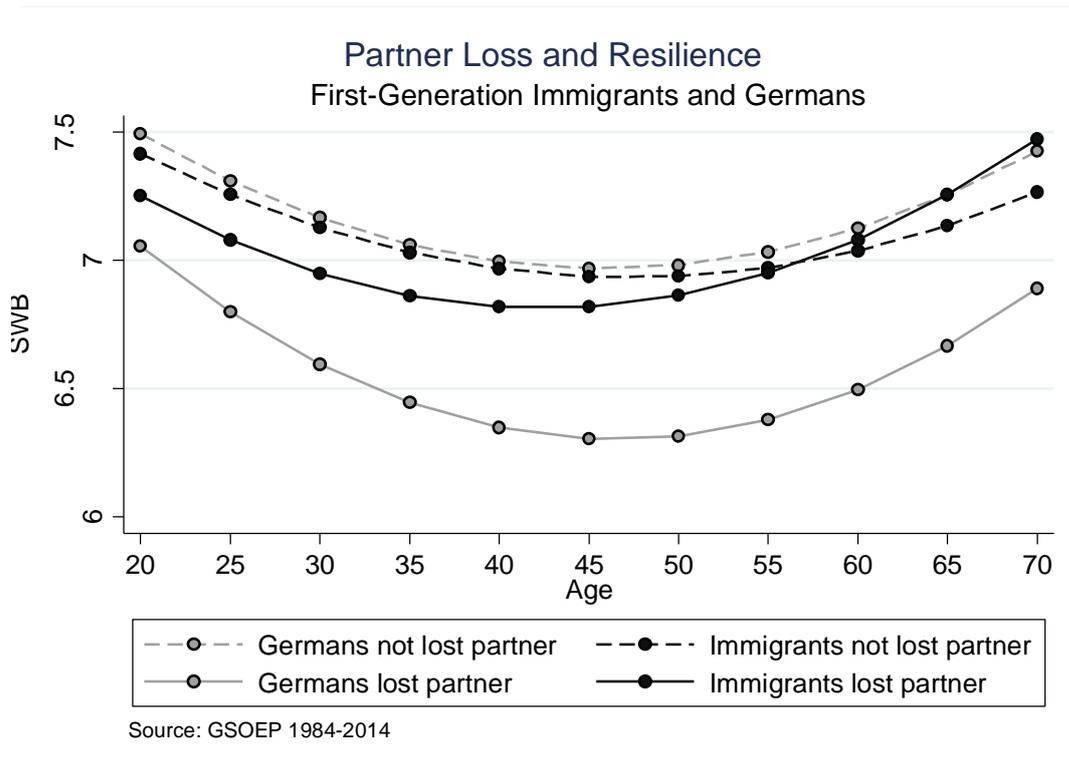
† $p < 0.1$  \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$

Note: all models are based on model 7.

Interestingly, immigrants are significantly negatively influenced by income losses but it does not affect them any more than the local population even though their average income is significantly lower. A decline in monthly household income by 500 €, e.g. by more than a third of their net monthly income (35.5%), reduces their SWB by -1.4 points on the 11-point scale if we also add the interaction effect. If we leave it out since the interaction with the immigration category is not significant, the subjective well-being of immigrants drops by (only) 0.8 points.

This is a severe setback but still, losing income may not qualify as a personal disaster. It is also a more gradual and reversible experience than a sudden and harmful event such as the loss of a life-partner. Research on subjective well-being has shown that the loss of a partner has severe and long lasting negative consequences. It leaves scars. Our findings confirm this and in line with our hypotheses, the tragic event affects the SWB of immigrants less negatively than the native population. The difference is substantial, significant, and supports our expectation that first-generation immigrants are more socially resilient. The loss of other household members imply more diverse transitions, like e.g. children or grandparents leaving the household which is often foreseeable and sometimes reversible. Here the resilience of migrants does positively but does not significantly deviate from the overall negative trend of a recent decline in household size. Figure 6 shows the predicted levels of SWB from model 12 for average German and first-generation immigrants at different stages in their life course. It reveals their strong coping capacity which helps them maximize happiness against (all) private odds. In fact, immigrants who are older than 55 do not even distinguish from others immigrants or Germans who have not lost a partner.

Figure 6



## 5. Discussion

Our analysis shows that in most cases immigration affects the happiness of newcomers irrespective of their national, legal and cultural background. In no case is the effect negative. Naturalized immigrants show no difference to West-Germans in their overall life satisfaction. The life satisfaction of other first-generation immigrants, while generally lower, is still higher than that of East-Germans. We test three mechanisms potentially accounting for the successful pursuit of happiness among first-generation immigrants in Germany.

*Health selection* assumes that newcomers have a health advantage. It has been primarily found for US and Canadian immigrants (e.g. Abraido-Lanza, Dohrenwand et al. 1999; Newbold 2005). For Germany, we cannot confirm the “healthy migrant” effect. Even though migrants are younger and therefore healthier than the local population, they are on average less health literate and they have had less access to health care resources in their home countries before migration.

There is also only mixed support for the hypothesis that migrants are mentally healthier personalities than natives. On one hand, we find that first-generation immigrants have less open and extroverted personalities (Jokela 2009; Canache, Hayes et al. 2013). On the other hand, we do not find more neurotic personality characteristics among immigrants than among natives despite their exposure to potentially traumatizing experiences before and during their migration. Anxious, temperamental, jealous, and envious people may not dare to leave their country despite their higher levels of life dissatisfaction. In conclusion, there is health selection but it is multifaceted and diverse. Future research will have to disentangle different health features and will need to develop standardized measures. Overall, we find a weak negative health selection which does not explain the happiness of newcomers but represents a bias. We account for this in our further analysis.

We identify *adaptation* as the most relevant mechanism by which first-generation immigrants maintain happiness in their new host country. Income affects the subjective well-being of first-generation immigrants in the same way as native Germans. Both absolute and relative income are significant. The preferred benchmark is the mean income of Germans, not the income levels of migrants from their countries of origin. This choice of reference often implies an upward comparison because immigrants tend to earn less than natives. Upward comparisons tend to make people unhappy. In order to preserve or even maximize happiness, immigrants then devalue the importance of income over time and adapt to the lower, less materialistic levels of the local population. Hence, newcomers are agents and not patient sufferers of their adaptation in Germany.

In contrast, first-generation immigrants compare their private lives neither with that of the local population nor with that of people of their own national background. Only the comparison with migrants of not only the same nationality, but also the same age, sex and education may alter the dominating absolute effect of private lives on subjective well-being. This constrained comparison is advantageous as it allows immigrants to preserve the strong influence of individual family arrangements on happiness. Indeed, we do not see any adaptation to German mainstream norms across time, not even for single parents.

The migration and subjective well-being literature backs up our findings. Theories of selective acculturation (Gibson 1988) have shown how migrants acquire cultural practices of the host country selectively while largely maintaining their old culture expectations and affiliations. Moreover, established private networks are absolutely and not relatively important for all newcomers (Portes 1995; Ryan, Sales et al. 2008). In addition, the literature on subjective well-being has especially focused on and confirmed the importance of relative income on happiness and life satisfaction (Easterlin 2003; Falk and Knell 2004; Wolbring, Keuschnigg et al. 2013). Understanding the choice and ignorance of social comparison as purposive adaptation strategies to preserve subjective well-being adds to both literatures as it provides a better understanding of the economic and cultural agency of newcomers.

Finally, first-generation immigrants also show some *resilience*. They are not economically resilient but they are better able to cope with dramatic social events. As we show, the loss of a partner affects the subjective well-being of migrants less severely than that of native Germans. In fact after some time, they go back to previous levels. Adaptation can hardly explain these resilient responses to rare events. It is more likely that tightly-knit networks and the sharing of similar experiences buffer the negative effect of severe personal losses.

The findings do not imply that immigrants see the world through rose-coloured glasses as popular critics claim (Ehrenreich 2010). On the contrary, first generation immigrants of different income strata realize objective differences like natives. The subjective well-being is a reliable and valid compass for immigrants to judge one's life in a new country. Still, newcomers live in a private, parallel universe which helps to protect their relatively high levels of well-being.

Here are some limitations of the study. Firstly, our observations are generally restricted to the time after immigrants' arrivals in Germany and our individual-level data has only few health indicators. This compromises our ability to fully test the selectivity hypothesis. Certainly, our approach is in line with other studies (e.g. Anson 2004). To this day there is no standardized test of the "healthy migrant" effect (Domnich, Panatto et al. 2012). However, our findings on health selectivity should be interpreted with caution. Even for the personality estimates, though largely genetically determined, we cannot absolutely rule out cultural bias. However, our findings suggest that the healthy migrant hypothesis is too simplistic. We find that migrants are not per se healthier or less healthy than the local population. Future studies will have to systematically address the various health elements in which newcomers differ not only from sending population but also from the receiving country.

Secondly, it is beyond the scope of this analysis to further differentiate adaptation and resilient behaviour. Future studies need to cross-validate the findings, particularly the limited measurement of

social resilience. Qualitative studies may shed more light into the understanding of resilient responses to experienced shock and loss. We could also not track subjective well-being down to 2<sup>nd</sup> and 3<sup>rd</sup> generation of immigrants. Still, given the persistent gap between economic and socio-cultural adaptation and resilience we would expect that descendants of first-generation migrants cannot preserve the happiness of the newcomers. They lack the socio-cultural exposure and expertise and the social resilience to pursue the same economic goals as their parents. Much of the burden of migration may grow out of this conflict. However, first-generation migrants benefit from the different paces of economic and socio-cultural integration.

Thus, migration policies should be more sensitive to these time varying differences. Measures of subjective well-being are able to better capture permanent changes in the lives of newcomers, to detect moments of crisis and to more precisely evaluate successful integration than objective standards. Language fluency, employment status or normative knowledge, the most commonly used objective indicators of integration are less flexible, less tailor-made and it is unclear how they interact with each other, all which is important to explain and predict behavioural change.

Subjective well-being as a proximate determinant of behaviour can also help develop personalized policies which can better guide decisions, and provide advice on when and for whom to allow residence permits for partners and children. Perhaps most importantly, our findings do not generally support a quick family reunion as a social integration measure as it may slow down the adaptation to the socio-cultural environment of the host country. Even though living with one's family members makes people feel happier, we concede that *maximizing* happiness of newcomers is not the main aim of migration politics. Nevertheless, policy maker would want to avoid extreme unhappiness among newcomers as this may lead to depression and other psychic or social problems (Kirmayer, Narasiah et al. 2011; WHO 2017). Yet, equally important, our results support an immediate access to the labour market for newcomers as it speeds up integration and boosts happiness at the same time.

In general, the current erratic stop and go pattern of migration to Germany and the corresponding sudden formation of xenophobic sentiments among the local population obviously leaves room for policy improvement. What is more, better migration management is in high demand in many countries these days. The European migration crisis since 2015 challenges policy makers to account for the causes and consequences of migration. It all starts with the universal leitmotif of the pursuit of happiness. Making the subjective well-being of newcomers a core objective of migration policy, is the best way to understand and counteract the awful circumstances of migration.

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