Unhealthy Immigrant Sleep Assimilation[*]

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Abstract

Research has documented the presence of a healthy immigrant effect, that becomes eroded over time, constituting a sort of 'unhealthy assimilation'. Health-related lifestyles may play a relevant role in this kind of assimilation. We here point to a specific mechanism: sleep. Using data from the US and Germany, we document that immigrants sleep significantly more than natives upon arrival, but their 'sleep advantage' dissipates with time spent in the hosting country. We then explore the heterogeneity in the assimilation process by education and occupation, exploiting the different socio-economic gradient of sleep in the two countries. While in the US the higher opportunity cost of time plays a decisive role, working condition and job strain appear to be a main factor explaining sleep trajectories of immigrants in Germany.

JEL Codes: J15, I10, J10

Keywords: Healthy Immigrant Effect, Assimilation, Unhealthy Assimilation, Sleep

1 Introduction

Immigrant assimilation has been seen as a central part of the social integration of migrants in the country of destination (Warner and Srole, 1945; Waters and Jimnez, 2005). This positive view of immigrant assimilation has later been amended and criticized by scholars who have also pointed out that assimilation may also bring negative effects on specific outcomes, such as health. A wide literature has focused on the "healthy immigrant effect", namely the evidence that immigrants tend to be healthier than natives upon arrival, but their health deteriorates with the time spent in the destination country (Kennedy et al., 2015; Antecol and Bedard, 2006; Giuntella, 2017; Giuntella and Stella, 2017; Gordon-Larsen et al., 2003). Antecol and Bedard (2006), for instance, have coined term "unhealthy assimilation", documenting in particular that, in the U.S., the initial immigrant advantage in BMI gets eroded, with a convergence towards the BMI of non-immigrants in 10-15 years.

We contribute to this literature on unhealthy assimilation by analyzing the trajectories in sleep habits of immigrants. Understanding immigrant sleep patterns and their change with time spent in the hosting country may shed light on the role of time use patterns in the unhealthy assimilation of immigrants. More specifically, this paper has three main contributions relative to the extant literature. First, to the best of our knowledge, this is the first study analyzing the assimilation in sleep patterns of the first generation immigrants focusing on the number of years spent in the destination country. Previous studies have concentrated on the comparison of sleep habits among first and second or higher-order generation immigrants, without examining the process of assimilation among first-generation immigrants with time spent in the destination country. Second, we extend prior research through a comparative perspective. More specifically, we present evidence from two different countries, namely US and Germany, with distinct socio-economic gradients of sleep, with important implications on the immigrants sleep assimilation process. Third, we contribute to previous studies by investigating the heterogeneity in this assimilation process by education and occupation providing important insights about the role of education (driven by the trade-off between wages and sleep), and of job physical intensity in explaining the speed of assimilation.

The remainder of this paper is organized as follows. In Section 2, we outline a theoretical and

empirical background. In Section 3, we present a description of the data we use in both countries and the methods of analysis. In Section 4, we report the main results of the paper and also include a set of heterogeneity analyses and robustness checks. Concluding remarks are reported in Section 5.

2   Background

In classical social theory, assimilation has been seen as a central part of the social integration of migrants in the country of destination (Warner and Srole, 1945). This perspective has been later discussed and criticized, with a telling declaration of the 'death' of assimilation theory proclaimed by Nathan Glazer in 1993 (Glazer, 1993).

Research on health, in particular, has challenged the assimilation approach by documenting that assimilation does not always constitute an advantage. More specifically, when immigrants start with an advantage with respect to natives, such as the often documented 'healthy immigrant effect', assimilation can also have negative consequences (Kennedy et al., 2015; Antecol and Bedard, 2006; Giuntella, 2017; Giuntella and Stella, 2017; Gordon-Larsen et al., 2003).

More than a third of the US adult population reports to sleep less than recommended. Sleep deprivation has been linked to many chronic diseases, including, for instance, type 2 diabetes, heart disease, obesity, and depression (Knutson et al., 2006; Taheri, 2006; Zimmerman et al., 2006). Insufficient sleep is linked to motor vehicle crashes and occupational mistakes (Barger et al., 2005; Lyznicki et al., 1998; Smith, 2016). There is increasing evidence on the health and economic costs of poor sleep (Giuntella and Mazzonna, 2019; Giuntella et al., 2017; Gibson and Shrader, 2018; Jin et al., 2015). Prior studies have shown that there are marked differences in sleep duration by race and ethnicity (Lauderdale et al., 2006; Hale and Do, 2007). Given the growing evidence on the detrimental effects of sleep deprivation on health, sleep may contribute importantly to explain health disparities in the population.

A few studies have shown significant racial and ethnic disparities in short sleep duration (Hale and Do, 2007; Seicean et al., 2011; Jackson et al., 2013, 2014). For instance, Seicean et al. (2011), using data from the National Health and Nutrition Examination Survey, document that Mexican immigrant status is associated with better sleep quantity and quality. However, US-

born Mexican Americans are more likely to be short sleepers than Mexican immigrants, thereby suggesting a process of cultural and health behavior assimilation.

Similarly, Hale et al. (2014) employ data from the Study of Women's Health Across the Nation and find that US-born Hispanics, Chinese and Japanese immigrant descendants are more likely to report sleep complaints compared to their first-generation ethnic counterparts. The evidence reported in these studies suggests the presence of a "sleep immigrant effect", an advantage in sleep duration that deteriorates as immigrants integrate in the US culture. However, the mechanisms underlying this assimilation process remain unclear. Moreover, whether this applies also to other host countries might help to understand how this process takes place. Using data from the American Time Use Survey and the German Socio-Economic Panel, we show that immigrants sleep significantly more than natives upon arrival, but their sleep reduces significantly with time spent in the destination country. However, while in Germany these trajectories are particularly marked among the low-educated immigrants working in strenuous occupations, we detect an opposite pattern for the US. The high opportunity cost of time of the high-educated workers in the US incentivizes them to sleep significantly less compared to the low-educated workers (Biddle and Hamermesh, 1990). As a result, highly-educated immigrants converge to this "worse norm". In contrast, in Germany, such a trade-off between wage and sleep among high-educated workers is less marked. Our results suggest that in Germany the working conditions of low-educated individuals play a major role in affecting immigrant sleep trajectories, likely through shift work and job strain.

3 Data and methods

To document the relationship between assimilation and sleep in the US and Germany, we employ data from two main sources: the American Time Use Survey and the German Socio-Economic Panel, respectively.

3.1 American Time Use Survey

The American Time Use Survey (ATUS) is a nationally representative repeated cross-sectional survey of the time use of Americans conducted by the US Bureau of Labor Statistics from 2003

to the present (Bureau of Labor Statistics, 2018). The monthly Current Population Survey (CPS) provides the sampling frame for this survey; households that complete the eighth and final CPS interview become eligible for selection into the ATUS sample. Specifically, respondents, aged 15 years and above, are asked to complete a detailed diary of their previous day, with 50 percent of the sample reporting about weekdays, and 50 percent reporting about Saturday and Sunday. This diary provides information on all performed activities recorded during the entire 24 hours. In addition, respondents are also requested to answer questions about socio-demographic characteristics.

In our analysis, we consider the entire period between 2003 and 2017. We restrict attention to individuals between 18 and 59 years old, and we drop individuals reporting more than 16 or less than 2 hours of sleep. Furthermore, we consider only night sleeping by excluding the naps (i.e., sleep that starts and finishes between 7 am and 7 pm). Our final estimation sample comprises 65,309 observations during the weekdays.

Table A.1 in the Appendix displays the descriptive statistics of the main variables used in the regression. Individuals report to sleep on average about 8.2 hours during the workweek. Approximately 10% of individuals in our sample sleep less than 6 hours, 47% sleep less than 8 hours, and 34% report being very well rested. Approximately 16% of the sample is foreign-born, and on average, they spent about 18 years in the US. Moreover, they are 40 years old on average, about 80% is White, approximately 55% have received a high-school education, while close to 36% have obtained a college degree. Figure A.1 in the Appendix describes the distribution of sleep hours in the sample.

3.2 German Socio-Economic Panel

The German Socio-Economic Panel (SOEP) is a representative longitudinal dataset, which surveys households and individuals in Germany since 1984. A detailed description of the survey can be found in Wagner et al. (2007). One major advantage of the data is that since the initiation of the survey, the resident migrant population is over-sampled, and thus it represents an ideal source for investigating the assimilation process of immigrants in Germany across several

dimensions.[1] A second reason for using the SOEP is that in addition to a range of individual and household characteristics, the survey contains detailed self-reported information both on the quantitative and qualitative metrics of sleep. Since 2008, the following questions are asked to the respondents: *"How many hours do you sleep on average on a normal day during the working week?"*; *"How many hours on a normal weekend day?"*. We construct both a linear measure of sleep duration in hours and indicators for whether individuals slept less than six or eight hours. Furthermore, we also use a qualitative metric of self-reported satisfaction with sleep, which is defined on a 11-point Likert scale ranging from 0 (very dissatisfied) to 10 (very satisfied). Finally, the SOEP allows us to exploit the longitudinal dimension of the data and control for the selection associated with time-invariant characteristics of an individual.

Our working sample is constructed as follows. We consider the survey years 2008-2015, and we restrict attention to individuals between the ages of 18 and 59 at the time of the interview.[2] As in the ATUS data, the age limit of 59 is chosen in order to avoid problems with early retirement programs.[3] We constrain the analysis to observations with non-missing data on sleep outcomes and our covariates. In addition, following Giuntella and Mazzonna (2019), we drop individuals who sleep below 2 or above 16 hours per night.[4] After these restrictions, we obtain a final longitudinal sample that contains 118,233 person-year observations resulting from 33,143 individuals.

Descriptive statistics are reported in Table A.2 in the Appendix. Individuals report to sleep on average about 6.8 hours per night during the workweek. Approximately 9% of individuals in our sample sleep less than six hours, and 74% sleep less than eight hours. Average satisfaction with sleep is 6.9. Moreover, approximately 13% of the sample is foreign-born, and immigrants resided about 20 years in Germany. On average, they are 40 years old, approximately 57% have received a high school education (ISCED 3-4) and about 29% have obtained a college degree (ISCED 5-6).

At this stage, it is worth remarking that self-reported sleep and time-diary sleep are only weakly correlated and cannot be compared directly (Lauderdale et al., 2008b; Knutson and Lauderdale, 2007). The differences are magnified by the discrete nature of the sleep duration variable

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[1]It is worth mentioning that the German Time Use Survey lacks information on the immigrants' years since arrival in Germany. This data limitation prevents us from analyzing the assimilation process using German time use data.

[2]We cannot include the years 2014 and 2016, as information on sleep was not collected in these two years.

[3]In the sensitivity analysis, we show that our results are robust to several classifications of the age groups.

[4]Results are not sensitive to this restriction.

in the SOEP data. In fact, the main limitation of the SOEP data is that sleep duration is reported in hours (see the distribution in Figure A.2 in the Appendix), and is therefore more prone to be affected by measurement error. On the other hand, diary-based estimates of time use surveys are more reliable and accurate than estimates obtained from direct questions (Bonke, 2005; Knutson and Lauderdale, 2007; Kan, 2008). This may largely explain the marked differences in average sleep duration observed in the ATUS and the SOEP data. In particular, as shown in previous research analyzing the differences between time-diary and self-reported average sleep hours, the former tends to be significantly larger (see Knutson and Lauderdale, 2007).

3.3 Empirical Strategy

To examine the sleep trajectories of migrants over time, we estimate for each country (US or Germany) the following linear regression model using ordinary least squares (OLS):

$$Y_{it} = \alpha + \beta FB_i + \sum_{j=1}^{4} \gamma_j D_{itj} + \lambda X_{it} + \mu_t + \epsilon_{it} \tag{1}$$

where the index it denotes an individual i (immigrant or native) aged 18-59 years at the year of interview t. Y_{it} represents a set of sleep outcomes (during the workweek), defined as follows: 1) sleep hours; 2) an indicator variable for whether the individual sleeps less than 6 hours; 3) a binary variable for whether the individual sleeps less than 8 hours; and 4) a measure of sleep satisfaction (in the ATUS, satisfaction with sleep is proxied by a dummy equal to one if the individual reported to have rested very well the previous day). Our main explanatory variables are FB_i and D_{itj}. The former denotes a dummy variable indicating if the person is foreign-born (equal to 0 for natives). The latter refers to a set of 4 dummies, indexed by j ($j=1,\dots,4$), representing the number of years the immigrant has resided in the destination country, i.e., 6-10, 11-15, and 16 or more years since migration (the omitted category is given by the comparable natives and immigrants who arrived between 1 and 5 years).[5] Accordingly, the coefficients of interest are β, which indicates whether at the time of arrival in the US (or Germany), immigrants are more or less likely to be short sleepers relative to otherwise similar natives, and γ_j, which captures

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[5]Results are robust to the use of a linear metric for years since migration, or alternative categorizations of the intervals.

the effect of assimilation on sleep behavior. X_{it} is a vector of control variables, including gender, age and age squared, indicators for marital status, number of children, and a dummy variable for the individual having a college-level education or a high school diploma. In our analyses in the US, we further include indicators for the race groups (i.e., White people, Hispanics, and Black people). Model (1) contains survey year fixed effects (μ_t) to account for possible trends in sleep behavior. ϵ_{it} represents an idiosyncratic error term. Finally, equation (1) is estimated using the available sampling weights. In the case of Germany, we account for the longitudinal nature of the SOEP data by using clustered standard errors at the individual level. Moreover, as a robustness check, we estimate model (1) using a fixed effect strategy, which allows us to net out the confounding effects of any time-invariant characteristic.

4   Results

In this section, we present our main empirical results. First, we analyze the sleep assimilation process in the US. We then estimate the effects of assimilation on sleep behavior in Germany. Finally, we provide a set of heterogeneity analyses and robustness checks. However, before presenting our main results, we provide some descriptive evidence about the relationship between immigration status and sleep in the two countries and the heterogeneity by education.

In Figure 1, we use the immigrant sample to analyze the differences in the pattern of sleep assimilation over the time spent in the host country. The vertical and horizontal axes describe sleep hours and years since migration, respectively. Overall, Figure 1 indicates that among immigrants sleep hours decrease considerably with time spent in the US or in Germany. After 30 years of residence in the hosting country, the initial sleep advantage of immigrants has reduced by about 30 minutes.

Figure 2 illustrates the average sleep hours by education and immigrant status, distinguishing between natives, recent immigrants (arrived up to 5 years before the interview) and all the other immigrants (arrived 6 years or more prior to the interview). Consistent with the sleep assimilation hypothesis, in both countries recently arrived immigrants sleep significantly more than natives and than earlier immigrant cohorts. However, the heterogeneity across educational groups is quite different for the two countries. In the US, there is a clear educational gradient

in average sleep duration, with higher educated people sleeping significantly less than lower educated (more than one hour gap between college and less than high-school), which appears to affect also the sleep norm to which immigrants converge over time. Conversely, in Germany this educational gradient is not present, and if anything, it is reversed.

4.1 Evidence from the US

Panel A of Table 1 documents the sleep trajectories of migrants in the US, using the pooled data over the 2003-2017 period. As described in the previous section, in each regression we include a large set of individual controls and survey year fixed effects. In column 1, the coefficient on the foreign-born dummy suggests that immigrants sleep on average 25 minutes longer than their native counterparts at the time of arrival in the US. However, the initial "sleep advantage" deteriorates with time spent in the US. For example, immigrants who have been in the country between 6 and 10 years continue to sleep longer hours than their native counterparts, but their initial advantage is reduced by about 63%, although we do not observe a complete convergence to the native sleeping outcomes. While not all the coefficients are significant, results go in the same direction when considering non-linear metrics of sleep as our dependent variables, such as sleeping less than 6 hours, sleeping less than 8 hours, or a measure of satisfaction with sleep (see columns 2 to 4).

Overall, Panel A suggests that immigrants sleep more than natives upon arrival in the US, but their initial sleep advantage declines with time spent in the US.

4.2 Evidence from Germany

The analysis of the German Socio-Economic Panel presents similar findings. As illustrated in Figure 1, the pattern that emerges is that while immigrants sleep longer than natives upon arrival, their sleep duration reduces considerably with time spent in Germany.

The estimated coefficients are reported in Panel B of Table 1. These results reveal that immigrants have significantly better sleep outcomes than natives at time of entry to Germany. For example, immigrants upon arrival sleep about 25 minutes longer (see column 1), are approximately 28% less likely to sleep less than 6 hours and less than 8 hours (see columns 2 and 3),

and they are 11% more likely to be satisfied with their sleep (see column 4). However, in parallel to what observed in the US, we find a reduction of the immigrant "sleep" advantage with time spent in Germany. In particular, over their first 10 years in Germany, the initial advantage is reduced by approximately 60%. The share of individuals sleeping less than 6 and 8 hours increases substantially, and the advantage in sleep satisfaction is almost completely eroded. This convergence trend generally continues with more time spent in the hosting country.

Finally, exploiting the longitudinal dimension of the SOEP data, we are able to include individual fixed effects in our analysis, at least partially mitigating the concern of selection on unobservable factors (the results are presented in the next section).

4.3   Heterogeneous Effects and Robustness Checks

In this section, we present heterogeneity analyses and describe how our estimates change when using different samples or specifications.

We start with Table 2, where we estimate equation (1) separately for different educational levels, namely less-educated individuals (i.e., people having at most a secondary or post-secondary education) and high-educated individuals (i.e., people having a tertiary education). Consistent with the evidence reported in Figure 2, we find that if anything, in the US the sleep advantage upon arrival is larger among the high-educated individuals (see Panel A) than among less-educated individuals (see Panel B), but it also erodes at a faster rate with time spent in the US. Interestingly, Germany portrays an opposite pattern: the sleep advantage at the time of arrival is larger among the less-educated individuals, but it also declines more rapidly the longer low-skilled immigrants remain in Germany (see Panels C and D).

To investigate the determinants of the opposite educational heterogeneity across the two countries, in the Appendix we also estimate equation (1) by wage and type of occupation. The heterogeneity across wage groups (above or below the median of monthly wages) is displayed in Table A.3, and it appears consistent with the evidence across educational groups reported in Table 2. Overall, it suggests that the educational gradient we observe in the US might be partially driven by the wage-sleep trade-off, which incentives high-educated people to sleep less.

In Germany, instead, the opposite educational gradient seems to be driven by the fact that

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low-educated people are largely employed in more physically demanding jobs. Specifically, we explore differences in the immigrant sleep trajectories by type of occupation, focusing on the role of physical intensity. Using the ISCO classification and the General Index for Job Demands in Occupations (Kroll, 2016), we construct a 1 to 10 metric of the physical intensity (i.e., physical burden) associated with a given occupational title. Furthermore, we define workers employed in physically demanding jobs as those with a physical intensity above the median. We report the results of this analysis in Table A.4. While in the US more physically demanding jobs do not lead to a more rapid erosion of their initial sleep advantage (see Panels A and B), in Germany we find that as time passes, the sleep assimilation among workers employed in physically demanding jobs becomes more pronounced (see Panels C and D).

In addition, we separately consider samples of males and females. In general, similar patterns are found by gender both in the US and Germany (see Table A.5).

We also implement a series of robustness and sensitivity checks. First, in the case of Germany, we can exploit the longitudinal dimension of the SOEP data and estimate model (1) including individual fixed effects. This partially addresses the concern that selective return migration may be an important factor behind our results. Reassuringly, the estimates reported in Table A.6 show that the effects of years since migration remain significant and similar to the benchmark specification (see Panel B in Table 1). An additional concern is that time spent in the host country might be correlated with the country of origin or some specific cohort of immigrants. To dispel this concern, we show that our main results are not affected by the inclusion of country of origin fixed effects (see Table A.7)[6] or arrival cohort dummies (see Table A.8).[7] Furthermore, we demonstrate that our main results are substantially robust to including linear state-specific time trends (see Table A.9) and to alternative classifications of the age groups in the working-age population (see Table A.10). As displayed in Table A.11, our main results still hold when we control for employment status. A further concern regards the sensitivity of our findings with respect to the exclusion of Eastern Germany, since it lacked a history of immigration. To

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[6]Specifically, for the US we consider the ten most important nationality groups (i.e., Mexico, India, Puerto Rico, Cuba, Germany, Philippines, El Salvador, China, Canada and Dominican Republic). For Germany, we examine the following nationality groups: Turkey, Mediterranean countries (i.e., Italy, Greece and Spain), Ex-Yugoslavia and Eastern Europe.

[7]For both countries, we substitute the foreign-born indicator with 3 dummies that divide the immigrants into three (equally sized) groups based on their year of arrival.

address this concern, Table A.12 reports the estimated coefficients when we restrict the analysis to individuals residing in West Germany: the results remain substantially unchanged relative to the benchmark specification (see Panel B in Table 1). Finally, we examine the assimilation pattern of sleep hours during weekends. As shown in Table A.13, the estimated coefficients now become much smaller in magnitude compared to the ones obtained using sleep duration during the workweek as the dependent variable (see column 1 in Table 1). This result is in line with the reasoning that the assimilation process is concentrated during the workweek when individuals have stronger constraints on wake-up times, but has nuanced effects during weekends when individuals face less time constraints in the morning.

5 Conclusion

There is a wide set of studies on the immigrant health advantage and the successive deterioration of immigrant health over the time spent in the destination country and across generations. However, we know little about the relationship between assimilation and sleep behavior. In this study, we used data from the US and Germany to analyze sleep patterns by foreign-born status and years since migration. We find that immigrants in both countries tend to sleep significantly more than natives at the time of arrival. However, immigrants' sleep duration dissipates significantly with time spent in the destination country. We then explore the heterogeneity in the assimilation process by education and occupation. While in Germany the effects are larger among the low-educated immigrants and those employed in physically demanding job, we uncover an opposite pattern for the US. The differences between the two countries are consistent with the higher opportunity cost of time among observed in the US among the high-skilled workers, since the socioeconomic gradient in sleep is more marked than in Germany. Working conditions and the physical strain associated with a job contribute to explain the different patterns of assimilation in sleep observed among immigrants in Germany. On the other hand, institutional and cultural differences (Alesina et al., 2005) might explain why high-educated Americans are more likely to respond to the economic incentives, trading-off their sleep and leisure time to obtain additional income, than their German counterparts.

In the American work culture, sleep may be perceived as wasteful use of time, that could

have been otherwise employed in more productive and remunerative activities, whereas attitudes towards sleep may be different in context where people on average work less and enjoy more their leisure time (Blanchard, 2004).

Overall, our results suggest that the assimilation in sleep patterns may contribute to explain the erosion of the "immigrant health advantage", which has been extensively discussed in the literature. Yet, the trajectories and heterogeneity of assimilation in sleep patterns may depend on the reference group and on the structure of incentives in place in the destination country.

This study has a few limitations. First, we use self-reported measures of sleep which may result in substantial measurement error (Lauderdale et al., 2008a), and large differences between time-diary (US) and self-reported average sleep hours (Germany). However, unless the measurement error is systematically correlated with education and immigration status, it should not bias our results. Second, the estimated effect of the years spent in the host country on sleep behavior might be biased if the immigrants who stay longer in the destination country are different from those who decide to leave the country after a few years. In particular, those who decide to stay might have sleeping habits closer to the ones prevalent in the host country, and this might partially explain the estimated convergence to the natives' sleep norm. However, the evidence from the German data, where individual fixed effects can be added to our analyses, substantially mitigates this concern.

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Figures and Tables

Figure 1: Sleep Assimilation in the US (top figure) and Germany (bottom figure)
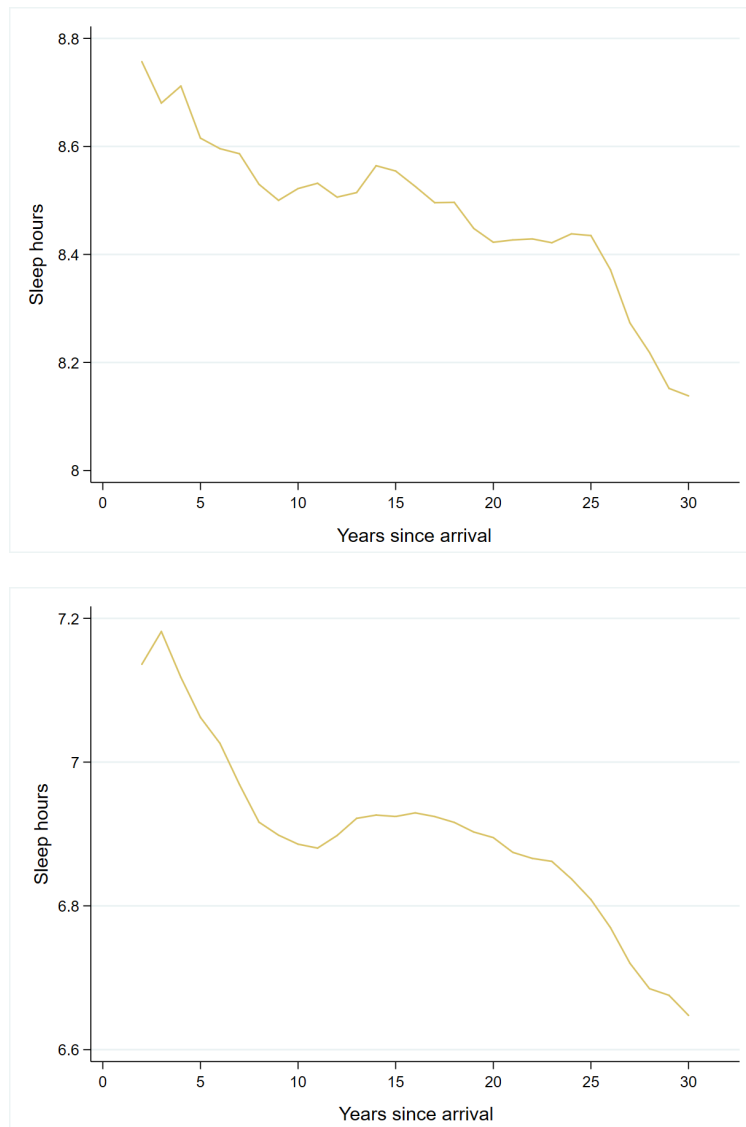
Figure 2: Sleep Hours by Education and Immigrant Status, US (top figure) vs. Germany (bottom figure)
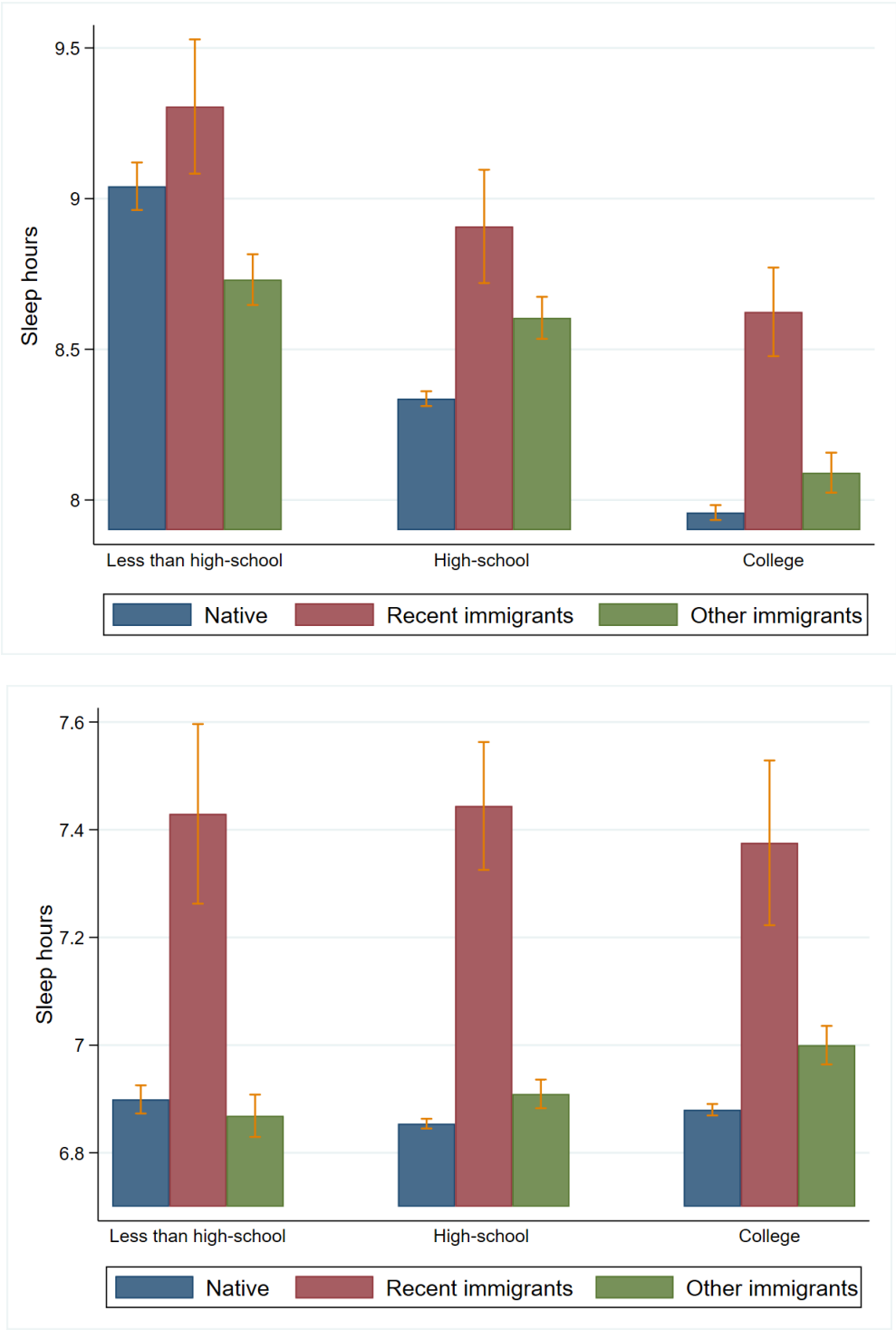
Notes - The two figures show the average sleep hours by education and immigration status for the US and Germany. Recent immigrants include immigrants arrived up to 5 years before the date of the interview, while other immigrants those arrived 6 years or more before the interview.

Table 1: Immigrant Status and Assimilation Effects of Sleep

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US				
Immigrant	0.419***	-0.034***	-0.107***	0.108***
	(0.070)	(0.008)	(0.015)	(0.038)
6-10 years since arrival	-0.265***	0.016	0.067***	-0.032
	(0.094)	(0.011)	(0.020)	(0.050)
11-15 years since arrival	-0.257***	0.012	0.068***	-0.053
	(0.087)	(0.010)	(0.019)	(0.048)
16 or more years since arrival	-0.197***	0.011	0.054***	-0.068*
	(0.074)	(0.008)	(0.016)	(0.041)
Mean of dep. var.	8.202	0.101	0.465	0.339
Std. dev. of dep. var.	2.053	0.302	0.499	0.474
Observations	65,309	65,309	65,309	11,659
Panel B: Germany				
Immigrant	0.425***	-0.026**	-0.209***	0.753***
	(0.102)	(0.011)	(0.039)	(0.174)
6-10 years since arrival	-0.261**	0.020	0.132***	-0.858***
	(0.108)	(0.013)	(0.044)	(0.229)
11-15 years since arrival	-0.230**	0.007	0.103**	-0.476**
	(0.111)	(0.013)	(0.045)	(0.196)
16 or more years since arrival	-0.369***	0.026**	0.171***	-0.688***
	(0.105)	(0.013)	(0.040)	(0.184)
Mean of dep. var.	6.832	0.0944	0.737	6.871
Std. dev. of dep. var.	1.108	0.292	0.440	2.243
Observations	118,233	118,233	118,233	115,751

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2: Immigrant Status and Assimilation Effects of Sleep, by Education

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US - High-educated Individuals				
Immigrant	0.528***	-0.034***	-0.106***	0.160***
	(0.097)	(0.013)	(0.024)	(0.054)
6-10 years since arrival	-0.288**	0.022	0.053*	-0.049
	(0.128)	(0.017)	(0.032)	(0.076)
11-15 years since arrival	-0.329***	0.013	0.053	-0.089
	(0.125)	(0.017)	(0.032)	(0.072)
16 or more years since arrival	-0.433***	0.023*	0.078***	-0.134**
	(0.105)	(0.014)	(0.027)	(0.060)
Mean of dep. var.	7.920	0.0976	0.518	0.298
Std. dev. of dep. var.	1.745	0.297	0.500	0.457
Observations	23,275	23,275	23,275	4,246
Panel B: US - Less-educated Individuals				
Immigrant	0.380***	-0.034***	-0.104***	0.082
	(0.094)	(0.010)	(0.019)	(0.053)
6-10 years since arrival	-0.268**	0.013	0.071***	-0.016
	(0.122)	(0.014)	(0.024)	(0.067)
11-15 years since arrival	-0.229**	0.011	0.072***	-0.029
	(0.112)	(0.013)	(0.024)	(0.063)
16 or more years since arrival	-0.099	0.006	0.042**	-0.035
	(0.097)	(0.010)	(0.020)	(0.056)
Mean of dep. var.	8.359	0.103	0.436	0.363
Std. dev. of dep. var.	2.190	0.305	0.496	0.481
Observations	42,034	42,034	42,034	7,413
Panel C: Germany - High-educated				
Immigrant	0.374	-0.004	-0.211***	0.462
	(0.232)	(0.020)	(0.072)	(0.351)
6-10 years since arrival	-0.277	-0.000	0.172**	-0.806**
	(0.239)	(0.024)	(0.078)	(0.394)
11-15 years since arrival	-0.139	-0.008	0.085	-0.151
	(0.252)	(0.024)	(0.084)	(0.401)
16 or more years since arrival	-0.277	0.017	0.152**	-0.568
	(0.238)	(0.023)	(0.076)	(0.370)
Mean of dep. var.	6.851	0.0630	0.773	6.993
Std. dev. of dep. var.	0.950	0.243	0.419	2.119
Observations	34,180	34,180	34,180	33,553
Panel D: Germany - Less-educated				
Immigrant	0.441***	-0.038***	-0.200***	0.910***
	(0.093)	(0.011)	(0.042)	(0.179)
6-10 years since arrival	-0.248**	0.030**	0.108**	-0.917***
	(0.102)	(0.015)	(0.049)	(0.268)
11-15 years since arrival	-0.263**	0.017	0.101**	-0.668***
	(0.105)	(0.014)	(0.049)	(0.205)
16 or more years since arrival	-0.402***	0.034**	0.170***	-0.797***
	(0.098)	(0.014)	(0.044)	(0.192)
Mean of dep. var.	6.825	0.107	0.723	6.821
Std. dev. of dep. var.	1.167	0.309	0.448	2.290
Observations	84,053	84,053	84,053	82,198

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panels A and B also include indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.
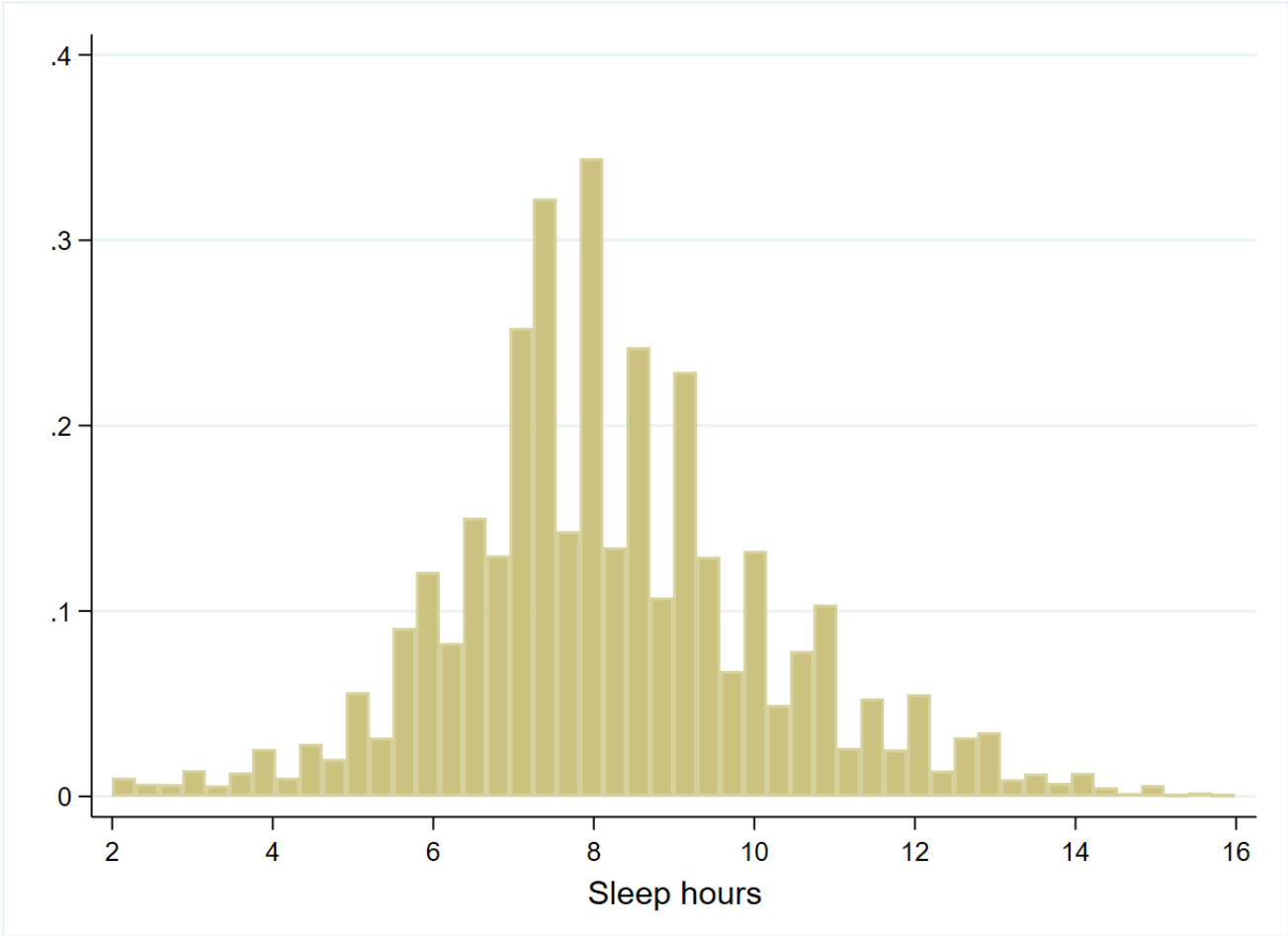
Appendix A: Supplemental Figures and Tables

Figure A.1: Distribution of Sleep Hours (Weekdays) - ATUS Data

Notes: Data are drawn from the ATUS (survey years: 2003-2017) for individuals aged 18-59 interviewed during the weekdays.

Figure A.2: Distribution of Sleep Hours (Weekdays) - SOEP Data
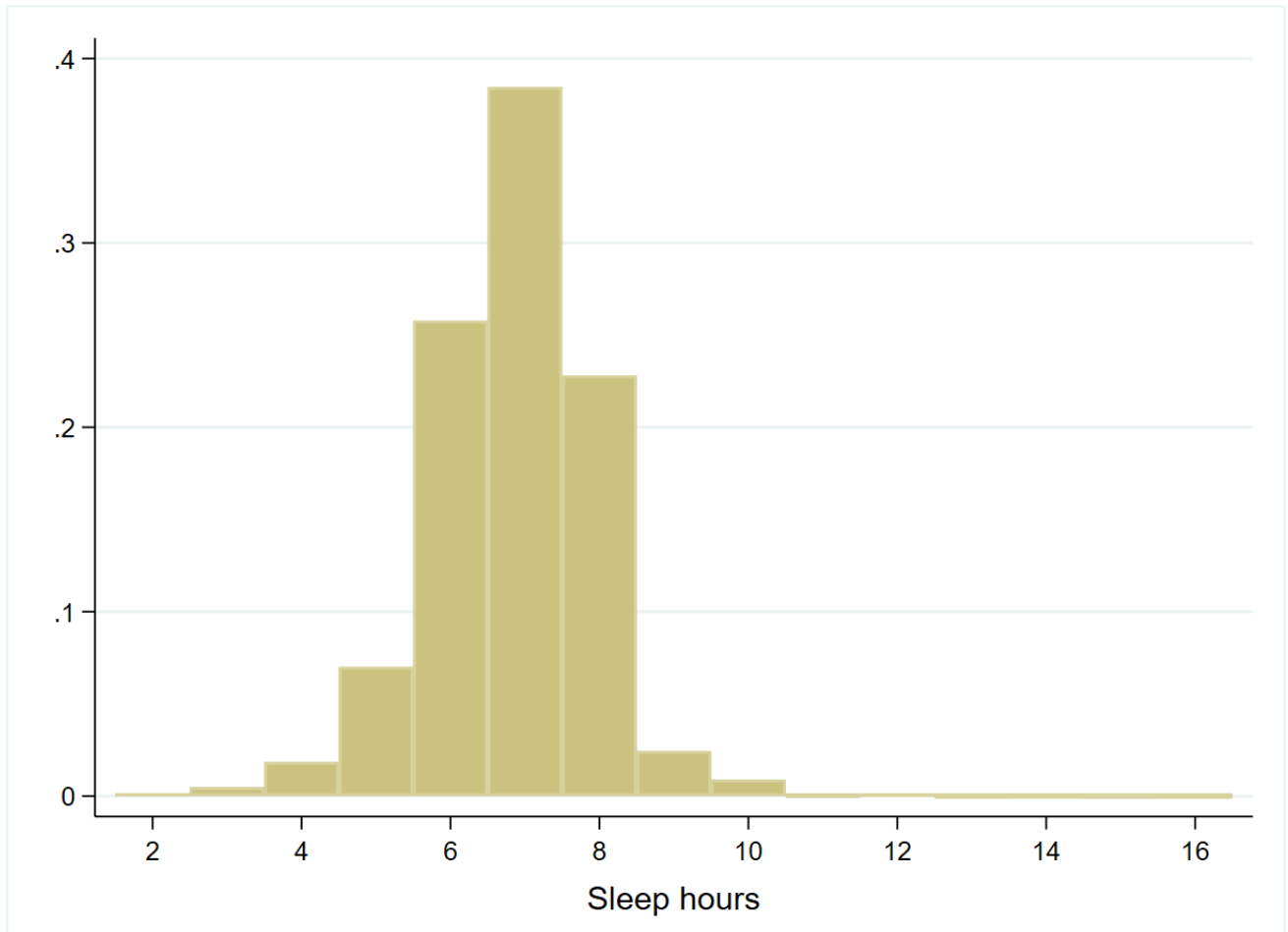
Notes: Data are drawn from the SOEP (survey years: 2008-2015) for individuals aged 18-59.

Table A.1: Descriptive Statistics (Weekdays) - Observations: 65,309 - American TUS

	Mean	Std. Dev.	Min.	Max.
Hours of sleep (weekdays)	8.20	2.05	2	16
Sleep less than 6 hours	0.10	0.30	0	1
Sleep less than 8 hours	0.47	0.50	0	1
Very well rested	0.34	0.47	0	1
Immigrant status	0.16	0.37	0	1
Years since arrival	17.61	11.63	0	57
1-5 years since arrival	0.11	0.31	0	1
6-10 years since arrival	0.17	0.38	0	1
11-15 years since arrival	0.17	0.38	0	1
16 or more years since arrival	0.51	0.50	0	1
Female	0.55	0.50	0	1
Age	40.37	10.95	18	59
Number of children	1.07	1.18	0	12
White	0.80	0.40	0	1
Hispanic	0.15	0.35	0	1
Black	0.13	0.34	0	1
Married	0.56	0.50	0	1
Single	0.26	0.44	0	1
Divorced	0.13	0.34	0	1
High-school diploma	0.55	0.50	0	1
College degree	0.36	0.48	0	1

Notes - Data are drawn from the ATUS for individuals aged 18-59 years (survey years: 2003-2017). All the samples contain individuals for whom information on all observables and the respective outcome variable are not missing. The sample size of being very well rested is 11,659.

Table A.2: Descriptive Statistics - Observations: 118,233 - SOEP Data

	Mean	Std. Dev.	Min.	Max.
Hours of sleep (weekdays)	6.83	1.11	2	16
Sleep less than 6 hours	0.09	0.29	0	1
Sleep less than 8 hours	0.74	0.44	0	1
Sleep satisfaction	6.87	2.24	0	10
Immigrant status	0.13	0.33	0	1
Years since arrival	20.27	10.44	1	58
1-5 years since arrival	0.01	0.08	0	1
6-10 years since arrival	0.01	0.12	0	1
11-15 years since arrival	0.02	0.15	0	1
16 or more years since arrival	0.08	0.27	0	1
Female	0.55	0.50	0	1
Age	40.14	11.13	18	59
Number of children	1.03	1.17	0	11
Married	0.60	0.49	0	1
Single	0.30	0.46	0	1
Divorced	0.09	0.29	0	1
West Germany	0.78	0.41	0	1
High-school diploma	0.57	0.50	0	1
College degree	0.29	0.45	0	1

Notes - Data are drawn from the SOEP (v33) for individuals aged 18-59 years (survey years: 2008-2015). All the samples contain individuals for whom information on all observables and the respective outcome variable are not missing. The sample size for sleep satisfaction is 115,751.

Table A.3: Immigrant Status and Assimilation Effects of Sleep, by Wage

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US - High wages (above median)				
Immigrant	0.444***	-0.029	-0.109***	0.171**
	(0.127)	(0.020)	(0.035)	(0.070)
6-10 years since arrival	-0.244	0.002	0.044	-0.017
	(0.166)	(0.024)	(0.044)	(0.106)
11-15 years since arrival	-0.213	0.011	0.064	-0.096
	(0.156)	(0.026)	(0.043)	(0.089)
16 or more years since arrival	-0.401***	0.018	0.096***	-0.175**
	(0.133)	(0.021)	(0.036)	(0.075)
Mean of dep. var.	7.695	0.120	0.578	0.312
Std. dev. of dep. var.	1.754	0.325	0.494	0.463
Observations	23,711	23,711	23,711	4,362
Panel B: US - Low wages				
Immigrant	0.405***	-0.042***	-0.084***	0.103
	(0.112)	(0.014)	(0.024)	(0.067)
6-10 years since arrival	-0.319**	0.027	0.064**	-0.007
	(0.148)	(0.020)	(0.032)	(0.083)
11-15 years since arrival	-0.245*	0.009	0.056*	-0.088
	(0.136)	(0.016)	(0.031)	(0.082)
16 or more years since arrival	-0.043	0.002	0.014	-0.042
	(0.117)	(0.014)	(0.027)	(0.072)
Mean of dep. var.	8.166	0.108	0.460	0.362
Std. dev. of dep. var.	2.039	0.310	0.498	0.481
Observations	21,714	21,714	21,714	3,567
Panel C: Germany - High wages (above median)				
Immigrant	0.372**	-0.025	-0.184	1.228***
	(0.169)	(0.032)	(0.123)	(0.372)
6-10 years since arrival	-0.314	0.040	0.147	-1.372***
	(0.198)	(0.041)	(0.131)	(0.490)
11-15 years since arrival	-0.071	-0.020	0.051	-0.847**
	(0.186)	(0.033)	(0.130)	(0.407)
16 or more years since arrival	-0.266	0.025	0.124	-1.003***
	(0.175)	(0.035)	(0.125)	(0.385)
Mean of dep. var.	6.745	0.0793	0.807	6.990
Std. dev. of dep. var.	0.941	0.270	0.395	2.102
Observations	41,699	41,699	41,699	40,853
Panel D: Germany - Low wages				
Immigrant	0.532***	-0.037**	-0.233***	1.050***
	(0.164)	(0.015)	(0.057)	(0.267)
6-10 years since arrival	-0.383**	0.020	0.193***	-0.937***
	(0.169)	(0.018)	(0.067)	(0.309)
11-15 years since arrival	-0.449**	0.033*	0.178***	-0.814***
	(0.176)	(0.019)	(0.064)	(0.301)
16 or more years since arrival	-0.462***	0.033*	0.199***	-0.935***
	(0.168)	(0.018)	(0.059)	(0.281)
Mean of dep. var.	6.867	0.0947	0.717	6.868
Std. dev. of dep. var.	1.120	0.293	0.451	2.251
Observations	42,737	42,737	42,737	41,845

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.4: Immigrant Status and Assimilation Effects of Sleep, by Physical Intensity

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US - People employed in physically demanding jobs				
Immigrant	0.470***	-0.033*	-0.112***	0.046
	(0.126)	(0.017)	(0.027)	(0.072)
6-10 years since arrival	-0.293*	0.004	0.064*	-0.006
	(0.156)	(0.021)	(0.034)	(0.088)
11-15 years since arrival	-0.230	-0.007	0.059*	0.019
	(0.143)	(0.019)	(0.033)	(0.085)
16 or more years since arrival	-0.124	-0.009	0.039	-0.027
	(0.128)	(0.017)	(0.029)	(0.077)
Mean of dep. var.	8.061	0.122	0.483	0.392
Std. dev. of dep. var.	2.096	0.327	0.500	0.488
Observations	17,308	17,308	17,308	2,955
Panel B: US - People not employed in physically demanding jobs				
Immigrant	0.398***	-0.055***	-0.069**	0.131**
	(0.119)	(0.013)	(0.030)	(0.064)
6-10 years since arrival	-0.192	0.021	0.026	0.014
	(0.151)	(0.016)	(0.039)	(0.096)
11-15 years since arrival	-0.255*	0.034*	0.037	-0.124
	(0.154)	(0.019)	(0.038)	(0.084)
16 or more years since arrival	-0.228*	0.036**	0.028	-0.103
	(0.124)	(0.014)	(0.032)	(0.070)
Mean of dep. var.	7.879	0.104	0.533	0.303
Std. dev. of dep. var.	1.772	0.306	0.499	0.459
Observations	28,396	28,396	28,396	4,840
Panel C: Germany - People employed in physically demanding jobs				
Immigrant	0.540***	-0.047***	-0.219***	1.107***
	(0.189)	(0.017)	(0.060)	(0.293)
6-10 years since arrival	-0.221	0.018	0.124*	-0.965***
	(0.201)	(0.019)	(0.073)	(0.281)
11-15 years since arrival	-0.337*	0.019	0.137**	-0.768**
	(0.195)	(0.021)	(0.065)	(0.316)
16 or more years since arrival	-0.431**	0.037*	0.173***	-0.786***
	(0.192)	(0.019)	(0.061)	(0.304)
Mean of dep. var.	6.756	0.110	0.753	6.875
Std. dev. of dep. var.	1.110	0.313	0.431	2.225
Observations	40,045	40,045	40,045	39,181
Panel D: Germany - People not employed in physically demanding jobs				
Immigrant	0.072	-0.026	0.045	0.293
	(0.098)	(0.020)	(0.085)	(0.448)
6-10 years since arrival	-0.164	0.035	-0.048	-0.757
	(0.127)	(0.028)	(0.094)	(0.537)
11-15 years since arrival	0.075	0.036	-0.140	-0.268
	(0.150)	(0.026)	(0.099)	(0.494)
16 or more years since arrival	-0.027	0.021	-0.061	-0.287
	(0.107)	(0.022)	(0.088)	(0.463)
Mean of dep. var.	6.851	0.0615	0.775	7.038
Std. dev. of dep. var.	0.930	0.240	0.418	2.106
Observations	47,445	47,445	47,445	46,517

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panels A and B also include indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.5: Immigrant Status and Assimilation Effects of Sleep, by Gender

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US - Females				
Immigrant	0.415***	-0.030***	-0.084***	0.168***
	(0.090)	(0.009)	(0.020)	(0.050)
6-10 years since arrival	-0.259**	0.022	0.055**	-0.078
	(0.126)	(0.014)	(0.026)	(0.067)
11-15 years since arrival	-0.288**	0.015	0.062**	-0.101
	(0.114)	(0.012)	(0.026)	(0.063)
16 or more years since arrival	-0.199**	0.016*	0.032	-0.125**
	(0.096)	(0.010)	(0.021)	(0.054)
Mean of dep. var.	8.329	0.0895	0.437	0.322
Std. dev. of dep. var.	2.039	0.286	0.496	0.467
Observations	36,053	36,053	36,053	6,359
Panel B: US - Males				
Immigrant	0.412***	-0.036***	-0.128***	0.042
	(0.109)	(0.013)	(0.022)	(0.057)
6-10 years since arrival	-0.279**	0.009	0.082***	0.006
	(0.138)	(0.018)	(0.029)	(0.073)
11-15 years since arrival	-0.223*	0.008	0.074**	-0.009
	(0.132)	(0.017)	(0.029)	(0.072)
16 or more years since arrival	-0.183	0.006	0.074***	-0.012
	(0.113)	(0.014)	(0.024)	(0.062)
Mean of dep. var.	8.047	0.116	0.499	0.360
Std. dev. of dep. var.	2.059	0.320	0.500	0.480
Observations	29,256	29,256	29,256	5,300
Panel C: Germany - Females				
Immigrant	0.357**	-0.018	-0.186***	0.823***
	(0.143)	(0.014)	(0.054)	(0.250)
6-10 years since arrival	-0.302**	0.019	0.161***	-0.646**
	(0.143)	(0.017)	(0.056)	(0.281)
11-15 years since arrival	-0.187	0.013	0.070	-0.607**
	(0.157)	(0.017)	(0.063)	(0.285)
16 or more years since arrival	-0.346**	0.018	0.164***	-0.833***
	(0.147)	(0.016)	(0.056)	(0.264)
Mean of dep. var.	6.873	0.0961	0.713	6.755
Std. dev. of dep. var.	1.135	0.295	0.453	2.301
Observations	64,942	64,942	64,942	63,604
Panel D: Germany - Males				
Immigrant	0.509***	-0.043**	-0.235***	0.663***
	(0.122)	(0.020)	(0.048)	(0.184)
6-10 years since arrival	-0.189	0.025	0.086	-1.208***
	(0.157)	(0.023)	(0.067)	(0.359)
11-15 years since arrival	-0.283**	0.005	0.142**	-0.298
	(0.135)	(0.022)	(0.055)	(0.218)
16 or more years since arrival	-0.397***	0.039*	0.178***	-0.501**
	(0.129)	(0.022)	(0.051)	(0.204)
Mean of dep. var.	6.782	0.0923	0.768	7.013
Std. dev. of dep. var.	1.073	0.290	0.422	2.162
Observations	53,291	53,291	53,291	52,147

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panels A and B also include indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.6: Immigrant Status and Assimilation Effects of Sleep in Germany - Adding Individual FE

Dep. Var.: Sleep Hours	(1) Full sample	(2) Immigrant Sample
6-10 years since arrival	-0.225**	-0.201*
	(0.114)	(0.112)
11-15 years since arrival	-0.291**	-0.220
	(0.128)	(0.136)
16 or more years since arrival	-0.441***	-0.314*
	(0.141)	(0.161)
Mean of dep. var.	6.832	6.859
Std.Err. of dep. var.	1.108	1.157
Observations	118,233	14,846

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years dummies as well as individual fixed effects. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.7: Immigrant Status and Assimilation Effects of Sleep - Adding Country of Origin FE

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US				
Immigrant	0.365***	-0.026***	-0.081***	0.104**
	(0.076)	(0.009)	(0.016)	(0.041)
6-10 years since arrival	-0.258***	0.016	0.066***	-0.033
	(0.094)	(0.011)	(0.020)	(0.050)
11-15 years since arrival	-0.249***	0.011	0.067***	-0.053
	(0.087)	(0.010)	(0.019)	(0.048)
16 or more years since arrival	-0.169**	0.007	0.046***	-0.058
	(0.074)	(0.008)	(0.016)	(0.042)
Mean of dep. var.	8.202	0.101	0.465	0.339
Std. dev. of dep. var.	2.053	0.302	0.499	0.474
Observations	65,309	65,309	65,309	11,659
Panel B: Germany				
Immigrant	0.571***	-0.053**	-0.282***	0.820***
	(0.131)	(0.021)	(0.053)	(0.258)
6-10 years since arrival	-0.263**	0.023*	0.129***	-0.885***
	(0.110)	(0.014)	(0.044)	(0.227)
11-15 years since arrival	-0.232**	0.012	0.096**	-0.540***
	(0.114)	(0.014)	(0.045)	(0.192)
16 or more years since arrival	-0.383***	0.030**	0.173***	-0.676***
	(0.107)	(0.013)	(0.041)	(0.181)
Mean of dep. var.	6.832	0.0944	0.737	6.871
Std. dev. of dep. var.	1.108	0.292	0.440	2.243
Observations	118,233	118,233	118,233	115,751

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state, survey years and country of origin fixed effects. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.8: Immigrant Status and Assimilation Effects of Sleep, by Arrival Cohorts

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US				
First arrival cohort	0.220*	-0.004	-0.079***	0.019
	(0.130)	(0.015)	(0.028)	(0.083)
Second arrival cohort	0.365***	-0.021	-0.101***	0.103
	(0.114)	(0.013)	(0.024)	(0.074)
Third arrival cohort	0.424***	-0.034***	-0.107***	0.106***
	(0.070)	(0.008)	(0.015)	(0.038)
6-10 years since arrival	-0.254***	0.013	0.066***	-0.028
	(0.096)	(0.011)	(0.020)	(0.050)
11-15 years since arrival	-0.230**	0.005	0.065***	-0.049
	(0.097)	(0.011)	(0.022)	(0.053)
16 or more years since arrival	-0.089	-0.007	0.040	-0.034
	(0.118)	(0.013)	(0.025)	(0.077)
Mean of dep. var.	8.202	0.101	0.465	0.339
Std. dev. of dep. var.	2.053	0.302	0.499	0.474
Observations	65,309	65,309	65,309	11,659
Panel B: Germany				
First arrival cohort	0.349***	-0.005	-0.193***	0.207
	(0.135)	(0.021)	(0.056)	(0.256)
Second arrival cohort	0.481***	-0.029	-0.256***	0.557**
	(0.130)	(0.018)	(0.055)	(0.238)
Third arrival cohort	0.427***	-0.026**	-0.210***	0.758***
	(0.102)	(0.011)	(0.039)	(0.174)
6-10 years since arrival	-0.261**	0.020	0.133***	-0.858***
	(0.108)	(0.013)	(0.044)	(0.229)
11-15 years since arrival	-0.252**	0.009	0.122***	-0.401**
	(0.113)	(0.013)	(0.045)	(0.196)
16 or more years since arrival	-0.361***	0.017	0.187***	-0.328
	(0.126)	(0.017)	(0.053)	(0.233)
Mean of dep. var.	6.832	0.0944	0.737	6.871
Std. dev. of dep. var.	1.108	0.292	0.440	2.243
Observations	118,233	118,233	118,233	115,751

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.9: Immigrant Status and Assimilation Effects of Sleep - Adding State-specific Linear Trends

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US				
Immigrant	0.418***	-0.033***	-0.106***	0.109***
	(0.070)	(0.008)	(0.015)	(0.038)
6-10 years since arrival	-0.264***	0.016	0.067***	-0.033
	(0.093)	(0.011)	(0.020)	(0.050)
11-15 years since arrival	-0.256***	0.012	0.068***	-0.055
	(0.087)	(0.010)	(0.019)	(0.048)
16 or more years since arrival	-0.196***	0.011	0.054***	-0.071*
	(0.074)	(0.008)	(0.016)	(0.041)
Mean of dep. var.	8.202	0.101	0.465	0.339
Std. dev. of dep. var.	2.053	0.302	0.499	0.474
Observations	65,309	65,309	65,309	11,659
Panel B: Germany				
Immigrant	0.427***	-0.027**	-0.209***	0.752***
	(0.102)	(0.011)	(0.039)	(0.173)
6-10 years since arrival	-0.256**	0.019	0.130***	-0.854***
	(0.108)	(0.014)	(0.044)	(0.227)
11-15 years since arrival	-0.233**	0.008	0.103**	-0.481**
	(0.111)	(0.013)	(0.045)	(0.195)
16 or more years since arrival	-0.372***	0.026**	0.171***	-0.689***
	(0.105)	(0.013)	(0.040)	(0.183)
Mean of dep. var.	6.832	0.0944	0.737	6.871
Std. dev. of dep. var.	1.108	0.292	0.440	2.243
Observations	118,233	118,233	118,233	115,751

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state, survey years fixed effects, as well as state-specific linear trends. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.10: Immigrant Status and Assimilation Effects of Sleep, by Age Group

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US - Individuals aged 25-59				
Immigrant	0.458***	-0.033***	-0.122***	0.117***
	(0.072)	(0.009)	(0.016)	(0.039)
6-10 years since arrival	-0.227**	0.009	0.075***	-0.018
	(0.090)	(0.011)	(0.021)	(0.051)
11-15 years since arrival	-0.205**	0.009	0.064***	-0.072
	(0.089)	(0.011)	(0.020)	(0.049)
16 or more years since arrival	-0.252***	0.012	0.068***	-0.089**
	(0.075)	(0.009)	(0.017)	(0.042)
Mean of dep. var.	8.113	0.103	0.481	0.335
Std. dev. of dep. var.	1.993	0.304	0.500	0.472
Observations	59,477	59,477	59,477	10,671
Panel B: US - Individuals aged 18-64				
Immigrant	0.425***	-0.035***	-0.107***	0.113***
	(0.069)	(0.008)	(0.015)	(0.038)
6-10 years since arrival	-0.271***	0.019*	0.067***	-0.033
	(0.093)	(0.011)	(0.020)	(0.050)
11-15 years since arrival	-0.255***	0.012	0.067***	-0.053
	(0.086)	(0.010)	(0.019)	(0.048)
16 or more years since arrival	-0.202***	0.012	0.054***	-0.069*
	(0.072)	(0.008)	(0.016)	(0.041)
Mean of dep. var.	8.216	0.100	0.461	0.348
Std. dev. of dep. var.	2.052	0.300	0.498	0.476
Observations	72,171	72,171	72,171	12,993
Panel C: Germany - Individuals aged 25-59				
Immigrant	0.401***	-0.028**	-0.208***	0.719***
	(0.076)	(0.012)	(0.036)	(0.193)
6-10 years since arrival	-0.192**	0.019	0.124***	-0.770***
	(0.091)	(0.015)	(0.044)	(0.243)
11-15 years since arrival	-0.208**	0.010	0.107**	-0.458**
	(0.090)	(0.015)	(0.042)	(0.215)
16 or more years since arrival	-0.346***	0.026*	0.176***	-0.669***
	(0.081)	(0.014)	(0.037)	(0.202)
Mean of dep. var.	6.790	0.0984	0.754	6.795
Std. dev. of dep. var.	1.095	0.298	0.431	2.253
Observations	104,713	104,713	104,713	102,555
Panel D: Germany - Individuals aged 18-64				
Immigrant	0.425***	-0.027**	-0.206***	0.719***
	(0.101)	(0.011)	(0.039)	(0.175)
6-10 years since arrival	-0.257**	0.019	0.136***	-0.837***
	(0.107)	(0.013)	(0.044)	(0.224)
11-15 years since arrival	-0.233**	0.009	0.102**	-0.482**
	(0.110)	(0.013)	(0.044)	(0.196)
16 or more years since arrival	-0.411***	0.035***	0.180***	-0.695***
	(0.105)	(0.013)	(0.040)	(0.184)
Mean of dep. var.	6.847	0.0945	0.729	6.850
Std. dev. of dep. var.	1.120	0.292	0.444	2.248
Observations	129,296	129,296	129,296	126,448

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Panels A and B also include indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.11: Immigrant Status and Assimilation Effects of Sleep - Adding controls for employment status

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Panel A: US				
Immigrant	0.337***	-0.030***	-0.092***	0.111***
	(0.068)	(0.008)	(0.015)	(0.039)
6-10 years since arrival	-0.212**	0.014	0.057***	-0.034
	(0.090)	(0.011)	(0.019)	(0.050)
11-15 years since arrival	-0.162*	0.008	0.051***	-0.058
	(0.084)	(0.010)	(0.019)	(0.048)
16 or more years since arrival	-0.087	0.007	0.034**	-0.072*
	(0.071)	(0.008)	(0.016)	(0.041)
Mean of dep. var.	8.202	0.101	0.465	0.339
Std. dev. of dep. var.	2.053	0.302	0.499	0.474
Observations	65,309	65,309	65,309	11,659
Panel B: Germany				
Immigrant	0.375***	-0.035***	-0.171***	0.897***
	(0.101)	(0.011)	(0.038)	(0.171)
6-10 years since arrival	-0.242**	0.024*	0.118***	-0.922***
	(0.106)	(0.014)	(0.043)	(0.222)
11-15 years since arrival	-0.198*	0.013	0.079*	-0.568***
	(0.110)	(0.013)	(0.044)	(0.194)
16 or more years since arrival	-0.324***	0.032**	0.139***	-0.804***
	(0.104)	(0.013)	(0.040)	(0.181)
Mean of dep. var.	6.832	0.0944	0.737	6.871
Std. dev. of dep. var.	1.108	0.292	0.440	2.243
Observations	118,233	118,233	118,233	115,751

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, marital status, and indicators for employment status. All regressions further include state and survey years fixed effects. Panel A also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.12: Immigrant Status and Assimilation Effects of Sleep - West Germany

Dep. Var.:	(1) Sleep hours	(2) Sleep hours<6	(3) Sleep hours<8	(4) Sleep satisfaction
Immigrant	0.422***	-0.025**	-0.204***	0.820***
	(0.108)	(0.012)	(0.041)	(0.180)
6-10 years since arrival	-0.263**	0.019	0.127***	-0.947***
	(0.113)	(0.014)	(0.046)	(0.235)
11-15 years since arrival	-0.230**	0.008	0.096**	-0.531***
	(0.116)	(0.014)	(0.047)	(0.202)
16 or more years since arrival	-0.365***	0.025*	0.165***	-0.738***
	(0.111)	(0.013)	(0.042)	(0.190)
Mean of dep. var.	6.837	0.0924	0.739	6.918
Std. dev. of dep. var.	1.099	0.290	0.439	2.238
Observations	92,186	92,186	92,186	90,179

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.13: Immigrant Status and Assimilation Effects of Sleep - Weekends

Dep. Var.: Sleep Hours	(1) US	(2) Germany
Immigrant	0.416***	-0.029
	(0.072)	(0.104)
6-10 years since arrival	-0.046	-0.176*
	(0.094)	(0.106)
11-15 years since arrival	-0.082	0.115
	(0.093)	(0.127)
16 or more years since arrival	-0.141*	-0.022
	(0.078)	(0.110)
Mean of dep. var.	9.476	7.911
Std. dev. of dep. var.	2.297	1.399
Observations	66,442	117,824

Notes - Robust standard errors are reported in parentheses and are clustered at the individual level. All models include controls for gender, age and its quadratic term, number of children, education, and marital status. All regressions further include state and survey years fixed effects. Column (1) also includes indicators for the ethnic group. * Significant at 10%; ** significant at 5%; *** significant at 1%.