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Abstract

We exploit the implementation of a national policy (the Aubry reform) that led to the reduction of working time implemented across France (which kept individual salaries unaltered) to study the effect of a reduced working week on overweight. We draw variation from Alsace-Moselle, where hours of work fell by less than the rest of France for the first two years when it was forced to fully comply with national policy. We use longitudinal data for 1997-2006 following employees of the largest company in the country (EDF-GDF) which was among the very first to implement the 35-hour workweek in 2000. We show evidence of 6.7 percentage points increases in the probability of overweight among blue-collar workers exposed to the reform. That is, an average 9% increase in overweight resulting from an additional 10% working time reduction. In contrast, we find no effect among white-collar workers. The effect is driven by an increase in overweight among normal-weight individuals before the reform. The effects are robust to different specifications, the effect of retirement and placebo tests, alongside the effect on other areas of France, as well as on a weighted control group

Keywords: overweight, obesity, working times, difference-in-differences, blue collar, white collar, Body Mass Index.

JEL: I13, J81.

1. Introduction

The expansion of the world's obese and overweight population is associated with social, and economic changes (Cutler et al., 2003; Lakdawalla and Philipson, 2009, Maddock, 2004), and among them employment conditions. More specifically, working hours have followed a consistent downward trend over time (OECD, 1998). Nonetheless, the effects of working times on health behaviour, specifically obesity and overweight, are largely underresearched. Time and energy consumed during work hours can exert a heavy influence on people's fitness (Solovieva et al., 2013). Physical activity at work can explain changes in sedentary (non-sedentary) lifestyles and time constraints which modify the opportunity cost of investing in healthy lifestyles (e.g., cooking fresh foods, exercising, etc.).

Economic considerations, following from a demand for health framework (Grossman, 1972) suggest that longer working hours constrain the amount of time individuals spend undertaking healthy activities, including food preparation, seeking preventive health care, etc. Employees compensate excessive working time with a higher consumption of fat and sugars, and reductions on physical exercise (Oliver and Wardle, 1999, Schneider and Becker, 2005). However, the evidence offers mixed results. Existing reviews and meta-studies provide evidence, which states that working time plays a role in explaining overweight and fitness of working individuals (Bannai and Tamakoshi, 2014; Sparks et al., 1994; Purgeon et al., 1997), and so far, economics research documents positive health effects of working time reductions (Ruhm, 2005).

Another explanation refers to the stress response of long working hours (Porter, 2010; Lee, 2017) and, more generally, poor lifestyles when people work beyond a certain threshold (Kim et al., 2016). Hammermesh (2010) documents that ‘looser’ time constraints might engender improvement in health and fitness improvements, and allow individuals to adjust to new life demands that require more exercise and lower calorie consumption. The intuition being that opportunities for physical activity decline with working hours. However, recent epidemiological evidence suggest no effect of working times on physical activity (Angrave et al, 2015), and a systematic review suggests that whilst white collar workers engage in more sedentary behaviour due to long working hours, this is not true for blue collar workers (Kirk et al, 2011). Furthermore, increased working hours could have income effects too, namely a rise in labour income which can then be invested in health production. Hence, reforms dedicated to examining changes in working time should keep income constant. The reform examined in this paper, does meet both conditions.

Finally, as feature that has not been addressed in the literature refers to the fact that the effect of reduced working times might differ between blue and white collar workers (defined using standard employment classification in the sample). This is because job-related physical activity might be the main source of calorie burning in the latter group, which we label as the ‘working the weight out’ hypothesis. If individuals physical activity comes from their employment, a reduction in working times might not produce positive health investment effects. Consistently, some studies document that the average nurse in a 12 hour shift burns a daily calorie intake of 2000 kcals (Allan et al, 2019). In contrast, the health and fitness of white-collar workers might change with more free time, especially if such extra

time is devoted to health-related activities – although white collar jobs tend to encompass more employment flexibility.

This paper exploits a unique natural experiment, namely the implementation of a national policy (the Aubry reform) that led to the reduction of working time implemented across France but kept individual salaries unaltered, on overweight. More specifically, the Aubry reform reduced the workweek from 39 to 35 hours, or 184 hours per year, which resulted in an overall 7% reduction of working time from 1995 to 2003 compared to 3% elsewhere in the EU (Askenazy, 2013). This policy came into effect in 2001 but one region, Alsace-Moselle, blunted its impact by counting two existing public holidays. Hence, in this region, hours of work per year only fell by 168 rather than 184 (10% less working time reduction). However, after 2003, Alsace-Moselle was forced to fully comply with national policy. This reform was not part of a wider institutional reform that could explain the effects, let alone a broader institutional reform in the French labour markets.

An important feature of the French reform lies in that it primarily affected individuals who worked for large companies, and it was not the result of a simultaneous restricting of the welfare state. Hence, in this study we take advantage of a unique dataset that draws upon employees of Electricité de France-Gaz de France (EDF-GDF), a major company in France (hence affected by the reform) created after the Second World War by the French government aimed to provide energy¹, which introduced the reform in 2000 (a year before

¹ Although from 2000-2004 there was a market liberalization to introduce competition in the distribution and energy transport sector, the effect did not influence the energy production. In our dataset, we are able to distinguish such effects.

the rest of France) as they were a former state monopoly. Given that EDF-GDF employs individuals both in administrative and manufacturing positions, we can distinguish blue and white-collar workers. We can also distinguish individuals who work in energy production and distribution; the latter sector was liberalised (privatised) after 2000 but this *did not affect energy production*. Hence, sector differences are important in the identification of employment working times. Given that the company is regionally heterogeneous we can identify employees by region, which is essential for the identification strategy adopted. Finally, we specifically deal with issue around sample selection into the survey by examining whether overweight explains survey response, and not evidence of an effects was retrived.

If overweight results from the the limited time to cook meals and exercise, a working time reduction that provides individuals with extra leisure time should reduce overweight. We test this hypotheisis, against the ‘woking the weight out’ hypothesis which we referred before, and we distinguish between blue and white collar workers . Furthemore, we explore a number of mechansims driving the effect. For instance, a reduction in working times might impact an individual’s mental health, which in turn can reduce the probability of smoking and drinking, especially among men. Policy implications our study suggest that overweight results at least in part from changes in the physical activity at work. Likewise, evidence of reductions in smoking and alcohol intake would suggest that working time reforms can give rise to second-order effects.

Our empirical strategy consists in a difference-in-differences specification that exploits the variation in one region that has had historically different labour regulations and where the

timing of the reform was different from the rest of France². Identification is coming exploiting the fact that this policy was not fully implemented by the control region, Alsace-Moselle, though this region was forced to fully comply with the policy in 2003. Hence, we examine the effect resulting from the short time-lapse where the new policy ‘turns on’. This strategy was originally used by Chemin and Wasmer (2009). Furthermore, we exploit a heterogeneous effect between blue and white collar workers, which were not exhibiting significant differences in average rates of obesity and overweight before the reform. For white collar worker, the reform mainly consisted of an expansion of holidays without pay cuts (Askenazy, 2013). The reform did not affect the individual’s salary, hence no income effects would be expected and overtime work was capped.

We show robust evidence of 6.7 percentage points increase in the probability of overweight among blue collar workers, when exposed to the reform. In contrast, we find no effect among white-collar workers. The effect is driven by an increase in overweight among normal weight individuals and a reduction of obese blue-collar employees by 2.6pp. The effect was not significantly heterogeneous across age, gender, spousal employment status, and socio-economic groups as we report below. The presence of children in the household, however, does absorb the baseline effect on the probability of being overweight among blue collars, which suggests a potential substitution effect of working time for childcare. The structure of the paper is as follows. The next section provides an overview of the relevant literature. Section three describes the institutional background. Section four reports the empirical strategy. Section five contains the results, and a final section concludes.

² In such department, the legislation is inherited from the German presence between 1871 and 1918 and implies that workers have two extra holidays, which are included in the calculation of non-working time.

2. Working Times and Health

2.1 Opportunity Costs and Time Saving

Some evidence links obesity and overweight to higher opportunity costs of time in a modern lifestyle. Accordingly, under significant time constraints a number of studies emphasise the role of fast foods in explaining the rise in obesity and overweight (Cutler et al., 2003; Chou et al., 2004), as well as the development of Walmart supercenters (Courtemanche & Carden 2011). A few of these effects are attributed to food prices that attract less affluent individuals into consuming high-calorie foods. Another effect results from time saving, which is especially important under long working hours and competing time allocation activities. Nonetheless, the study of such time effects on health, requires the examination of reforms that affect the individual's allocation of time. We specifically rely on the role of a unique regulation that reduced working times in France as explained in the following section.

2.2 Working Conditions and Health

Some attention has been allocated to the impact of working conditions on health in the literature. Drawing on evidence from South Korea, Kim et al. (2008) found that precarious labour market conditions can deteriorate health. Similarly, other studies have found that both overtime and unpredictable working hours reduce wellbeing (Golden et al., 2006; Scholars et al., 2017). That is, extended working hours have knock-on effects on time out of work, which in turn are deemed to reduce an individual's well-being. Some studies have also found that long or unsocial hours affect family and social life alongside physical health (Artazcoz et al., 2013).

A reduction in working times might be hypothesized to allow more time to both produce health and/or prevent ill health. It can also result in less work pressure without affecting leisure time. Alternatively, the extra leisure time will be allocated to healthy and unhealthy activities depending on individuals' unobserved preferences, which could vary by age cohort, gender, educational attainment, household size, and commuting time, among other factors. At the same time, lower working times might mean only half a day off every week, or a day off every second week, or a week off every ten rather than a reduction in an hour a day. Finally, while the reduction of working time was hypothesised to enhance job creation through work-sharing (Crepon & Kramarz, 2002, Chemin & Wasmer, 2009), Esteao and Sa (2008) found that the reduction of the workweek in France from 39 to 35 hours in 2000-2002 had no effect on aggregate employment, though it did increase job turnover. The actual effect of working time reductions on health is thus an empirical question that this study attempts to address.

2.3 Effects of Working Time on Wealth and Well-being

Although job creation is the main purpose of working time reductions (Crepon & Kramarz, 2002, Chemin & Wasmer, 2009), other side effects may include an improvement in wealth and well-being of those exposed to the reforms. However, the evidence of reduced working times on well-being is not conclusive. On the one hand, some studies indicate that a reduction of working times might increase the stress and work accidents of workers attempting to perform a similar workload in lesser time (Rudolf, 2014). In contrast, Hamermesh et al. (2017) found that Japanese and Korean reforms that reduced working times did increase life satisfaction of those exposed. Similarly, Lepinteur (2016) drawing on

evidence from French and Portuguese large and small firms found positive effects on life satisfaction.

3. Institutional Background

The French labour market reform has been largely aiming to expand employment. One of the policies formulated back in 1981 by the French left wing movement was the reduction of week working times (*réduction du temps de travail*) to 35 hours (Askenazy, 2013). In practice, the agreement reduced working times to 39 hours, so that only work in excess of 39 would be paid overtime, and the subsidy for reduced working times was increased. In 1996 a new conservative government incentivised the voluntary reduction of 10-15% of working times, but it was not until a new, and unexpected socialist led coalition government was elected in 1997 with the purpose of reducing unemployment, that the original idea of a 35-hour working week was back on the agenda as a way of ‘work sharing’. The proposal attempted to reduce working times to 35 hours a week with full wage, but it would primarily apply to large companies (small companies were allowed a longer transition period) that would receive a generous tax compensation for the resulting rise in labour costs.

The working time regulation, referred as Aubry law, was passed in two phases. The first one was passed in June 1998 (Aubry I), which reduced the legal working time limit from 39 to only 35 hours per week from 1st January 2000 for companies with more than 20 employees such as EDF-GDF, and specifically an agreement was signed in 1999 with EDF-GDF³.

³ https://www.liberation.fr/futurs/1999/01/13/les-35-heures-a-edf-gdf-accord-parfait-entre-3000-et-5000-creations-d-emploi-salaires-maintenus-form_263490

Hours worked beyond 35 would be treated as overtime hours subject to a 25% hourly rate bonus and a maximum of 130 per employee per year. The latter would result from statewide collective agreements between the company and trade unions influenced by labour regulations of Alsace-Moselle (now called Grand Est). Hence, the regulation appears to be an important exogenous mechanism to identify the pure substitution effects of working time reductions, as there was no income effect (salaries were kept unchanged). Although there might have been organizational changes around the same time, examining a single company such as EDF-GDF helps the identification of these effects as EDF-GDF were two former state monopolies, and were among the very first to implement the 35-hour workweek. They signed an agreement with trade unions in 1999 and implemented the reform in 2000. Finally, the effect of the reform depends largely on changes in the labour regulation of partners, which might not be employed in the same company. We specifically examine this heterogeneity in the analysis of individuals who have children.

However, the specifics of the reform were only included in the second bloc passed in 2000 (Aubry II). During the transition period there were intense negotiations that resulted allowing some flexibility to the companies so that they could ask their employees to work more hours in some weeks and compensate with fewer hours in other weeks. Hence, the standard workweek was reduced from 39 to 35 hours first on a voluntary basis coupled with incentive schemes conditional upon employment creation (Robien act 1996, Aubry I act 1998), and then on a compulsory basis (Aubry II act 2000). The costs of the reform were originally estimated at 200,000 dollars per job created, which were supposed to be funded from alcohol and tobacco tax revenues. However, the fast adoption shifted up the costs, which required an injection from the unemployment fund (UNEDIC). This was deemed

appropriate given that the reform was expected to reduce unemployment, and hence the outlays of unemployment benefits.

Although the Aubry law initially concerned private employers, it was also implemented in the public sector at the same time; hence, the so-called privatization of EDF-GDF after 2000 would have produced no effects on working times. However, there was significant heterogeneity in the implementation across sectors (Askenazy, 2013); therefore it appears convenient to examine a dataset that contains records of the same sector and activity to analyse the effects of such reforms.

After the defeat of the incumbent socialist party in 2002, the law was not implemented in small companies and the maximum extra hours was increased from 180 to 240. After the 2007 defeat in the presidential elections the law was repealed. Although, the 35-hours continuous to be written in the “code du travail” (the workers regulation in France), the regulation has been extensively amended to allow for different categories of workers who work beyond 35 hours.

During the period of implementation of the Aubry law there were very limited health reforms in the country. Most of these reforms were aimed at reducing out-of-pocket health care payments and improving geographical access. However, France is among the OECD countries for which public financing of health care expenditure is the highest (Chevreul et al., 2015).

4. Empirical Design

4.1 Data

This study employs GAZEL data, a dataset managed by the French National Institute for Health and Medical Research (INSERM) in collaboration with the occupational health and human resource departments of EDF-GDF. The GAZEL Cohort Study was set up in 1989 among EDF-GDF workers to study their health problems and determinants, accessible to the community of researchers. At inception, the GAZEL Cohort Study included 20,624 volunteers then aged from 35 to 50 years (15,010 men and 5,614 women). The cohort is broadly diverse in terms of social, economic and occupational status, health and health-related behaviour. Compared to other sample from France, the GAZEL sample composition (socio-demographics and other observables available) is good representative sample for the whole EDF-GDF workforce, and the GAZEL cohort's follow-up is very thorough - less than 1% have been lost to follow-up since its inception (Melchior et al, 2006).

The data, routinely collected, covers diverse dimensions and comes from different sources: annual self-administered questionnaires (for morbidity, lifestyles, life events, etc.), personnel department of EDF-GDF (for social, demographic, and occupational characteristics), EDF-GDF Special Social Insurance Fund (for sickness absences and cancer and ischemic heart disease registries), EDF-GDF occupational medicine department (for occupational exposure and working conditions), Social Action Fund (for healthcare utilization), Health Screening Centers (for standardised health examination and the constitution of a biobank), and the National Death Register (for causes of death). Follow-up has been excellent, and the number

of subjects lost to follow-up is below 1%; active participation through the self-administered questionnaire is also large.

In particular, GAZEL's database contains yearly self-reported data on weight and height, which was used to calculate the body mass index (BMI)⁴. Perceived health status and smoking behaviour is also collected on an annual basis. The former is measured with a scale from 1 to 8, where 1 is very good health and 8 is very poor health; the latter indicates whether the person smokes, and if so, the quantity of cigarettes smoked per day. Monthly household income is measured at the cohort inception across the panel. The original nine categories were grouped into three that roughly correspond to income terciles (low, middle and high). Other information employed in the analyses includes age, sex, educational attainment, spouse's employment status and an indicator of the presence of children in the household. We also distinguish white collar from blue-collar workers, and those in the distribution from those in the production sector to exploit the variation in the type of employment together with regional differences (see section 4.2). This is particularly relevant as the activities of both blue-collar workers and those in the production sector entail more physical activity. Moreover, this distinction allows taking into account possible changes in working conditions in the distribution sector after the liberalisation of this part of EDF-GDF in the beginning of the past decade. Unfortunately, we cannot identify the number of hours worked per individual but other studies have shown that the Aubry reform effectively reduced working times (e.g., Chemin and Wasmer, 2009). One of the limitations of the

⁴ Clinically measured BMI is only available for few participants in the study period, mainly for 1997. We compared self reported estimates with clinically measured BMI for this small sample of 1574 individuals in 1997 and we found evidence of a comparable distribution and strong predictive power of self reported BMI (Figure A1).

strategy used here is that the sample sizes treatment and control groups unbalanced sizes, however it contains a considerable large number of time points both before and after the treatment.

Only respondents who worked during the reference period (1997-2006), for whom we have complete information, were considered in the analysis. Residents of territories (2 out of 97 departments) were excluded. As displayed in Table 1, the data contains 49,830 individual-wave observations (see Table A1 for a description of the number of observations by year). Once the reference period was defined in accordance with policy changes, the actual configuration of the analytic sample was largely driven by working status. In other words, the number of observations diminishes throughout the study period not because of attrition but because many participants retired. Another limitation that is worth mentioning is that by construction follows individuals over 40 years of age and over, our results might not be representative of younger cohorts. Section 5.2 further explores whether the reform affected retirement, as this could bias our results. Also, some observations (3,685) are also lost due to item non-response or incomplete information in the relevant variables (BMI, position and education). Section 5.2 below uses imputation to analyse the potential impact of this type of non-response. Figure A0 depicts the French departments where the Alsace-Moselle region can be identified in the extreme right⁵.

[Insert Table 1 about here]

⁵ “Departments” in France are a unit of geography (like counties or states in the US).

4.2 Empirical Strategy

Unlike other studies examining the effect of the Aubry reform, we employ data from a single, large company in France which compares to the Whitehall study to measure health inequality in the UK. However, unlike other studies studying the Aubry reform we cannot rely on analysing the differential effects between large (mostly affected) and small (mostly unaffected) companies, as other studies do (e.g. Berniell and Bietenbeck, 2017, Lepinteur, 2016). Instead, we follow Chemin and Wasmer (2009) who estimate the causal effect of the Aubry reform by comparing Alsace-Moselle to the rest of France between 2001 and 2002. Indeed, the Alsace-Moselle region attenuated the impact of the Aubry reform by including two public holidays (December 26 and Good Friday) as part of the reduction in working time. In other words, this region reduced working times by two days less, namely 16 hours of work per year. The 35-hour reform corresponded to a reduction of four hours per week throughout the 46-week workyear, for a total reduction of 184 hours. Therefore, there was a 10% smaller working times in the impact of the 35-hour reform in Alsace-Moselle as opposed to the rest of the country. In EDF-GDF this reform came into effect in 2000 due to a specific agreement mentioned above. This regional disparity in the implementation of the Aubry reform, however, was only in effect until 2002, since the local council forbade considering public holidays as part of the reduction in working time from 2003.

The difference-in-differences model estimated was the following:

$$O_{idt} = \alpha_d + \delta_t + \beta_1(\text{treated} * 2000 - 2002)_{idt} + \beta_2(\text{treated} * 1999)_{idt} \\ + \beta_3(\text{treated} * 2003 - 2006)_{idt} + \gamma X_{idt} + \varepsilon_{idt}$$

where O_{idt} is a measure of overweight defined as taking the value of one if the body mass index is in excess of 25 for individual i , from department d , at year t ; α_d are department fixed effects; δ_t are year fixed effects; $(\text{treated} * 2000 - 2002)_{idt}$, $(\text{treated} * 1999)$, and $(\text{treated} * 2003 - 2006)_{idt}$ are binary variables that take the value of one if individual i lives in departments other than Alsace-Moselle (i.e. treated departments) in 2000-2002, 1999, and 2003 or later, respectively; and X_{idt} refer to individual-level controls, namely, sex, age and education. The reference period is therefore 1997-1998. The coefficient of interest, β_1 , indicates the relative change in body mass index of individual i from the control region after the reform. The coefficient β_2 allows to examine the hypothesis of parallel trends. Standard errors were clustered at the department level given that the variation in our data is at the department level (yet clustering at the individual level makes not difference to the results). The models were also estimated using obesity, which takes the value of one if the body mass index is 30 or more, and the continuous measure of body mass index as dependent variables.

Our main focus of interest lies in examining the specific effects on two different samples defined by type of job, namely white and blue collar jobs. The rationale for this distinction is that blue-collar jobs mainly entail physically intensive activities (e.g. technicians), whilst white collar jobs predominantly entail mentally intensive activities (e.g. administrative). In other words, blue collar workers main physical activity is related to their job, while white collar workers physical activity might well be unrelated to their jobs. Hence, we expect different effects, even in opposite direction between the two types of workers. The definition of blue and white collars was taken from GAZEL databook.

Furthermore, we examine additional sources of heterogeneity that do not constitute different types of samples, such as whether the job was in the distribution or in the production unit of the energy sector, household income and spouse's employment interactions, as well as gender and age effects. In addition, the second part of our empirical strategy addresses potential mechanisms, and more specifically, the role of children in the household. Given that the additional time gained with the Aubry reform could be spent on multiple competing activities including childcare, we examine the specific heterogeneity resulting from the presence of children in the household. We also analyse potential effects on health and health behaviours, namely self-reported health and smoking. Finally, our empirical strategy involves some placebo tests that are used as control areas of the country and were affected by the reform to see if there are any random effects emerging. Specifically, we examine two regions, Nord-Pas de Calais and Auvergne, which are geographically far from Alsace-Moselle and hence unlikely to be affected by factors different to the Aubry reform that may be present in neighbouring regions.

4.3 Pre-reform Trends

For preliminary evidence of the suitability of the identification strategy, we examine pre-reform trends of outcome variables. Figure 1 reports the trends in body mass index for the period 1997 – 2006 for blue and white collar workers. It becomes apparent that pre-treatment trends (up to 1999) were comparable between Alsace-Moselle and the rest of France, but differed around the treatment years (2000-2002) among blue-collar workers. Trends are reported for obesity in the appendix in Figure A2.

[Insert Figure 1 about here]

Specifically, when we split the sample we find evidence of differential impacts of the reform in both overweight and BMI between blue and white collars, and between Alsace-Moselle and the rest of France. However, pre-trends seem to be consistently similar across both types of regions. This is confirmed in formal testing (see the estimates of coefficient β_2 in section 5.1 below). Furthermore, we also provide estimates without pre-trends so as to examine the effects of controlling for pre-existing trends.

5. Results

5.1 Baseline Results

To estimate the effect of an ameliorated exposure to the Aubry reform (reduced working times, or henceforth the treatment) we examine changes in overweight in the total sample, and especially, in the subsample of blue and white-collar workers. The rationale for examining different samples lies in the fact that blue-collar jobs mainly entail physically intensive activities, and hence can be reasonably considered a separate group of individuals.

Table 2 reports the estimates for overweight for the entire sample and the subsample of blue and white-collar workers. Importantly, we find that although there was no significant effect overall, the implementation of the policy in treated areas (where the 35-hour reform was fully enforced) significantly increased *the probability of overweight by 6.7pp among the sample of blue collar workers* which is an average *9% increase in overweight compared to workers in Alsace-Moselle*. These results were estimated using ordinary least squares

(OLS) but no significant difference is found when probit models are employed (Table A2). We find no effect among the sample of white-collar workers. Table A3 reports similar estimates for obesity, and suggest evidence of a 2.6pp reduction. Tables B1-B3 in the Appendix provide the full estimates with the coefficients for all the controls. Results without controls for overweight among blue collars show a consistent picture (columns 2 and 5, Table 2). Consistently, the “turning off” of the policy produces counter though not significant effects. Indeed, results for overweight in Table 2, suggest that the 2003-2006 effect is negative and almost as large in size as that for 2000-2002 but not statistically different from zero.

[Insert Table 2 about here]

5.2 Robustness Checks

Next, we present estimates excluding pre-treatment trends in the first panel of Table 3. Importantly, the effects on overweight are barely changed for the subsample of blue-collar workers. Specifically, the effect is 7.1pp in this subsample. Consistently, no significant effect is found among white collar workers. Tables B4-B6 in the Appendix provide estimates with the coefficients for all controls. The second panel provides estimates of the effect interacting with obesity and overweight at baseline. Consistently, we continue to find a comparable effect of 6pp increase in overweight, but importantly individuals who were overweight or obese before the reform, exhibit a reduction in their overweight. Table G1 in the appendix suggests that 53% of the sample was overweight in 2000 and 9% was obese.

[Insert Table 3 about here]

Section 5.3 below explores spousal employment status, household income, and the activity sector (distribution vs. production) as potential sources of heterogeneity, but first we included those variables as additional controls to assess the validity of the results presented in Table 2. Estimates are found to barely change (see Tables C1-C6 in the Appendix).

To assess the impact of item non-response, we estimated the models using imputed values of the relevant variables with missing information. This resulted in a 7% increase in the number of observations ($n=53,515$). The estimates confirm an increase in normal weight blue collar workers (6.5pp) and a reduction of obese blue-collar employees (2.8pp) attributable to the reform (Tables C7-C9 in the Appendix). In addition, we tested whether the reform affected retirement, as an important share of participants retired during the study period. Table C10 in the Appendix shows no evidence of such effect. We also tested the effects of the reform on overweight among respondents who retired during the treatment period—the complement of the study sample, with no actual exposure to the reform—, but we found no effect as expected (Table C11 in the Appendix).

Finally, to test the validity of the identification strategy employed, we selected two regions to conduct a placebo test, namely Nord-Pas de Calais in the north and Auvergne in the south. This test basically consisted of replacing Alsace-Moselle, the control group, by each of the other regions. As shown in Table 4, the results were not statistically significant, which supports the methodological approach employed. Conversely, we also tested delimiting the treated group to regions near Alsace-Moselle. In other words, instead of using all France departments as treated, we only used nearby departments; specifically, we defined a group in

the north —that includes Picardie, Nord-Pas de Calais, Champagne-Ardenne, Lorraine, Ile de France, Haute-Normandie, Basse-Normandie, and Bretagne— and a group in the northeast —that includes Champagne-Ardenne, Lorraine, Bourgogne, Franche-Comte, Rhone-Alpes, and Provence-Alpes. In both cases, the reduction in overweight among blue-collar workers remains essentially the same (about 6.7pp; Table C12 in the Appendix). Since the number of departments (clusters) is reduced to a third in these estimates (from 95 to 32), we also calculated standard errors with bootstrap. Although the significance of the effect on the overweight of blue collar workers is reduced, it remains within reasonable levels (about $p = 0.07$).

[Insert Table 4 about here]

5.3 Heterogeneity of the Results

5.3.1 Area of Activity

Given that the distribution sector of EDF-GDF underwent a liberalization process around the same time of the Aubry reform, one could expect heterogeneous effects on employees working on energy distribution as opposed to its production which was not liberalised. Hence, we first report estimates of triple interactions of the treatment and the area of activity. Table 5 displays such estimates and suggests that the results are *only significant for the blue collars (Treated*2000-2002) working in the production sector which was not liberalised*; and specifically, they suggest slightly larger coefficients with a 7.4pp increase. In contrast, we find a reduction in overweight among white-collar workers in the distribution sector of 3.9 pp for the entire distribution sector sample consistent with the idea of a health

investment effect of extra time but only applicable among the distribution sample alone. However, these estimates are affected by the fact that this sector was subject to a liberalisation process. Furthermore, Tables D1-D3 in the Appendix provide additional estimates where we split the sample by area of activity, and suggest an effect for both distribution and production areas an effect of the reform.

[Insert Table 5 about here]

5.3.2 Spousal Employment Status and Income Effects

The effects of the French reform might have been heterogeneous depending on respondents' marital status, and more specifically on whether the spouse is employed. A reduction in working times of one spouse might not necessarily entail an equivalent reduction in the other spouse's working time⁶, if the latter was working in a smaller company and hence was not affected by the reform. Panel A in Table 6 provides estimates that suggest that the effect declines with spousal employment by 3pp.

[Insert Table 6 about here]

Another potential source of heterogeneity is respondents' income. One could hypothesize that more affluent individuals might not respond to a working time reduction in the same

⁶ One potential explanation could be that the reform led to a change of job. However, in this case we do not observe a significant change in leaving EDF, but we do not observe individuals changing between white or blue collars during the period.

way as their lower income counterparts. Panel B of Table 6 reports the results of such interaction, and indicate no evidence of this source of heterogeneity. Full estimates with all controls are reported in tables E1-E6 in the Appendix.

5.3.3 Gender and Age Heterogeneity

The last important sources of heterogeneity considered are gender and age, which we report in Table 7 and Tables E7-E12 (in the Appendix). It could well be the case that old age individuals exhibited a different reaction, or that men and women exhibited different preferences with regards to health production. However, estimates suggest no evidence of an heterogeneous effect on both gender and age.

[Insert Table 7 about here]

5.4 Mechanisms

Next, we examine the potential mechanisms driving the effect of the French reform on overweight. Specifically, we identified two mechanisms: the presence of children in the household and the potential effect of the reform on health and health behaviour.

The presence of children in the household could arguably pick up a potential substitution effect of working time for childcare. To examine this question, Table 8 reports evidence of the heterogeneity of our estimates derived from the presence of children. Estimates suggest that the presence of children does indeed absorb our baseline results. Again, estimates containing the full list of controls are reported in the Appendix (Tables E13-E15).

[Insert Table 8 about here]

An alternative mechanism could be through specific effects on health, or health behaviours such as smoking. The latter is found to exert some influence on the probability of overweight and obesity (Gruber and Frakes, 2006). Table 9 suggests evidence of a reduction on the intensive margin of the self-assessed health ratings among blue-collar workers. The full list of controls is reported in Tables F1-F4 in the Appendix.

[Insert Table 9 about here]

6. Conclusion

This paper has examined the effect of the reduction of working times after the introduction of a national policy (the Aubry reform) that kept individual salaries unaltered on overweight. In a time constrained setting, working time reductions can increase time allocated to health production. However, if fitness comes from employment reduced working times might be at the expense of physical activity, which gives rise to the ‘working the weight out’ hypothesis outlined in this paper.

We exploit the fact that the reform reduced the working week from 39 to 35 hours, or 184 hours per year, and we focus on the potentially different effect of different theoretical explanations between blue and white collar workers. This policy came into effect in 2001 but one region, Alsace-Moselle, blunted its impact by counting two existing public holidays towards the 184-hour reduction. In this region, hours of work per year only fell by 168. Our

dataset contains records from EDF-GDF, which implemented the reform in 2000, and provides for an additional source of identification. In 2003, Alsace-Moselle was forced to fully comply with national policy and EDF-GDF workers in this region were subject to the same rules as EDF-GDF workers elsewhere.

Against the hypothesis of health investment effects, we find that reduced working times increase overweight among blue-collar workers primarily, but no effect on white collars. Our estimates suggest that blue-collar workers in treated areas (where the 35-hour reform was fully enforced) exhibit a higher probability of overweight by 6.7pp higher than their counterparts in control areas (Alsace-Moselle). The effect is driven by both an increase of overweight among normal weight individuals and a reduction of obesity 2.3pp. Consistently, the “turning off” of the policy produces counter though not significant effects. Given that the sample overweight and obesity average is 53% and 9% respectively, the results indicate that the reform lead to a 12% increase in overweight, driven in part by a 25% decrease in obesity. Absence of effects for white collars can be explained by the fact that reduced work schedules typically result in extra holidays.

Our findings also indicate that the reduction in working time was employed in decreasing external childcare rather than increasing leisure time. Although on paper working time reduction may lead to better fit between desired and actual working hours, and hence less stress this depends on the way individuals allocate such extra hours. If extra time results in more child care an important question for future research is the effect on child health.

We find that a reduction in working times reflected in a small deterioration in the intensive margin of self-reported health among blue collar workers. These results are consistent with other evidence on the French reform (Goux et al., 2014), and overall suggest that policies to reduce working times alone do not necessarily produce better fitness for everyone, either because they do not modify the environment (e.g., individuals take more holidays etc.), or because they produce counterproductive incentives in a population (blue collar workers) for whom their job-related physical activity is their primary form of exercise. In contrast, for certain subsets of the population we do find some health effects such as those who are obese at baseline. One potential way out is to combine a reduction in working time with incentives to spend the extra leisure time on health production activities.

References

- Allan, J., Sadko, K., Bell, C., & Johnston, D. (2019). How many calories do nurses burn at work? A real-time study of nurses' energy expenditure. *Journal of Research in Nursing*, 24(7), 488-497.
- Angrave D., Charlwood A., Wooden M (2015). Long working hours and physical activity. *J. Epidemiol. Community Health*. 2015;0:1-7.
- Artazcoz, L., Cortès, I., Escribà-Agüir, V., Bartoll, X., Basart, H., & Borrell, C. (2013). Long working hours and health status among employees in Europe: Between-country differences. *Scandinavian Journal of Work, Environment & Health*, 39: 369-378.
- Askenazy, P. (2013). Working time regulation in France from 1996 to 2012. *Cambridge Journal of Economics*, 37: 323-347.
- Bannai, A., & Tamakoshi, A. (2014). The association between long working hours and health: A systematic review of epidemiological evidence. *Scand J Work Environ Health*, 40: 5-18.
- Berniell, I., & Bientenbeck, J. (2017). The effect of working hours on health. *IZA DP n° 10524*.
- Chevreur, K., Berg Brigham, K., Durand-Zaleski I., & Hernández-Quevedo, C. (2015). France: Health system review. *Health Systems in Transition*, 17(3): 1-218.

- Chou, S., Grossman, M., & Saffer, H. (2004). An economic analysis of adult obesity: Results from the Behavioral Risk Factor Surveillance System. *Journal of Health Economics*, 23(3): 565–587.
- Courtemanche, C., & Carden, A. (2011). Supersizing supercenters? The impact of Walmart Supercenters on body mass index and obesity. *Journal of Urban Economics*, 69(1): 165–181.
- Crépon, B., & Kramarz, F. (2002). Employed 40 hours or not employed 39: Lessons from the 1982 mandatory reduction of the workweek. *Journal of Political Economy*, 110(6): 1355–1389.
- Cutler, D. M., Glaeser, E. L., & Shapiro, J. M. (2003). Why have Americans become more obese? *The Journal of Economic Perspectives*, 17(3): 93–118.
- Chemin, M., & Wasmer, E. (2009). Using Alsace-Moselle local laws to build a difference-in-differences estimation strategy of the employment effects of the 35-hour workweek regulation in France. *Journal of Labor Economics*, 27(4): 487–524.
- Estevão, M., & Sa, F. (2008). The 35-hour workweek in France: Straightjacket or welfare improvement? *Economic Policy*, 23(55): 418–463.
- Golden, L., & Wiens-Tuers, B. (2006). To your happiness? Extra hours of labor supply and worker well-being. *The Journal of Socio-Economics*, 35(2): 382–397.
- Gruber, J., & Frakes, M. (2006). Does falling smoking lead to rising obesity?. *Journal of Health Economics*, 25(2): 183–197.
- Goux, D., Maurin, E., & Petrongolo, B. (2014). Worktime Regulations and Spousal Labor Supply. *American Economic Review*, 104 (1): 252–76.
- Jang, T. W., Kim, H. R., Lee, H. E., Myong, J. P., & Koo, J. W. (2013). Long work hours and obesity in Korean adult workers. *J Occup Health*, 55(5): 359–366
- Kim, M. H., Kim, C. Y., Park, J. K., & Kawachi, I. (2008). Is precarious employment damaging to self-rated health? Results of propensity score matching methods, using longitudinal data in South Korea. *Social Science & Medicine*, 67(12): 1982-1994.
- Kim, B. M., Lee, B. E., Park, H. S., Kim, Y. J., Suh, Y. J., Kim, J., Shin, J. Y., & Ha, E. H. (2016). Long working hours and overweight and obesity in working adults. *Annals of Occupational and Environmental Medicine*, 28(1): 36.
- Kirk M.A., Rhodes R.E. Occupation correlates of adults' participation in leisure-time physical activity: a systematic review. *Am. J. Prev. Med.* 2011;40(4):476–485.
- Hamermesh, D. (2010). Incentives, time use and BMI: The roles of eating, grazing and goods. *Economics and Human Biology*, 8: 2–15.

- Hamermesh, D. S., Kawaguchi, D., & Lee, J. (2017). Does labor legislation benefit workers? Well-being after an hours reduction. *Journal of the Japanese and International Economies*, 44: 1–12.
- Lee, K., Suh, C., Kim, J.-E., & Park, J. O. (2017). The impact of long working hours on psychosocial stress response among white-collar workers. *Industrial Health*, 55(1): 46–53.
- Lepinteur, A. (2016). The shorter workweek and worker wellbeing: Evidence from Portugal and France. *PSE Working Papers n° 2016-21*.
- Maddock, J. (2004). The relationship between obesity and the prevalence of fast food restaurants: state-level analysis. *American Journal of Health Promotion*, 19(2): 137–143.
- Melchior, M., Berkman, L. F., Kawachi, I., Krieger, N., Zins, M., Bonenfant, S., & Goldberg, M. (2006). Lifelong socioeconomic trajectory and premature mortality (35–65 years) in France: findings from the GAZEL Cohort Study. *Journal of Epidemiology & Community Health*, 60(11), 937–944.
- Oliver, G., & Wardle, J. (1999). Perceived effect of stress on food choice. *Physiol Behav* 66: 511–515.
- Porter, J.S., Bean, M.K., Gerke, C.K., & Stern, M. (2010). Psychosocial factors and perspectives on weight gain and barriers to weight loss among adolescents enrolled in obesity treatment. *J Clin Psychol Med Settings*, 17(2): 98–102.
- Rudolf, R. (2014). Work shorter, be happier? Longitudinal evidence from the Korean five-day working policy. *Journal of Happiness Studies*, 15(5): 1139–1163.
- Ruhm, C. (2005). Healthy living in hard times. *Journal of Health Economics*, 24(2): 341–363.
- Scholarios, D., Hesselgreaves, H., & Pratt, R. (2017). Unpredictable working time, well-being and health in the police service. *The International Journal of Human Resource Management*, 28:16, 2275–2298.
- Schneider, S., & Becker, S. (2005). Prevalence of physical activity among the working population and correlation with work-related factors: Results from the first German national health survey. *J Occup Health*, 47: 414–423.
- Solovieva, S., Lallukka, T., Virtanen, M., & Juntura, E. (2013). Psychosocial factors at work, long work hours and obesity: a systematic review. *Scand J Work Environ Health*, 39: 241–258.
- Sparks, K., Cooper, C., Fried, Y., & Shirom, A. (1997). The effects of hours of work on health: A Meta-analytic review. *J Occup Organ Psychol*, 70: 391–408.

Table 1. Sample Characteristics at First Interview (standard errors in parenthesis)

Characteristics	Total n=11,607		Alsace-Moselle (control) n=352		Rest of France (treated) n=11,255	
Age	51.1	(.028)	51.2	(.146)	51.1	(.028)
Sex						
Male	74.0%	(.004)	84.4%	(.019)	73.7%	(.004)
Female	26.0%	(.004)	15.6%	(.019)	26.3%	(.004)
Education						
Basic certificate	4.2%	(.002)	2.0%	(.007)	4.3%	(.002)
Junior secondary certificate	13.6%	(.003)	5.7%	(.012)	13.9%	(.003)
Baccalaureate	7.9%	(.003)	8.5%	(.015)	7.9%	(.003)
Certificate of professional competence	27.2%	(.004)	38.6%	(.026)	26.9%	(.004)
Vocational certificate	23.1%	(.004)	25.3%	(.023)	23.0%	(.004)
Undergraduate degree	7.1%	(.002)	8.2%	(.015)	7.1%	(.002)
Other academic degree	14.4%	(.003)	8.8%	(.015)	14.6%	(.003)
Other diploma	2.4%	(.001)	2.8%	(.009)	2.4%	(.001)
Work position						
White collar	46.8%	(.005)	40.9%	(.026)	47.0%	(.005)
Blue collar	53.2%	(.005)	59.1%	(.026)	53.0%	(.005)
Body mass index	25.5	(.032)	26.3	(.181)	25.4	(.033)

Notes: Body mass index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. n = sample size.

Table 2. Effect of Working Time Reduction on Overweight, 1997-2006

	All	Blue collars	White collars	All	Blue collars	White collars
	1	2	3	4	5	6
Dependent variable = Overweight						
(Treated)*(2000-2002)	0.011 (0.023)	0.049*** (0.013)	-0.011 (0.050)	0.022 (0.026)	0.067*** (0.014)	-0.029 (0.058)
(Treated)*(1999)	-0.005 (0.018)	-0.015 (0.018)	0.013 (0.026)	-0.009 (0.019)	-0.015 (0.020)	0.001 (0.026)
(Treated)*(2003-2006)	-0.025 (0.063)	-0.090* (0.052)	0.028 (0.093)	-0.040 (0.068)	-0.053 (0.054)	-0.023 (0.100)
Year fixed effects	yes	yes	yes	yes	yes	yes
Department fixed effect	yes	yes	yes	yes	yes	yes
Controls	no	no	no	yes	yes	yes
R ²	0.02	0.03	0.02	0.11	0.08	0.12
N	49,830	23,297	26,533	49,830	23,297	26,533

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

Table 3. Alternative Specifications on overweight

	All	Blue collars	White collars
Without Pre-Treatment Trends			
(Treated)*(2000-2002)	0.024 (0.022)	0.071*** (0.010)	-0.030 (0.051)
(Treated)*(2003-2006)	-0.037 (0.063)	-0.049 (0.051)	-0.024 (0.093)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533
Obesity and Overweight interactions			
(Treated)*(2000-2002)	0.028** (0.012)	0.061*** (0.009)	-0.011 (0.027)
Overweight1999	0.855*** (0.006)	0.852*** (0.007)	0.860*** (0.007)
Obesity1999	0.920*** (0.006)	0.907*** (0.007)	0.937*** (0.007)
(Treated)*(2000-2002)* Overweight1999	-0.080*** (0.006)	-0.087*** (0.011)	-0.077*** (0.008)
(Treated)*(2000- 2002)*Obesity1999	-0.056*** (0.007)	-0.059*** (0.010)	-0.064*** (0.009)
(Treated)*(2003-2006)	0.005 (0.037)	-0.007 (0.030)	0.008 (0.046)
(Treated)*(2003-2006))* Overweight1999	-0.131*** (0.016)	-0.126*** (0.022)	-0.136*** (0.017)
(Treated)*(2003- 2006)*Obesity1999	-0.101*** (0.011)	-0.091*** (0.017)	-0.118*** (0.013)
R ²	0.71	0.70	0.71
N	42,748	19,586	23,162
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.. Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

Table 4. Placebo test using other regions as control groups

	All	Blue collars	White collars
Dependent variable = Overweight			
(Treated_Nord-PasdeCalais)*(2000-2002)	-0.008 (0.038)	0.004 (0.056)	-0.023 (0.022)
(Treated_Nord-PasdeCalais))*(1999)	-0.008 (0.020)	-0.034 (0.048)	0.018 (0.015)
(Treated_Nord-PasdeCalais))*(2003-2006)	-0.029 (0.045)	-0.147*** (0.031)	0.005 (0.043)
R ²	0.11	0.08	0.12
(Treated_Auvergne)*(2000-2002)	0.010 (0.026)	-0.006 (0.074)	0.029 (0.020)
(Treated_Auvergne)*(1999)	0.004 (0.017)	0.023 (0.035)	-0.004 (0.008)
(Treated_Auvergne)*(2003-2006)	0.021 (0.050)	-0.068 (0.112)	0.070** (0.027)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

Table 5. Heterogeneous Effects on Production and Distribution

	All	Blue collars	White collars
Dependent variable = Overweight			
(Treated)*(2000-2002)	0.029 (0.025)	0.074*** (0.017)	-0.021 (0.057)
Distribution	0.008 (0.011)	0.007 (0.014)	0.012 (0.014)
(Treated)*(2000-2002)*(Distribution)	-0.016 (0.011)	-0.014 (0.017)	-0.019 (0.015)
(Treated)*(1999)	-0.000 (0.018)	-0.018 (0.022)	0.022 (0.024)
(Treated)*(1999)*(Distribution)	-0.017** (0.008)	0.004 (0.013)	-0.039*** (0.011)
(Treated)*(2003-2006)	-0.028 (0.066)	-0.037 (0.054)	-0.015 (0.098)
(Treated)*(2003-2006)*(Distribution)	-0.026* (0.015)	-0.039 (0.031)	-0.020 (0.021)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

Table 6. Heterogeneous Effects by Spouse Employment Status and Income on Overweight

	All	Blue collars	White collars
Panel A. Spouse Employment Status			
(Treated)*(2000-2002)	0.034 (0.033)	0.072*** (0.023)	-0.014 (0.063)
(Treated)*(1999)	-0.006 (0.026)	0.006 (0.032)	-0.021 (0.027)
(Treated)*(2003-2006)	-0.009 (0.082)	-0.065 (0.070)	0.041 (0.109)
(Treated)*(2000-2002)*spouse works	-0.023** (0.011)	-0.013 (0.017)	-0.030 (0.019)
(Treated)*(1999)*spouse works	-0.010 (0.011)	-0.030** (0.013)	0.012 (0.019)
(Treated)*(2003-2006)*spouse works	-0.034** (0.016)	0.007 (0.032)	-0.054** (0.026)
Spouse works	-0.019** (0.009)	-0.020 (0.015)	-0.015 (0.015)
R ²	0.10	0.07	0.12
N	42,250	20,585	21,665
Panel B. Monthly Household Income			
(Treated)*(2000-2002)	0.022 (0.030)	0.061*** (0.022)	-0.028 (0.065)
(Treated)*(1999)	-0.006 (0.020)	-0.018 (0.022)	0.013 (0.033)
(Treated)*(2003-2006)	-0.048 (0.073)	-0.078 (0.062)	-0.029 (0.107)
(Treated)*(2000-2002)*middle income	-0.004 (0.016)	0.012 (0.023)	-0.019 (0.019)
(Treated)*(2000-2002)*high income	0.002 (0.015)	0.013 (0.025)	-0.004 (0.019)
(Treated)*(1999)*middle income	-0.014 (0.011)	0.002 (0.015)	-0.037** (0.017)
(Treated)*(1999)*high income	-0.002 (0.015)	-0.008 (0.020)	-0.007 (0.019)
(Treated)*(2003-2006)*middle income	-0.004 (0.026)	0.042 (0.041)	-0.027 (0.030)
(Treated)*(2003-2006)*high income	0.018 (0.025)	0.034 (0.038)	0.013 (0.031)
R ²	0.11	0.08	0.12

N	48,873	22,811	26,062
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = $\text{weight}/(\text{height}^2)$; estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Controls include demographics (age, age squared, gender), and educational attainment. Full values of the estimates are included in the appendix.

Table 7. Gender Heterogeneous Effects

	All	Blue collars	White collars
Dependent variable = Overweight			
(Treated)*(2000-2002)	0.020 (0.026)	0.064*** (0.015)	-0.032 (0.058)
(Treated)*(1999)	-0.006 (0.019)	-0.015 (0.021)	0.011 (0.026)
(Treated)*(2003-2006)	-0.043 (0.069)	-0.064 (0.056)	-0.020 (0.099)
(Treated)*(2000-2002)*female	0.006 (0.010)	0.020 (0.020)	0.005 (0.013)
(Treated)*(1999)*female	-0.012 (0.009)	-0.006 (0.014)	-0.023* (0.013)
(Treated)*(2003-2006)*female	0.007 (0.022)	0.037 (0.037)	-0.005 (0.024)
Female	-0.325*** (0.013)	-0.321*** (0.026)	-0.308*** (0.014)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared), and educational attainment. Full values of estimates are included in the appendix.

Table 8. Children Specific Heterogeneous Effects

	All	Blue collars	White collars
Dependent variable = Overweight			
(Treated)*(2000-2002)	0.004 (0.038)	0.049* (0.028)	-0.063 (0.068)
(Treated)*(1999)	-0.015 (0.031)	0.025 (0.029)	-0.073 (0.058)
(Treated)*(2003-2006)	-0.019 (0.063)	-0.001 (0.075)	-0.036 (0.108)
(Treated)*(2000-2002)*haschild	0.030* (0.018)	0.044** (0.021)	0.017 (0.027)
(Treated)*(1999)*haschild	0.012 (0.015)	0.005 (0.018)	0.021 (0.022)
(Treated)*(2003-2006)*haschild	0.033 (0.026)	0.037 (0.033)	0.026 (0.035)
Haschild	-0.037*** (0.012)	-0.040** (0.016)	-0.032* (0.019)
R ²	0.11	0.08	0.12
N	36,249	17,207	19,042
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

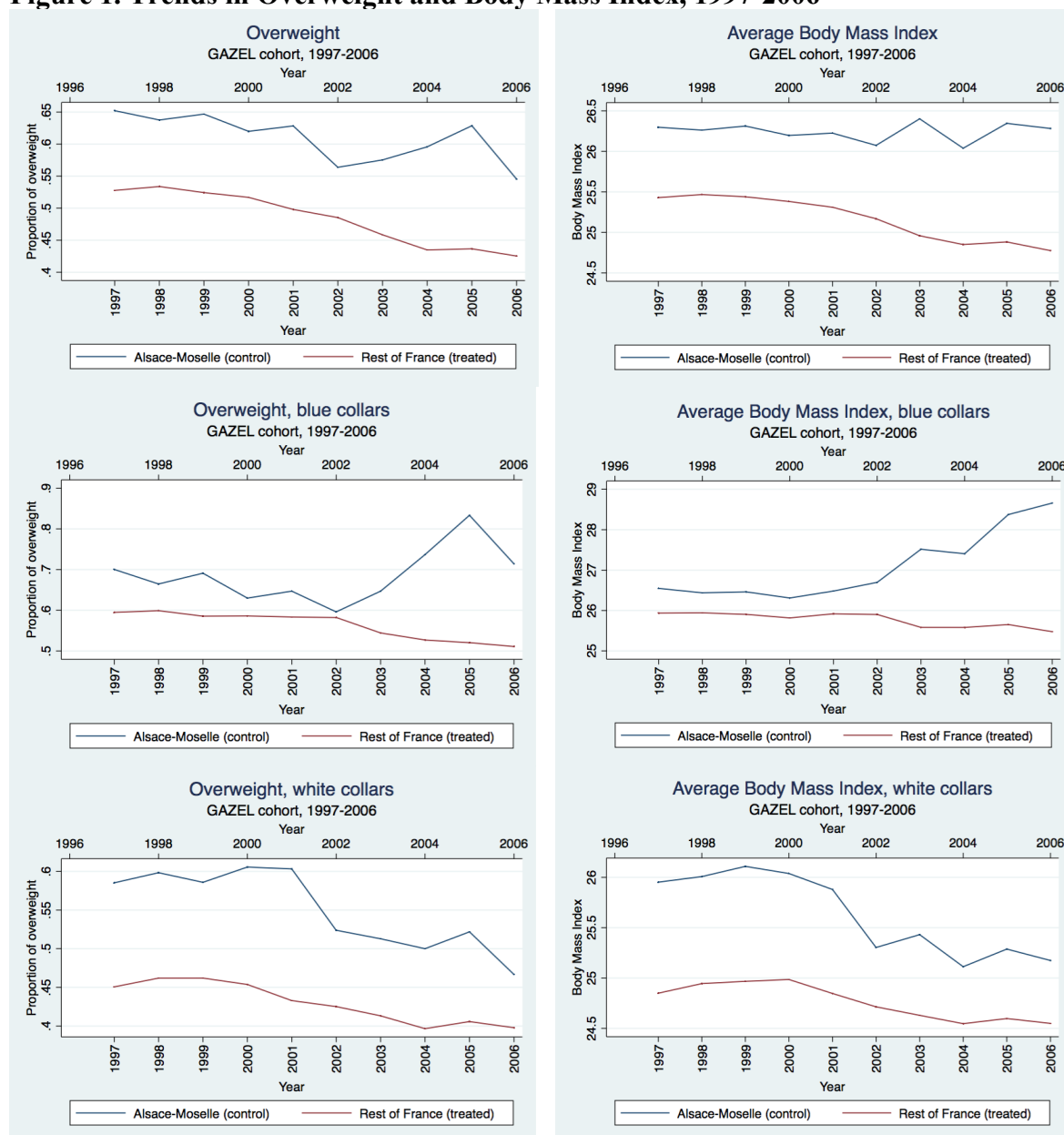
Table 9. Effects on health and health related behaviours

	All	Blue collars	White collars
Panel A. Dependent variable = Self-assessed health [Very good=1, Very poor=8]			
(Treated)*(2000-2002)	-0.088*** (0.021)	-0.121** (0.051)	-0.031 (0.059)
(Treated)*(1999)	0.031 (0.065)	0.062 (0.068)	-0.004 (0.070)
(Treated)*(2003-2006)	0.201 (0.141)	0.247 (0.189)	0.182 (0.149)
R ²	0.02	0.03	0.03
N	49,641	23,214	26,427
Panel B. Dependent variable = Self-assessed health [Good =1, Suboptimum=0]			
(Treated)*(2000-2002)	0.012 (0.011)	0.021 (0.014)	-0.003 (0.019)
(Treated)*(1999)	0.014 (0.041)	0.003 (0.039)	0.028 (0.048)
(Treated)*(2003-2006)	-0.027 (0.047)	-0.051 (0.045)	-0.011 (0.070)
R ²	0.01	0.02	0.02
N	49,619	23,214	26,427
Panel C. Dependent variable = Smokes [Yes=1, No=0]			
(Treated)*(2000-2002)	0.010 (0.012)	0.005 (0.010)	0.013 (0.017)
(Treated)*(1999)	0.037** (0.017)	0.024** (0.010)	0.055* (0.029)
(Treated)*(after 2002)	-0.041 (0.064)	-0.039 (0.055)	-0.048 (0.068)
R ²	0.01	0.02	0.03
N	48,725	22,798	25,927
Panel D. Dependent variable = Cigarettes smoked for those who smoke			
(Treated)*(2000-2002)	1.132 (1.688)	-1.243* (0.708)	2.821 (2.940)
(Treated)*(1999)	0.343 (1.158)	1.887*** (0.486)	-0.714 (1.987)
(Treated)*(2003-2006)	2.461 (1.683)	10.727*** (2.151)	-0.879 (3.084)
R ²	0.06	0.12	0.1
N	6,428	2,954	3,474

Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes

Note: Only respondents who worked during reference period. Panel A and D = OLS estimates; Panel B and C = Probit estimates (marginal effect showed). Standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. Full values of estimates are included in the appendix.

Figure 1. Trends in Overweight and Body Mass Index, 1997-2006



Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period.

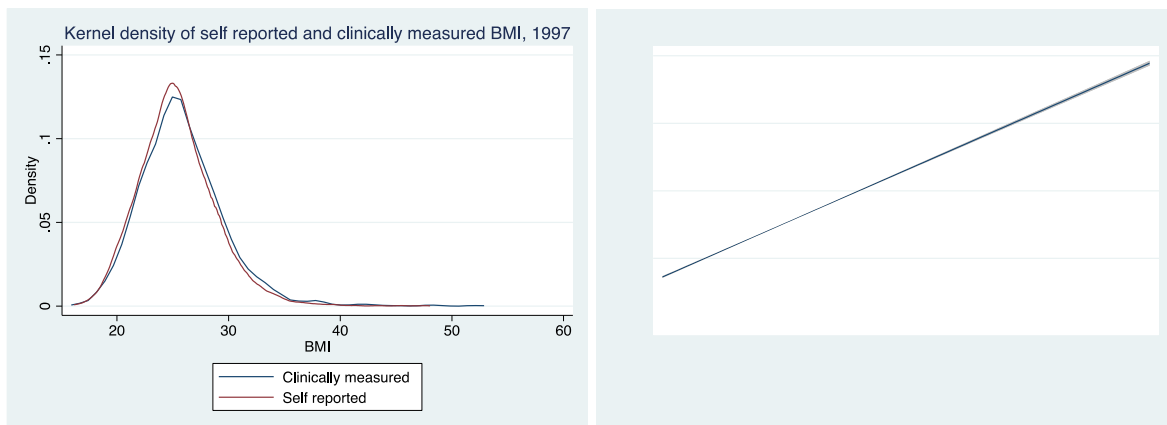
Appendix

Figure A0. Regions of France



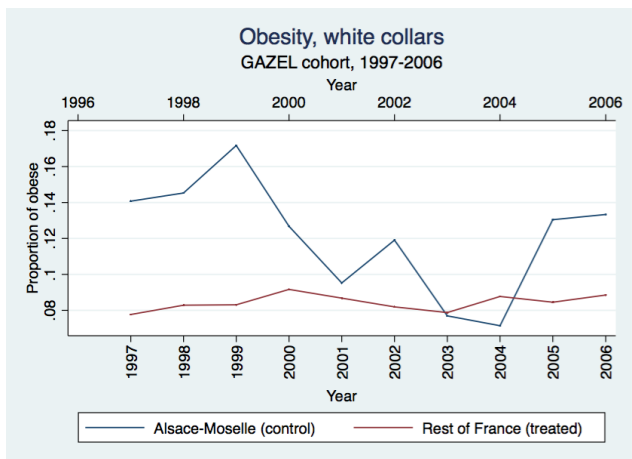
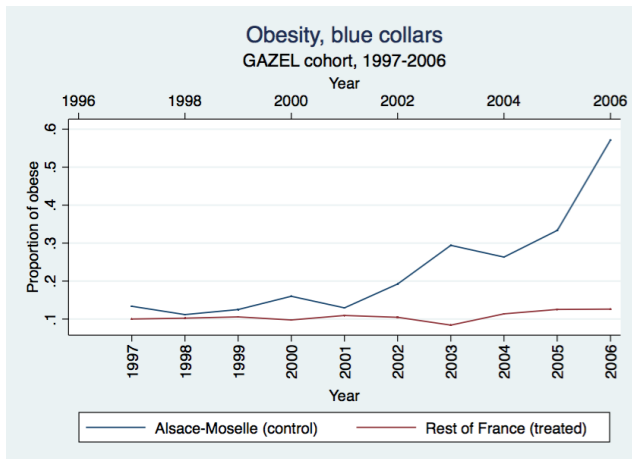
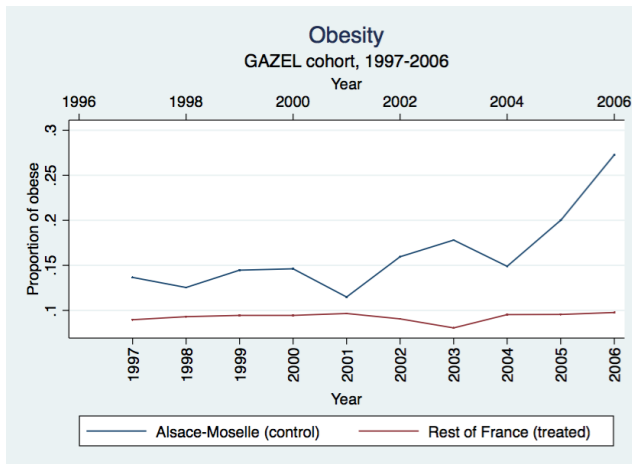
Note: In 2014, the French Parliament approved an initiative that reduced the number of regions from 22 to 13; the map shows the existing 22 regions during the Aubry reform. Regions are comprised of departments (95 after excluding territories).

Figure A1. Self-reported BMI vs. clinically measured BMI, 1997



Note: n = 1574 (participants with available information of clinically measured BMI in 1997).

Figure A2. Trends in Obesity, 1997-2006



Note: Body Mass Index = $\text{weight}/(\text{height}^2)$; estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period.

Table A1. Number of Observations by Year

Year	Frequency	%
1997	10,505	21.1
1998	9,370	18.8
1999	7,982	16.0
2000	6,141	12.3
2001	5,045	10.1
2002	3,438	6.9
2003	2,518	5.1
2004	1,935	3.9
2005	1,574	3.2
2006	1,322	2.7
Total	49,830	100.0

Note: The sample include only respondents who work during reference period (1997-2006), with complete information. Territories are excluded. Unbalanced panel: 11,607 individuals; 49,830 observations.

Table A2. Effect of Working Time Reduction on Overweight, 1997-2006
Probit Estimates (marginal effects)

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.025 (0.029)	0.072*** (0.016)	-0.030 (0.064)
(Treated)*(1999)	-0.011 (0.021)	-0.017 (0.023)	0.002 (0.029)
(Treated)*(2003-2006)	-0.042 (0.075)	-0.064 (0.069)	-0.021 (0.105)
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Department fixed effect	Yes	Yes	Yes
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. Standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

Table A3. Effect of Working Time Reduction on Obesity, 1997-2006

	All	Blue collars	White collars
Panel A. OLS, no controls			
(Treated)*(2000-2002)	-0.001 (0.016)	-0.030*** (0.009)	0.042 (0.044)
(Treated)*(1999)	-0.010 (0.006)	0.003 (0.019)	-0.025 (0.029)
(Treated)*(2003-2006)	-0.054 (0.036)	-0.200*** (0.041)	0.061 (0.054)
R ²	0.01	0.02	0.02
Panel B. OLS, with controls			
(Treated)*(2000-2002)	0.000 (0.016)	-0.026** (0.011)	0.039 (0.046)
(Treated)*(1999)	-0.010 (0.007)	0.004 (0.019)	-0.028 (0.029)
(Treated)*(2003-2006)	-0.056 (0.038)	-0.194*** (0.039)	0.057 (0.056)
R ²	0.02	0.03	0.02
Panel C. Probit estimates (marginal effects), with controls			
(Treated)*(2000-2002)	0.002 (0.013)	-0.018** (0.008)	0.032 (0.040)
(Treated)*(1999)	-0.006 (0.005)	0.006 (0.016)	-0.016 (0.016)
(Treated)*(2003-2006)	-0.033* (0.019)	-0.080*** (0.007)	0.050 (0.063)
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. Standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

Table B1. Effect of Treatment on Overweight, 1997-2006

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.022 (0.026)	0.067*** (0.014)	-0.029 (0.058)
(Treated)*(1999)	-0.009 (0.019)	-0.015 (0.020)	0.001 (0.026)
(Treated)*(2003-2006)	-0.040 (0.068)	-0.053 (0.054)	-0.023 (0.100)
Female	-0.324*** (0.011)	-0.308*** (0.021)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.123*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.051)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.168*** (0.039)
Other diploma	-0.108** (0.042)	-0.069 (0.050)	-0.140*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.040*** (0.599)	-2.719** (1.083)	-3.305*** (0.670)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table B2. Effect of Treatment on Obesity, 1997-2006

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.000 (0.016)	-0.026** (0.011)	0.039 (0.046)
(Treated)*(1999)	-0.010 (0.007)	0.004 (0.019)	-0.028 (0.029)
(Treated)*(2003-2006)	-0.056 (0.038)	-0.194*** (0.039)	0.057 (0.056)
Female	-0.031*** (0.008)	-0.036*** (0.011)	-0.021** (0.010)
Age	0.031** (0.013)	0.026 (0.024)	0.035** (0.015)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.062*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.066*** (0.018)	-0.073*** (0.024)	-0.059* (0.033)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.068** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.100*** (0.028)	-0.069** (0.034)
Other academic degree	-0.088*** (0.017)	-0.106*** (0.024)	-0.064** (0.028)
Other diploma	-0.089*** (0.023)	-0.059* (0.032)	-0.108*** (0.037)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.693** (0.330)	-0.610 (0.614)	-0.776* (0.403)
R ²	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table B3. Effect of Treatment on Body Mass Index, 1997-2006

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.080 (0.337)	0.154*** (0.056)	0.055 (0.764)
(Treated)*(1999)	-0.056 (0.125)	0.024 (0.046)	-0.146 (0.275)
(Treated)*(2003-2006)	-0.584 (0.709)	-1.338** (0.589)	0.095 (1.005)
Female	-2.296*** (0.103)	-2.270*** (0.155)	-2.152*** (0.133)
Age	1.149*** (0.166)	1.119*** (0.302)	1.200*** (0.223)
Age ²	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.278)	-1.088*** (0.405)
Baccalaureate	-0.987*** (0.272)	-1.032*** (0.324)	-0.952** (0.414)
Professional competence	-0.837*** (0.242)	-0.721*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.082*** (0.264)	-0.980*** (0.300)	-1.156*** (0.424)
Undergraduate degree	-1.224*** (0.305)	-1.325*** (0.314)	-1.126** (0.502)
Other academic degree	-1.401*** (0.247)	-1.292*** (0.260)	-1.399*** (0.401)
Other diploma	-1.178*** (0.317)	-0.764** (0.336)	-1.477*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.369 (4.432)	-3.986 (8.073)	-5.457 (5.974)
R ²	0.12	0.10	0.12
N	49,830	23,297	26,533

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table B4. Alternative Specification without Pre-treatment Trends, Overweight

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.024 (0.022)	0.071*** (0.010)	-0.030 (0.051)
(Treated)*(2003-2006)	-0.037 (0.063)	-0.049 (0.051)	-0.024 (0.093)
Female	-0.324*** (0.011)	-0.308*** (0.021)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.123*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.052)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.168*** (0.039)
Other diploma	-0.108** (0.042)	-0.069 (0.050)	-0.140*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.040*** (0.599)	-2.720** (1.083)	-3.305*** (0.670)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table B5. Alternative Specification without Pre-treatment Trends, Obesity

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.003 (0.016)	-0.027*** (0.007)	0.047 (0.039)
(Treated)*(2003-2006)	-0.053 (0.038)	-0.195*** (0.043)	0.065 (0.049)
Female	-0.031*** (0.008)	-0.036*** (0.011)	-0.021** (0.010)
Age	0.031** (0.013)	0.026 (0.024)	0.035** (0.015)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.062*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.066*** (0.018)	-0.073*** (0.024)	-0.059* (0.033)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.068** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.100*** (0.028)	-0.069** (0.034)
Other academic degree	-0.088*** (0.017)	-0.106*** (0.024)	-0.064** (0.028)
Other diploma	-0.089*** (0.023)	-0.059* (0.032)	-0.108*** (0.037)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.694** (0.329)	-0.614 (0.614)	-0.777* (0.403)
R ²	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table B6. Alternative Specification without Pre-treatment Trends, BMI

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.095 (0.313)	0.148*** (0.052)	0.097 (0.704)
(Treated)*(2003-2006)	-0.568 (0.682)	-1.344** (0.588)	0.137 (0.939)
Female	-2.296*** (0.103)	-2.270*** (0.155)	-2.152*** (0.133)
Age	1.149*** (0.166)	1.118*** (0.302)	1.200*** (0.223)
Age ²	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.278)	-1.088*** (0.405)
Baccalaureate	-0.987*** (0.272)	-1.032*** (0.324)	-0.952** (0.414)
Professional competence	-0.837*** (0.242)	-0.721*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.082*** (0.264)	-0.980*** (0.300)	-1.156*** (0.424)
Undergraduate degree	-1.224*** (0.305)	-1.325*** (0.314)	-1.125** (0.502)
Other academic degree	-1.401*** (0.247)	-1.292*** (0.260)	-1.399*** (0.401)
Other diploma	-1.178*** (0.317)	-0.764** (0.336)	-1.477*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.371 (4.431)	-3.978 (8.073)	-5.459 (5.974)
R ²	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C1. Effect of Treatment on Overweight. Additional Control for Activity Sector

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.022 (0.026)	0.067*** (0.014)	-0.029 (0.058)
(Treated)*(1999)	-0.009 (0.019)	-0.015 (0.020)	0.001 (0.026)
(Treated)*(after 2002)	-0.040 (0.068)	-0.053 (0.054)	-0.023 (0.100)
Female	-0.323*** (0.011)	-0.308*** (0.020)	-0.310*** (0.013)
Age	0.140*** (0.022)	0.125*** (0.040)	0.151*** (0.025)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.123*** (0.038)
Baccalaureate	-0.102*** (0.025)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.044 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.114*** (0.032)	-0.118*** (0.036)	-0.114** (0.051)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.169*** (0.038)
Other diploma	-0.108** (0.042)	-0.069 (0.049)	-0.140*** (0.051)
Distribution	-0.003 (0.010)	0.000 (0.015)	-0.003 (0.013)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.039*** (0.598)	-2.719** (1.086)	-3.302*** (0.667)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C2. Effect of Treatment on Obesity. Additional Control for Activity Sector

	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.000 (0.016)	-0.026** (0.011)	0.038 (0.046)
(Treated)*(1999)	-0.011 (0.007)	0.004 (0.019)	-0.028 (0.029)
(Treated)*(after 2002)	-0.056 (0.037)	-0.194*** (0.038)	0.057 (0.056)
Female	-0.031*** (0.008)	-0.035*** (0.011)	-0.021** (0.010)
Age	0.031** (0.013)	0.025 (0.024)	0.035** (0.015)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.061*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.067*** (0.018)	-0.073*** (0.024)	-0.059* (0.032)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.067** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.099*** (0.028)	-0.068** (0.034)
Other academic degree	-0.087*** (0.017)	-0.106*** (0.024)	-0.063** (0.028)
Other diploma	-0.089*** (0.023)	-0.059* (0.032)	-0.108*** (0.037)
Distribution	0.005 (0.005)	0.003 (0.009)	0.006 (0.007)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.695** (0.329)	-0.611 (0.614)	-0.782* (0.402)
R ²	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C3. Effect of Treatment on BMI. Additional Control for Activity Sector

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.078 (0.337)	0.155*** (0.055)	0.051 (0.765)
(Treated)*(1999)	-0.057 (0.125)	0.022 (0.045)	-0.147 (0.275)
(Treated)*(after 2002)	-0.584 (0.705)	-1.336** (0.579)	0.094 (1.003)
Female	-2.297*** (0.104)	-2.268*** (0.154)	-2.153*** (0.133)
Age	1.149*** (0.166)	1.116*** (0.303)	1.201*** (0.223)
Age ²	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.277)	-1.088*** (0.404)
Baccalaureate	-0.985*** (0.271)	-1.028*** (0.325)	-0.950** (0.412)
Professional competence	-0.837*** (0.242)	-0.722*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.081*** (0.263)	-0.977*** (0.299)	-1.155*** (0.422)
Undergraduate degree	-1.219*** (0.303)	-1.315*** (0.314)	-1.122** (0.500)
Other academic degree	-1.395*** (0.246)	-1.284*** (0.261)	-1.392*** (0.397)
Other diploma	-1.175*** (0.317)	-0.758** (0.334)	-1.474*** (0.468)
Distribution	0.033 (0.071)	0.046 (0.120)	0.031 (0.092)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.378 (4.428)	-3.939 (8.087)	-5.486 (5.967)
R ²	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C4. Effect of Treatment on Overweight. Additional Controls for Spousal Employment Status and Household Income

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.019 (0.031)	0.069*** (0.024)	-0.044 (0.059)
(Treated)*(1999)	-0.017 (0.021)	-0.016 (0.030)	-0.020 (0.020)
(Treated)*(after 2002)	-0.032 (0.080)	-0.057 (0.073)	-0.005 (0.103)
Female	-0.311*** (0.013)	-0.297*** (0.022)	-0.295*** (0.016)
Age	0.142*** (0.028)	0.109** (0.046)	0.162*** (0.029)
Age ²	-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.100*** (0.032)	-0.069** (0.034)	-0.143*** (0.053)
Baccalaureate	-0.098*** (0.031)	-0.095** (0.041)	-0.121** (0.050)
Professional competence	-0.069** (0.027)	-0.038 (0.032)	-0.117** (0.051)
Vocational certificate	-0.097*** (0.028)	-0.059* (0.033)	-0.152*** (0.050)
Undergraduate degree	-0.107*** (0.035)	-0.120*** (0.040)	-0.110* (0.063)
Other academic degree	-0.138*** (0.029)	-0.105*** (0.035)	-0.173*** (0.047)
Other diploma	-0.110** (0.046)	-0.071 (0.051)	-0.152** (0.065)
Middle income	-0.005 (0.016)	0.011 (0.017)	-0.027 (0.025)
High income	-0.030* (0.017)	-0.009 (0.018)	-0.053** (0.025)
Spouse works	-0.028*** (0.009)	-0.025** (0.013)	-0.031** (0.013)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-3.098*** (0.748)	-2.242* (1.235)	-3.603*** (0.782)
R ²	0.11	0.07	0.12
N	41,449	20,173	21,276

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C5. Effect of Treatment on Obesity. Additional Controls for Spousal Employment Status and Household Income

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.011 (0.007)	-0.018 (0.023)	0.053 (0.047)
(Treated)*(1999)	-0.015 (0.010)	0.006 (0.025)	-0.044*** (0.016)
(Treated)*(after 2002)	-0.071* (0.041)	-0.213*** (0.024)	0.054 (0.050)
Female	-0.025** (0.010)	-0.030** (0.013)	-0.018* (0.011)
Age	0.041** (0.015)	0.026 (0.027)	0.050*** (0.016)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000*** (0.000)
Junior secondary certificate	-0.098*** (0.021)	-0.095*** (0.026)	-0.099*** (0.037)
Baccalaureate	-0.065*** (0.021)	-0.072*** (0.024)	-0.062 (0.039)
Professional competence	-0.071*** (0.020)	-0.067** (0.026)	-0.079** (0.038)
Vocational certificate	-0.089*** (0.018)	-0.085*** (0.026)	-0.094** (0.036)
Undergraduate degree	-0.080*** (0.022)	-0.086*** (0.029)	-0.081** (0.039)
Other academic degree	-0.089*** (0.020)	-0.099*** (0.029)	-0.084** (0.032)
Other diploma	-0.085*** (0.026)	-0.045 (0.036)	-0.124*** (0.041)
Middle income	-0.020** (0.009)	-0.026** (0.012)	-0.008 (0.013)
High income	-0.040*** (0.010)	-0.033** (0.014)	-0.036** (0.015)
Spouse works	-0.018*** (0.006)	-0.017** (0.008)	-0.017** (0.007)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.931** (0.395)	-0.590 (0.698)	-1.127*** (0.427)
R ²	0.02	0.03	0.03
N	41,449	20,173	21,276

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C6. Effect of Treatment on BMI. Additional Controls for Spousal Employment Status and Household Income

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.155 (0.338)	0.191** (0.092)	0.148 (0.762)
(Treated)*(1999)	-0.117 (0.089)	0.029 (0.076)	-0.311 (0.200)
(Treated)*(after 2002)	-0.616 (0.860)	-1.403* (0.746)	0.144 (1.032)
Female	-2.133*** (0.120)	-2.134*** (0.169)	-1.992*** (0.148)
Age	1.207*** (0.197)	1.127*** (0.320)	1.280*** (0.222)
Age ²	-0.011*** (0.002)	-0.010*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.123*** (0.288)	-0.979*** (0.266)	-1.297** (0.525)
Baccalaureate	-0.892*** (0.308)	-0.869*** (0.326)	-0.992* (0.548)
Professional competence	-0.793*** (0.263)	-0.622** (0.260)	-1.075** (0.525)
Vocational certificate	-1.071*** (0.276)	-0.861*** (0.277)	-1.331** (0.531)
Undergraduate degree	-1.077*** (0.322)	-1.163*** (0.303)	-1.084* (0.608)
Other academic degree	-1.316*** (0.256)	-1.148*** (0.256)	-1.461*** (0.463)
Other diploma	-1.104*** (0.327)	-0.636* (0.329)	-1.557*** (0.558)
Middle income	-0.145 (0.116)	-0.105 (0.127)	-0.159 (0.196)
High income	-0.456*** (0.135)	-0.333** (0.157)	-0.527*** (0.200)
Spouse works	-0.266*** (0.063)	-0.244*** (0.092)	-0.278*** (0.090)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-5.996 (5.280)	-3.788 (8.527)	-7.913 (6.135)
R ²	0.12	0.09	0.13
N	41,449	20,173	21,276

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table C7. Effect of Treatment on Overweight using Imputed Information

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.023 (0.027)	0.065*** (0.019)	-0.018 (0.051)
(Treated)*(1999)	-0.007 (0.019)	-0.011 (0.018)	0.000 (0.024)
(Treated)*(after 2002)	-0.025 (0.070)	-0.059 (0.053)	0.001 (0.104)
Female	-0.314*** (0.011)	-0.296*** (0.019)	-0.301*** (0.013)
Age	0.131*** (0.021)	0.117*** (0.038)	0.137*** (0.023)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.094*** (0.027)	-0.075** (0.030)	-0.112*** (0.036)
Baccalaureate	-0.106*** (0.024)	-0.093** (0.037)	-0.118*** (0.033)
Professional competence	-0.068*** (0.022)	-0.041 (0.027)	-0.099*** (0.034)
Vocational certificate	-0.091*** (0.025)	-0.060** (0.030)	-0.120*** (0.036)
Undergraduate degree	-0.110*** (0.031)	-0.112*** (0.033)	-0.107** (0.048)
Other academic degree	-0.144*** (0.024)	-0.110*** (0.029)	-0.162*** (0.036)
Other diploma	-0.100** (0.040)	-0.060 (0.046)	-0.128** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-2.802*** (0.570)	-2.505** (1.021)	-2.932*** (0.620)
R ²	0.11	0.08	0.11
N	53,515	24,640	28,875

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Missing information in relevant variables (BMI, job position and education; 3,685 observations in total) was imputed using multiple imputation with chained equations. The only missing values that were not imputed correspond to the variable that captures the department of residence (288 observations).

Table C8. Effect of Treatment on Obesity using Imputed Information

	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.004 (0.016)	-0.028*** (0.010)	0.031 (0.037)
(Treated)*(1999)	-0.009 (0.008)	0.008 (0.015)	-0.033 (0.025)
(Treated)*(after 2002)	-0.045 (0.038)	-0.195*** (0.037)	0.067 (0.052)
Female	-0.026*** (0.007)	-0.029** (0.011)	-0.018** (0.009)
Age	0.020 (0.012)	0.017 (0.025)	0.022 (0.014)
Age ²	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Junior secondary certificate	-0.080*** (0.016)	-0.089*** (0.022)	-0.067** (0.026)
Baccalaureate	-0.061*** (0.015)	-0.075*** (0.020)	-0.047* (0.025)
Professional competence	-0.059*** (0.014)	-0.060*** (0.020)	-0.059** (0.026)
Vocational certificate	-0.078*** (0.014)	-0.085*** (0.022)	-0.067*** (0.025)
Undergraduate degree	-0.080*** (0.018)	-0.090*** (0.024)	-0.069** (0.028)
Other academic degree	-0.084*** (0.014)	-0.098*** (0.021)	-0.067*** (0.023)
Other diploma	-0.082*** (0.021)	-0.052* (0.028)	-0.103*** (0.031)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.409 (0.310)	-0.383 (0.639)	-0.435 (0.375)
R ²	0.02	0.03	0.02
N	53,515	24,640	28,875

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Missing information in relevant variables (BMI, job position and education; 3,685 observations in total) was imputed using multiple imputation with chained equations. The only missing values that were not imputed correspond to the variable that captures the department of residence (288 observations).

Table C9. Effect of Treatment on BMI using Imputed Information

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.017 (0.341)	0.066 (0.116)	0.051 (0.691)
(Treated)*(1999)	-0.115 (0.175)	-0.082 (0.167)	-0.149 (0.202)
(Treated)*(after 2002)	-0.442 (0.709)	-1.401** (0.546)	0.323 (0.996)
Female	-2.199*** (0.100)	-2.129*** (0.146)	-2.077*** (0.131)
Age	0.990*** (0.158)	1.001*** (0.324)	1.002*** (0.203)
Age ²	-0.009*** (0.001)	-0.009*** (0.003)	-0.009*** (0.002)
Junior secondary certificate	-1.032*** (0.247)	-0.960*** (0.250)	-1.093*** (0.374)
Baccalaureate	-1.056*** (0.245)	-1.015*** (0.286)	-1.094*** (0.371)
Professional competence	-0.791*** (0.211)	-0.603*** (0.227)	-1.026*** (0.362)
Vocational certificate	-1.050*** (0.239)	-0.887*** (0.267)	-1.181*** (0.365)
Undergraduate degree	-1.200*** (0.289)	-1.205*** (0.287)	-1.190** (0.456)
Other academic degree	-1.398*** (0.234)	-1.206*** (0.230)	-1.468*** (0.370)
Other diploma	-1.125*** (0.292)	-0.655** (0.306)	-1.482*** (0.423)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.151 (4.241)	-0.917 (8.608)	-0.139 (5.481)
R ²	0.11	0.10	0.11
N	53,515	24,640	28,875

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Missing information in relevant variables (BMI, job position and education; 3,685 observations in total) was imputed using multiple imputation with chained equations. The only missing values that were not imputed correspond to the variable that captures the department of residence (288 observations).

Table C10. Effect of Working Time Reduction on Retirement, 1997-2006

	All
(Treated)*(2000-2002)	-0.023 (0.026)
(Treated)*(1999)	-0.022 (0.015)
(Treated)*(2003-2006)	-0.063*** (0.009)
Year fixed effects	yes
Department fixed effect	yes
Controls	yes
R ²	0.47
N	141,736

Note: OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

Table C11. Effect of Working Time Reduction on Overweight. Subsample of Respondents who Retired during Treatment (2000-2002)

	All	Blue collars at baseline	White collars at baseline
(Treated)*(2000-2002)	0.019 (0.032)	0.005 (0.045)	0.017 (0.016)
(Treated)*(1999)	-0.010 (0.011)	-0.010 (0.031)	-0.004 (0.020)
(Treated)*(2003-2006)	0.012 (0.040)	-0.012 (0.045)	0.040 (0.031)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Controls	yes	yes	yes
R ²	0.08	0.06	0.11
N	38,605	21,672	15,847

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who retired during the treatment period (2000-2002). OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment.

Table C12. Effect of Working Time Reduction on Overweight using North and Northeast Departments as Treated

	Clustered standard errors			Bootstrapped standard errors		
	All	Blue collars	White collars	All	Blue collars	White collars
North						
(Treated)*(2000-02)	0.024 (0.026)	0.067*** (0.017)	-0.025 (0.058)	0.024 (0.028)	0.067* (0.037)	-0.025 (0.047)
(Treated)*(1999)	-0.010 (0.019)	-0.016 (0.022)	-0.003 (0.026)	-0.010 (0.043)	-0.016 (0.047)	-0.003 (0.056)
(Treated)*(2003-06)	-0.023 (0.069)	-0.031 (0.058)	-0.011 (0.101)	-0.023 (0.047)	-0.031 (0.059)	-0.011 (0.059)
Year fixed effects	yes	yes	yes	yes	yes	yes
Department fixed effect	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes
R ²	0.11	0.09	0.11	0.11	0.09	0.11
N	23,750	9,945	13,805	23,750	9,945	13,805
Northeast						
(Treated)*(2000-02)	0.023 (0.026)	0.065*** (0.017)	-0.025 (0.060)	0.023 (0.029)	0.065* (0.037)	-0.025 (0.048)
(Treated)*(1999)	-0.010 (0.020)	-0.016 (0.023)	0.003 (0.028)	-0.010 (0.040)	-0.016 (0.050)	0.003 (0.065)
(Treated)*(2003-06)	-0.051 (0.072)	-0.090 (0.060)	-0.026 (0.104)	-0.051 (0.038)	-0.090 (0.061)	-0.026 (0.059)
Year fixed effects	yes	yes	yes	yes	yes	yes
Department fixed effect	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes
R ²	0.12	0.08	0.14	0.12	0.08	0.14
N	14,501	7,433	7,068	14,501	7,433	7,068

Note: Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) either clustered at department level (first three columns) or bootstrapped. (last three columns) * p<0.1; ** p<0.05; *** p<0.01. Controls include demographics (age, age squared, gender), and educational attainment. North = Picardie, Nord-Pas de Calais, Champagne-Ardenne, Lorraine, Ile de France, Haute-Normandie, Basse-Normandie, Bretagne. Northeast = Lorraine, Champagne-Ardenne, Bourgogne, Franche-Comte, Rhone-Alpes, Provence-Alpes.

Table D1. Effect of Treatment on Overweight by Area of Activity

	Distribution			Production		
	All	Blue collars	White collars	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.010 (0.051)	0.069*** (0.013)	-0.175* (0.099)	0.058** (0.026)	0.079*** (0.023)	0.035 (0.040)
(Treated)*(1999)	-0.021 (0.035)	-0.006 (0.010)	-0.033 (0.079)	0.012 (0.023)	-0.006 (0.033)	0.033 (0.021)
(Treated)*(2003-2006)	-0.152 (0.110)	-0.165*** (0.059)	-0.117 (0.185)	0.052 (0.048)	0.052 (0.052)	0.035 (0.054)
Female	-0.319*** (0.015)	-0.282*** (0.029)	-0.307*** (0.019)	-0.329*** (0.014)	-0.338*** (0.027)	-0.316*** (0.017)
Age	0.158*** (0.029)	0.167*** (0.059)	0.146*** (0.034)	0.126*** (0.031)	0.086* (0.048)	0.153*** (0.038)
Age ²	-0.001*** (0.000)	-0.002*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001* (0.000)	-0.001*** (0.000)
Junior sec certificate	-0.069** (0.030)	-0.027 (0.042)	-0.110** (0.044)	-0.138*** (0.040)	-0.143*** (0.042)	-0.145** (0.064)
Baccalaureate	-0.076*** (0.025)	-0.048 (0.046)	-0.100** (0.042)	-0.131*** (0.044)	-0.132** (0.061)	-0.143** (0.067)
Prof competence	-0.057** (0.025)	-0.037 (0.040)	-0.090** (0.044)	-0.092** (0.041)	-0.047 (0.044)	-0.148** (0.061)
Vocational certificate	-0.059** (0.024)	-0.042 (0.039)	-0.082* (0.044)	-0.137*** (0.044)	-0.080* (0.046)	-0.198*** (0.066)
Undergraduate degree	-0.084** (0.033)	-0.092* (0.052)	-0.082 (0.052)	-0.146*** (0.050)	-0.147*** (0.043)	-0.155* (0.087)
Other academic degree	-0.108*** (0.029)	-0.069 (0.048)	-0.131*** (0.048)	-0.181*** (0.040)	-0.152*** (0.049)	-0.208*** (0.063)
Other diploma	-0.035 (0.060)	0.033 (0.069)	-0.087 (0.070)	-0.174*** (0.053)	-0.154*** (0.058)	-0.192** (0.078)
Constant	-3.542*** (0.748)	-3.930** (1.537)	-3.193*** (0.874)	-2.660*** (0.833)	-1.561 (1.318)	-3.355*** (1.021)
R ²	0.12	0.08	0.13	0.12	0.11	0.13
N	25,471	11,889	13,582	24,359	11,408	12,951

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table D2. Effect of Treatment on Obesity by Area of Activity

	All	Blue collars	White collars	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.027 (0.041)	-0.019 (0.040)	-0.050 (0.038)	0.023*** (0.007)	-0.025 (0.036)	0.081* (0.043)
(Treated)*(1999)	-0.011 (0.023)	0.011 (0.018)	-0.033 (0.053)	-0.005 (0.013)	0.007 (0.023)	-0.022 (0.025)
(Treated)*(2003-2006)	-0.137** (0.055)	-0.359*** (0.072)	0.059 (0.050)	0.003 (0.018)	-0.054 (0.040)	0.065 (0.065)
Female	-0.035*** (0.010)	-0.030* (0.017)	-0.026** (0.011)	-0.028*** (0.009)	-0.043*** (0.013)	-0.016 (0.014)
Age	0.026 (0.020)	-0.020 (0.046)	0.044* (0.024)	0.039** (0.018)	0.060** (0.027)	0.023 (0.021)
Age ²	-0.000 (0.000)	0.000 (0.000)	-0.000* (0.000)	-0.000** (0.000)	-0.001** (0.000)	-0.000 (0.000)
Junior sec certificate	-0.092*** (0.025)	-0.096*** (0.034)	-0.079* (0.044)	-0.082*** (0.030)	-0.115*** (0.038)	-0.049 (0.045)
Baccalaureate	-0.051* (0.026)	-0.064* (0.034)	-0.037 (0.048)	-0.065** (0.031)	-0.096** (0.041)	-0.031 (0.040)
Prof competence	-0.067** (0.026)	-0.072** (0.031)	-0.063 (0.049)	-0.062** (0.028)	-0.070* (0.042)	-0.051 (0.037)
Vocational certificate	-0.081*** (0.025)	-0.093*** (0.033)	-0.066 (0.048)	-0.083*** (0.029)	-0.096** (0.040)	-0.062 (0.038)
Undergraduate degree	-0.071** (0.031)	-0.092** (0.040)	-0.056 (0.052)	-0.092*** (0.027)	-0.110** (0.042)	-0.076** (0.037)
Other academic degree	-0.081*** (0.030)	-0.116*** (0.038)	-0.050 (0.047)	-0.086*** (0.026)	-0.096** (0.040)	-0.061* (0.033)
Other diploma	-0.075** (0.035)	-0.041 (0.044)	-0.094* (0.056)	-0.099*** (0.027)	-0.067 (0.043)	-0.111*** (0.039)
Constant	-0.558	0.590	-0.994	-0.907*	-1.510**	-0.478

	(0.529)	(1.195)	(0.618)	(0.477)	(0.711)	(0.553)
R ²	0.02	0.04	0.04	0.03	0.05	0.03
N	25,471	11,889	13,582	24,359	11,408	12,951

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Obesity = 1 if the body mass index is 30 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table D3. Effect of Treatment on BMI by Area of Activity

	Distribution			Production		
	All	Blue collars	White collars	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.288 (0.460)	0.133 (0.141)	-1.125 (0.800)	0.434 (0.345)	0.283*** (0.072)	0.632 (0.718)
(Treated)*(1999)	-0.018 (0.249)	0.247 (0.166)	-0.270 (0.340)	0.025 (0.116)	0.042 (0.057)	-0.006 (0.296)
(Treated)*(2003-2006)	-1.842** (0.793)	-2.978*** (0.437)	-0.663 (1.282)	0.348 (0.537)	0.097 (0.376)	0.613 (0.866)
Female	-2.257*** (0.125)	-2.056*** (0.221)	-2.134*** (0.143)	-2.348*** (0.140)	-2.498*** (0.153)	-2.189*** (0.207)
Age	1.167*** (0.250)	0.944* (0.479)	1.205*** (0.315)	1.176*** (0.204)	1.199*** (0.346)	1.191*** (0.285)
Age ²	-0.011*** (0.002)	-0.008* (0.005)	-0.011*** (0.003)	-0.011*** (0.002)	-0.011*** (0.003)	-0.011*** (0.003)
Junior sec certificate	-1.051*** (0.282)	-0.792** (0.336)	-1.282** (0.493)	-1.140*** (0.404)	-1.556*** (0.422)	-0.765 (0.611)
Baccalaureate	-0.849*** (0.302)	-0.709* (0.381)	-1.005* (0.527)	-1.119** (0.454)	-1.397*** (0.528)	-0.818 (0.654)
Prof competence	-0.775*** (0.264)	-0.630* (0.319)	-1.035** (0.520)	-0.924** (0.396)	-0.840* (0.424)	-1.012* (0.587)
Vocational certificate	-0.905*** (0.268)	-0.780** (0.335)	-1.051** (0.517)	-1.309*** (0.419)	-1.242*** (0.454)	-1.271** (0.600)
Undergraduate degree	-0.954*** (0.321)	-1.057** (0.411)	-0.943* (0.546)	-1.469*** (0.436)	-1.666*** (0.417)	-1.266* (0.730)

Other academic degree	-1.175*** (0.298)	-1.037*** (0.374)	-1.225** (0.509)	-1.561*** (0.402)	-1.527*** (0.443)	-1.416** (0.589)
Other diploma	-0.785* (0.452)	-0.194 (0.490)	-1.181* (0.633)	-1.510*** (0.369)	-1.215*** (0.406)	-1.645** (0.640)
Constant	-4.790 (6.566)	0.068 (12.483)	-5.363 (8.279)	-5.024 (5.474)	-5.278 (9.393)	-5.541 (7.723)
R ²	0.12	0.09	0.14	0.13	0.16	0.12
N	25,471	11,889	13,582	24,359	11,408	12,951

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E1. Effect of Treatment on Overweight, Income Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.022 (0.030)	0.061*** (0.022)	-0.028 (0.065)
(Treated)*(1999)	-0.006 (0.020)	-0.018 (0.022)	0.013 (0.033)
(Treated)*(2003-2006)	-0.048 (0.073)	-0.078 (0.062)	-0.029 (0.107)
(Treated)*(2000-2002)*middle income	-0.004 (0.016)	0.012 (0.023)	-0.019 (0.019)
(Treated)*(2000-2002)*high income	0.002 (0.015)	0.013 (0.025)	-0.004 (0.019)
(Treated)*(1999)*middle income	-0.014 (0.011)	0.002 (0.015)	-0.037** (0.017)
(Treated)*(1999)* high income	-0.002 (0.015)	-0.008 (0.020)	-0.007 (0.019)
(Treated)*(2003-2006)*middle income	-0.004 (0.026)	0.042 (0.041)	-0.027 (0.030)
(Treated)*(2003-2006)*high income	0.018 (0.025)	0.034 (0.038)	0.013 (0.031)
Middle income	-0.001 (0.011)	-0.003 (0.014)	0.007 (0.018)
High income	-0.027* (0.014)	-0.022 (0.019)	-0.027 (0.018)
Female	-0.322*** (0.011)	-0.306*** (0.020)	-0.310*** (0.013)
Age	0.138*** (0.023)	0.116*** (0.041)	0.153*** (0.027)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.029)	-0.075** (0.033)	-0.126*** (0.040)
Baccalaureate	-0.100*** (0.028)	-0.094** (0.039)	-0.115*** (0.038)
Professional competence	-0.072*** (0.026)	-0.043 (0.032)	-0.110*** (0.040)
Vocational certificate	-0.094*** (0.028)	-0.062* (0.034)	-0.131*** (0.041)
Undergraduate degree	-0.110*** (0.033)	-0.118*** (0.038)	-0.111** (0.053)
Other academic degree	-0.136*** (0.027)	-0.103*** (0.034)	-0.162*** (0.040)
Other diploma	-0.104** (0.043)	-0.068 (0.049)	-0.136** (0.053)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-2.923*** (0.628)	-2.386** (1.121)	-3.332*** (0.726)

R ²	0.11	0.08	0.12
N	48,873	22,811	26,062

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E2. Effect of Treatment on Obesity, Income Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.009 (0.017)	-0.027 (0.016)	0.023 (0.050)
(Treated)*(1999)	-0.019** (0.007)	-0.002 (0.022)	-0.037 (0.031)
(Treated)*(2003-2006)	-0.058 (0.040)	-0.184*** (0.041)	0.048 (0.059)
(Treated)*(2000-2002)*middle income	0.004 (0.009)	0.001 (0.015)	0.001 (0.013)
(Treated)*(2000-2002)*high income	0.011 (0.009)	-0.002 (0.015)	0.017 (0.012)
(Treated)*(1999)*middle income	0.008 (0.008)	0.012 (0.011)	-0.001 (0.012)
(Treated)*(1999)* high income	0.008 (0.007)	0.007 (0.011)	0.006 (0.012)
(Treated)*(2003-2006)*middle income	0.009 (0.017)	0.016 (0.033)	-0.008 (0.018)
(Treated)*(2003-2006)*high income	0.003 (0.015)	-0.011 (0.033)	0.004 (0.021)
Middle income	-0.020*** (0.008)	-0.031*** (0.010)	0.003 (0.010)
High income	-0.043*** (0.008)	-0.041*** (0.013)	-0.034*** (0.011)
Female	-0.029*** (0.008)	-0.035*** (0.012)	-0.020* (0.010)
Age	0.029** (0.014)	0.022 (0.024)	0.037** (0.016)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)
Junior secondary certificate	-0.088*** (0.018)	-0.100*** (0.027)	-0.070** (0.031)
Baccalaureate	-0.055*** (0.018)	-0.075*** (0.025)	-0.033 (0.030)
Professional competence	-0.066*** (0.018)	-0.073*** (0.025)	-0.058* (0.033)
Vocational certificate	-0.081*** (0.018)	-0.091*** (0.026)	-0.065** (0.031)
Undergraduate degree	-0.079*** (0.021)	-0.092*** (0.028)	-0.063* (0.034)

Other academic degree	-0.072*** (0.018)	-0.089*** (0.026)	-0.050* (0.027)
Other diploma	-0.080*** (0.023)	-0.049 (0.033)	-0.100*** (0.035)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-0.572 (0.360)	-0.280 (0.633)	-0.853* (0.445)
R ²	0.02	0.03	0.02
N	48,873	22,811	26,062

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E3. Effect of Treatment on BMI, Income Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.032 (0.341)	0.106 (0.125)	-0.124 (0.837)
(Treated)*(1999)	-0.129 (0.126)	-0.050 (0.099)	-0.179 (0.320)
(Treated)*(2003-2006)	-0.659 (0.740)	-1.383** (0.636)	-0.004 (1.078)
(Treated)*(2000-2002)*middle income	0.084 (0.094)	0.120 (0.153)	0.001 (0.170)
(Treated)*(2000-2002)*high income	0.126 (0.094)	0.030 (0.177)	0.168 (0.147)
(Treated)*(1999)*middle income	0.005 (0.070)	0.111 (0.103)	-0.165 (0.130)
(Treated)*(1999)* high income	0.102 (0.085)	0.084 (0.130)	0.046 (0.135)
(Treated)*(2003-2006)*middle income	0.068 (0.225)	0.259 (0.351)	-0.127 (0.303)
(Treated)*(2003-2006)*high income	0.058 (0.189)	0.021 (0.380)	0.047 (0.288)
Middle income	-0.105 (0.084)	-0.193* (0.109)	0.110 (0.157)
High income	-0.414*** (0.104)	-0.381*** (0.139)	-0.329** (0.161)
Female	-2.274*** (0.106)	-2.252*** (0.153)	-2.143*** (0.141)
Age	1.119*** (0.176)	1.029*** (0.307)	1.212*** (0.235)
Age ²	-0.010*** (0.002)	-0.009*** (0.003)	-0.011*** (0.002)
Junior secondary certificate	-1.085*** (0.267)	-1.071*** (0.291)	-1.085** (0.417)
Baccalaureate	-0.927*** (0.280)	-0.993*** (0.323)	-0.883** (0.428)
Professional competence	-0.841***	-0.748***	-0.990**

	(0.248)	(0.274)	(0.435)
Vocational certificate	-1.077***	-0.981***	-1.148**
	(0.270)	(0.308)	(0.437)
Undergraduate degree	-1.164***	-1.286***	-1.057**
	(0.308)	(0.322)	(0.510)
Other academic degree	-1.244***	-1.140***	-1.255***
	(0.250)	(0.263)	(0.398)
Other diploma	-1.103***	-0.711**	-1.397***
	(0.316)	(0.333)	(0.472)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-2.814	0.268	-5.978
	(4.802)	(8.262)	(6.454)
R ²	0.12	0.10	0.12
N	48,873	22,811	26,062

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E4. Effect of Treatment on Overweight, Spousal Employment Status Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.034 (0.033)	0.072*** (0.023)	-0.014 (0.063)
(Treated)*(1999)	-0.006 (0.026)	0.006 (0.032)	-0.021 (0.027)
(Treated)*(2003-2006)	-0.009 (0.082)	-0.065 (0.070)	0.041 (0.109)
(Treated)*(2000-2002)*spouse works	-0.023* (0.011)	-0.013 (0.017)	-0.030 (0.019)
(Treated)*(1999)*spouse works	-0.010 (0.011)	-0.030** (0.013)	0.012 (0.019)
(Treated)*(2003-2006)*spouse works	-0.034** (0.016)	0.007 (0.032)	-0.054** (0.026)
Spouse works	-0.019** (0.009)	-0.020 (0.015)	-0.015 (0.015)
Female	-0.314*** (0.013)	-0.299*** (0.022)	-0.297*** (0.016)
Age	0.151*** (0.028)	0.115** (0.045)	0.172*** (0.030)
Age ²	-0.001*** (0.000)	-0.001** (0.000)	-0.002*** (0.000)
Junior secondary certificate	-0.103*** (0.030)	-0.069** (0.034)	-0.149*** (0.049)
Baccalaureate	-0.105*** (0.030)	-0.095** (0.042)	-0.132*** (0.048)
Professional competence	-0.072*** (0.026)	-0.038 (0.032)	-0.127*** (0.047)
Vocational certificate	-0.098*** (0.027)	-0.056* (0.032)	-0.158*** (0.048)
Undergraduate degree	-0.113*** (0.034)	-0.116*** (0.037)	-0.124** (0.062)
Other academic degree	-0.152*** (0.027)	-0.110*** (0.033)	-0.192*** (0.046)
Other diploma	-0.117** (0.045)	-0.070 (0.050)	-0.166*** (0.061)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-3.247*** (0.756)	-2.372* (1.222)	-3.873*** (0.822)
R ²	0.10	0.07	0.12
N	42,250	20,585	21,665

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E5. Effect of Treatment on Obesity, Spousal Employment Status Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.025*** (0.009)	-0.006 (0.024)	0.076 (0.048)
(Treated)*(1999)	-0.004 (0.011)	0.018 (0.025)	-0.033* (0.020)
(Treated)*(2003-2006)	-0.074* (0.041)	-0.240*** (0.033)	0.077 (0.056)
(Treated)*(2000-2002)*spouse works	-0.017** (0.008)	-0.019 (0.014)	-0.018 (0.011)
(Treated)*(1999)*spouse works	-0.014** (0.006)	-0.023** (0.010)	-0.004 (0.010)
(Treated)*(2003-2006)*spouse works	-0.001 (0.012)	0.022 (0.020)	-0.014 (0.016)
Spouse works	-0.016** (0.006)	-0.015* (0.009)	-0.012 (0.008)
Female	-0.029*** (0.009)	-0.034*** (0.012)	-0.021** (0.010)
Age	0.044*** (0.015)	0.025 (0.027)	0.054*** (0.015)
Age ²	-0.000*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.099*** (0.020)	-0.096*** (0.025)	-0.099*** (0.037)
Baccalaureate	-0.071*** (0.020)	-0.077*** (0.023)	-0.067* (0.039)
Professional competence	-0.071*** (0.020)	-0.066** (0.025)	-0.081** (0.038)
Vocational certificate	-0.092*** (0.018)	-0.088*** (0.025)	-0.096** (0.037)
Undergraduate degree	-0.087*** (0.022)	-0.090*** (0.029)	-0.088** (0.039)
Other academic degree	-0.104*** (0.019)	-0.110*** (0.028)	-0.099*** (0.034)
Other diploma	-0.094*** (0.026)	-0.052 (0.035)	-0.134*** (0.043)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-0.908** (0.387)	-0.582 (0.696)	-1.274*** (0.409)
R ²	0.02	0.03	0.02
N	42,250	20,585	21,665

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E6. Effect of Treatment on BMI, Spousal Employment Status Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.287 (0.353)	0.200* (0.112)	0.479 (0.792)
(Treated)*(1999)	-0.023 (0.125)	0.163* (0.095)	-0.248 (0.251)
(Treated)*(2003-2006)	-0.433 (0.860)	-1.451* (0.745)	0.571 (1.088)
(Treated)*(2000-2002)*spouse works	-0.172** (0.075)	-0.054 (0.131)	-0.302** (0.127)
(Treated)*(1999)*spouse works	-0.098 (0.066)	-0.233** (0.099)	0.048 (0.110)
(Treated)*(2003-2006)*spouse works	-0.279** (0.118)	-0.043 (0.244)	-0.413** (0.177)
Spouse works	-0.203*** (0.067)	-0.233** (0.106)	-0.136 (0.097)
Female	-2.189*** (0.113)	-2.177*** (0.170)	-2.022*** (0.136)
Age	1.274*** (0.188)	1.173*** (0.323)	1.360*** (0.219)
Age ²	-0.012*** (0.002)	-0.011*** (0.003)	-0.012*** (0.002)
Junior secondary certificate	-1.131*** (0.277)	-0.949*** (0.256)	-1.343*** (0.502)
Baccalaureate	-0.970*** (0.302)	-0.913*** (0.328)	-1.100** (0.536)
Professional competence	-0.804*** (0.258)	-0.587** (0.250)	-1.162** (0.509)
Vocational certificate	-1.094*** (0.271)	-0.850*** (0.271)	-1.391*** (0.516)
Undergraduate degree	-1.169*** (0.319)	-1.183*** (0.298)	-1.228** (0.602)
Other academic degree	-1.513*** (0.256)	-1.278*** (0.251)	-1.693*** (0.479)
Other diploma	-1.211*** (0.327)	-0.677** (0.329)	-1.710*** (0.557)
Year fixed effects	yes	yes	Yes
Department fixed effect	yes	yes	Yes
Constant	-6.904 (5.193)	-5.137 (8.608)	-10.226 (6.280)
R ²	0.12	0.09	0.12
N	42,250	20,585	21,665

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E7. Effect of Treatment on Overweight, Gender Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.020 (0.026)	0.064*** (0.015)	-0.032 (0.058)
(Treated)*(1999)	-0.006 (0.019)	-0.015 (0.021)	0.011 (0.026)
(Treated)*(2003-2006)	-0.043 (0.069)	-0.064 (0.056)	-0.020 (0.099)
(Treated)*(2000-2002)*female	0.006 (0.010)	0.020 (0.020)	0.005 (0.013)
(Treated)*(1999)*female	-0.012 (0.009)	-0.006 (0.014)	-0.023* (0.013)
(Treated)*(2003-2006)*female	0.007 (0.022)	0.037 (0.037)	-0.005 (0.024)
Female	-0.325*** (0.013)	-0.321*** (0.026)	-0.308*** (0.014)
Age	0.135*** (0.028)	0.106** (0.046)	0.151*** (0.031)
Age ²	-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.098*** (0.028)	-0.076** (0.032)	-0.124*** (0.038)
Baccalaureate	-0.102*** (0.026)	-0.091** (0.040)	-0.119*** (0.036)
Professional competence	-0.073*** (0.024)	-0.043 (0.030)	-0.111*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.059* (0.033)	-0.129*** (0.040)
Undergraduate degree	-0.113*** (0.032)	-0.118*** (0.036)	-0.113** (0.052)
Other academic degree	-0.145*** (0.025)	-0.110*** (0.032)	-0.169*** (0.039)
Other diploma	-0.108** (0.042)	-0.070 (0.050)	-0.140*** (0.052)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-2.916*** (0.753)	-2.213* (1.247)	-3.307*** (0.832)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E8. Effect of Treatment on Obesity, Gender Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.000 (0.017)	-0.025** (0.011)	0.041 (0.047)
(Treated)*(1999)	-0.010 (0.007)	0.004 (0.019)	-0.027 (0.030)
(Treated)*(2003-2006)	-0.060 (0.039)	-0.194*** (0.039)	0.052 (0.058)
(Treated)*(2000-2002)*female	-0.000 (0.008)	-0.012 (0.014)	-0.004 (0.011)
(Treated)*(1999)*female	-0.001 (0.006)	0.001 (0.012)	-0.003 (0.008)
(Treated)*(2003-2006)*female	0.008 (0.013)	-0.003 (0.025)	0.008 (0.016)
Female	-0.032*** (0.009)	-0.031** (0.014)	-0.021* (0.011)
Age	0.027* (0.015)	0.028 (0.027)	0.032* (0.017)
Age ²	-0.000* (0.000)	-0.000 (0.000)	-0.000* (0.000)
Junior secondary certificate	-0.089*** (0.018)	-0.101*** (0.026)	-0.070*** (0.031)
Baccalaureate	-0.062*** (0.017)	-0.083*** (0.025)	-0.039 (0.030)
Professional competence	-0.066*** (0.018)	-0.073*** (0.024)	-0.059* (0.033)
Vocational certificate	-0.084*** (0.017)	-0.095*** (0.026)	-0.068** (0.031)
Undergraduate degree	-0.085*** (0.021)	-0.100*** (0.028)	-0.069** (0.034)
Other academic degree	-0.088*** (0.017)	-0.106*** (0.024)	-0.064** (0.028)
Other diploma	-0.090*** (0.023)	-0.059* (0.032)	-0.109*** (0.037)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.601 (0.393)	-0.682 (0.714)	-0.695 (0.456)
R ²	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E9. Effect of Treatment on BMI, Gender Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.083 (0.337)	0.134** (0.063)	0.120 (0.754)
(Treated)*(1999)	-0.041 (0.128)	0.030 (0.053)	-0.094 (0.272)
(Treated)*(2003-2006)	-0.589 (0.711)	-1.399** (0.604)	0.176 (0.994)
(Treated)*(2000-2002)*female	-0.009 (0.081)	0.141 (0.189)	-0.123 (0.115)
(Treated)*(1999)*female	-0.051 (0.059)	-0.050 (0.127)	-0.109 (0.083)
(Treated)*(2003-2006)*female	0.010 (0.157)	0.217 (0.317)	-0.109 (0.178)
Female	-2.287*** (0.096)	-2.353*** (0.201)	-2.077*** (0.123)
Age	1.141*** (0.199)	1.002*** (0.376)	1.253*** (0.263)
Age ²	-0.010*** (0.002)	-0.009** (0.004)	-0.011*** (0.003)
Junior secondary certificate	-1.078*** (0.259)	-1.051*** (0.277)	-1.087*** (0.405)
Baccalaureate	-0.986*** (0.273)	-1.035*** (0.324)	-0.948** (0.415)
Professional competence	-0.837*** (0.242)	-0.720*** (0.263)	-1.013** (0.424)
Vocational certificate	-1.083*** (0.264)	-0.979*** (0.300)	-1.154*** (0.425)
Undergraduate degree	-1.224*** (0.305)	-1.323*** (0.314)	-1.124** (0.503)
Other academic degree	-1.401*** (0.247)	-1.291*** (0.260)	-1.398*** (0.401)
Other diploma	-1.178*** (0.318)	-0.766** (0.336)	-1.475*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.162 (5.349)	-0.923 (10.037)	-6.859 (7.043)
R ²	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E10. Effect of Treatment on Overweight, Age Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.033 (0.029)	0.093*** (0.023)	-0.021 (0.059)
(Treated)*(1999)	-0.018 (0.022)	-0.033 (0.030)	-0.011 (0.031)
(Treated)*(2003-2006)	-0.006 (0.075)	0.018 (0.104)	-0.004 (0.107)
(Treated)*(2000-2002)*(age>=50)	-0.011 (0.015)	-0.025 (0.022)	-0.010 (0.019)
(Treated)*(1999)*(age>=50)	0.012 (0.015)	0.021 (0.024)	0.014 (0.019)
(Treated)*(2003-2006)*(age>=50)	-0.033 (0.036)	-0.068 (0.089)	-0.021 (0.045)
Female	-0.330*** (0.010)	-0.319*** (0.019)	-0.315*** (0.011)
Age>=50	0.034*** (0.009)	0.031** (0.015)	0.042*** (0.011)
Junior secondary certificate	-0.099*** (0.028)	-0.077** (0.032)	-0.124*** (0.039)
Baccalaureate	-0.106*** (0.025)	-0.094** (0.039)	-0.124*** (0.036)
Professional competence	-0.073*** (0.024)	-0.045 (0.030)	-0.113*** (0.037)
Vocational certificate	-0.093*** (0.027)	-0.060* (0.033)	-0.131*** (0.040)
Undergraduate degree	-0.116*** (0.032)	-0.121*** (0.036)	-0.117** (0.051)
Other academic degree	-0.151*** (0.025)	-0.115*** (0.032)	-0.175*** (0.038)
Other diploma	-0.111*** (0.042)	-0.072 (0.049)	-0.145*** (0.051)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	0.666*** (0.025)	0.624*** (0.033)	0.707*** (0.037)
R ²	0.11	0.08	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Age = 1 if age ≥ 50 years and 0 otherwise. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E11. Effect of Treatment on Obesity, Age Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.001 (0.016)	-0.031* (0.019)	0.039 (0.046)
(Treated)*(1999)	-0.016** (0.008)	-0.017 (0.026)	-0.029 (0.029)
(Treated)*(2003-2006)	-0.026 (0.041)	-0.185*** (0.051)	0.088 (0.060)
(Treated)*(2000-2002)*(age>=50)	-0.000 (0.009)	0.006 (0.016)	0.001 (0.013)
(Treated)*(1999)*(age>=50)	0.007 (0.007)	0.023 (0.017)	0.001 (0.010)
(Treated)*(2003-2006)*(age>=50)	-0.030 (0.022)	-0.010 (0.037)	-0.032 (0.026)
Female	-0.031*** (0.007)	-0.038*** (0.010)	-0.020** (0.009)
Age>=50	0.013** (0.006)	0.013 (0.009)	0.015** (0.007)
Junior secondary certificate	-0.089*** (0.018)	-0.102*** (0.026)	-0.070** (0.031)
Baccalaureate	-0.062*** (0.018)	-0.084*** (0.025)	-0.039 (0.030)
Professional competence	-0.067*** (0.018)	-0.073*** (0.024)	-0.059* (0.033)
Vocational certificate	-0.085*** (0.017)	-0.096*** (0.026)	-0.067** (0.031)
Undergraduate degree	-0.086*** (0.021)	-0.101*** (0.028)	-0.069** (0.034)
Other academic degree	-0.089*** (0.017)	-0.106*** (0.024)	-0.065** (0.028)
Other diploma	-0.090*** (0.023)	-0.060* (0.032)	-0.109*** (0.037)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	0.132*** (0.017)	0.114*** (0.025)	0.149*** (0.027)
R ²	0.02	0.03	0.02
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Age = 1 if age ≥ 50 years and 0 otherwise. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E12. Effect of Treatment on BMI, Age Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.065 (0.347)	0.299 (0.185)	-0.034 (0.765)
(Treated)*(1999)	-0.181 (0.145)	-0.345* (0.178)	-0.211 (0.297)
(Treated)*(2003-2006)	-0.232 (0.756)	-1.133 (0.819)	0.474 (1.058)
(Treated)*(2000-2002)*(age>=50)	0.036 (0.116)	-0.133 (0.199)	0.103 (0.159)
(Treated)*(1999)*(age>=50)	0.158 (0.101)	0.415** (0.176)	0.075 (0.144)
(Treated)*(2003-2006)*(age>=50)	-0.354 (0.290)	-0.181 (0.575)	-0.406 (0.366)
Female	-2.358*** (0.098)	-2.362*** (0.147)	-2.206*** (0.123)
Age>=50	0.352*** (0.060)	0.295*** (0.099)	0.431*** (0.083)
Junior secondary certificate	-1.091*** (0.259)	-1.060*** (0.276)	-1.109*** (0.405)
Baccalaureate	-1.031*** (0.272)	-1.062*** (0.321)	-1.012** (0.412)
Professional competence	-0.854*** (0.242)	-0.734*** (0.262)	-1.041** (0.424)
Vocational certificate	-1.097*** (0.263)	-0.989*** (0.299)	-1.181*** (0.423)
Undergraduate degree	-1.252*** (0.306)	-1.347*** (0.313)	-1.166** (0.502)
Other academic degree	-1.443*** (0.245)	-1.321*** (0.261)	-1.451*** (0.398)
Other diploma	-1.208*** (0.318)	-0.786** (0.334)	-1.522*** (0.470)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	26.581*** (0.238)	26.236*** (0.274)	26.933*** (0.386)
R ²	0.12	0.10	0.12
N	49,830	23,297	26,533

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Age = 1 if age≥50 years and 0 otherwise. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E13. Effect of Treatment on Overweight, Children Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.004 (0.038)	0.049* (0.028)	-0.063 (0.068)
(Treated)*(1999)	-0.015 (0.031)	0.025 (0.029)	-0.073 (0.058)
(Treated)*(2003-2006)	-0.019 (0.063)	-0.001 (0.075)	-0.036 (0.108)
(Treated)*(2000-2002)*haschild	0.030* (0.018)	0.044** (0.021)	0.017 (0.027)
(Treated)*(1999)*haschild	0.012 (0.015)	0.005 (0.018)	0.021 (0.022)
(Treated)*(2003-2006)*haschild	0.033 (0.026)	0.037 (0.033)	0.026 (0.035)
Haschild	-0.037*** (0.012)	-0.040** (0.016)	-0.032* (0.019)
Female	-0.315*** (0.012)	-0.306*** (0.022)	-0.297*** (0.014)
Age	0.137*** (0.031)	0.109** (0.048)	0.152*** (0.036)
Age ²	-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)
Junior secondary certificate	-0.107*** (0.027)	-0.087** (0.035)	-0.130*** (0.041)
Baccalaureate	-0.095*** (0.027)	-0.092** (0.044)	-0.104** (0.042)
Professional competence	-0.072*** (0.024)	-0.045 (0.035)	-0.109** (0.045)
Vocational certificate	-0.091*** (0.026)	-0.062* (0.036)	-0.122** (0.048)
Undergraduate degree	-0.111*** (0.034)	-0.118*** (0.042)	-0.108* (0.063)
Other academic degree	-0.141*** (0.026)	-0.112*** (0.040)	-0.158*** (0.047)
Other diploma	-0.100** (0.043)	-0.062 (0.055)	-0.130** (0.056)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-2.940*** (0.821)	-2.210* (1.281)	-3.358*** (0.944)
R ²	0.11	0.08	0.12
N	36,249	17,207	19,042

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E14. Effect of Treatment on Obesity, Children Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.016 (0.022)	0.003 (0.019)	0.046 (0.053)
(Treated)*(1999)	0.003 (0.022)	0.046* (0.026)	-0.055 (0.065)
(Treated)*(2003-2006)	-0.029 (0.043)	-0.091** (0.037)	0.049 (0.056)
(Treated)*(2000-2002)*haschild	0.021** (0.008)	0.009 (0.013)	0.028** (0.012)
(Treated)*(1999)*haschild	0.010 (0.007)	-0.001 (0.010)	0.023* (0.012)
(Treated)*(2003-2006)*haschild	0.012 (0.014)	-0.031 (0.023)	0.032* (0.017)
Haschild	-0.008 (0.007)	-0.005 (0.009)	-0.010 (0.011)
Female	-0.026*** (0.009)	-0.031** (0.015)	-0.021** (0.011)
Age	0.032** (0.013)	0.040 (0.027)	0.030* (0.016)
Age ²	-0.000** (0.000)	-0.000 (0.000)	-0.000* (0.000)
Junior secondary certificate	-0.097*** (0.024)	-0.090*** (0.030)	-0.102** (0.042)
Baccalaureate	-0.066*** (0.023)	-0.064** (0.028)	-0.070 (0.042)
Professional competence	-0.072*** (0.024)	-0.064** (0.029)	-0.081* (0.044)
Vocational certificate	-0.086*** (0.024)	-0.080** (0.031)	-0.092** (0.042)
Undergraduate degree	-0.093*** (0.025)	-0.090*** (0.030)	-0.101** (0.045)
Other academic degree	-0.093*** (0.023)	-0.090*** (0.029)	-0.095** (0.040)
Other diploma	-0.094*** (0.029)	-0.043 (0.037)	-0.145*** (0.045)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-0.729** (0.341)	-0.992 (0.696)	-0.624 (0.436)
R ²	0.02	0.03	0.03
N	36,249	17,207	19,042

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Overweight = 1 if the body mass index is 25 or more. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table E15. Effect of Treatment on BMI, Children Interactions

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.079 (0.412)	0.175 (0.173)	0.009 (0.826)
(Treated)*(1999)	-0.077 (0.281)	0.305* (0.183)	-0.595 (0.561)
(Treated)*(2003-2006)	-0.528 (0.773)	-0.994 (0.902)	0.050 (0.916)
(Treated)*(2000-2002)*haschild	0.271*** (0.103)	0.229* (0.128)	0.292* (0.173)
(Treated)*(1999)*haschild	0.182** (0.080)	0.087 (0.111)	0.308** (0.146)
(Treated)*(2003-2006)*haschild	0.209 (0.188)	-0.005 (0.283)	0.307 (0.246)
Haschild	-0.215*** (0.080)	-0.164* (0.090)	-0.255* (0.143)
Female	-2.223*** (0.105)	-2.277*** (0.175)	-2.080*** (0.131)
Age	1.142*** (0.210)	1.168*** (0.364)	1.156*** (0.269)
Age ²	-0.010*** (0.002)	-0.011*** (0.003)	-0.011*** (0.003)
Junior secondary certificate	-1.238*** (0.286)	-1.108*** (0.293)	-1.365** (0.538)
Baccalaureate	-1.067*** (0.310)	-1.014*** (0.357)	-1.146** (0.548)
Professional competence	-0.923*** (0.284)	-0.725** (0.301)	-1.194** (0.578)
Vocational certificate	-1.149*** (0.301)	-0.969*** (0.326)	-1.313** (0.577)
Undergraduate degree	-1.314*** (0.334)	-1.305*** (0.330)	-1.348** (0.647)
Other academic degree	-1.482*** (0.281)	-1.278*** (0.283)	-1.585*** (0.547)
Other diploma	-1.158*** (0.337)	-0.662* (0.370)	-1.613*** (0.580)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	-4.109 (5.632)	-5.099 (9.574)	-4.208 (7.386)
R ²	0.12	0.10	0.12
N	36,249	17,207	19,042

Body Mass Index = weight/(height²); estimated with self-reported information of weight and height. Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table F1. Effect of Treatment on Self-assessed Health (very good=1, very poor=8)

	All	Blue collars	White collars
(Treated)*(2000-2002)	-0.088*** (0.021)	-0.121** (0.051)	-0.031 (0.059)
(Treated)*(1999)	0.031 (0.065)	0.062 (0.068)	-0.004 (0.070)
(Treated)*(2003-2006)	0.201 (0.141)	0.247 (0.189)	0.182 (0.149)
Female	0.224*** (0.027)	0.176*** (0.057)	0.253*** (0.034)
Age	-0.015 (0.071)	-0.061 (0.131)	0.006 (0.078)
Age ²	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
Junior secondary certificate	-0.038 (0.089)	-0.085 (0.103)	0.016 (0.110)
Baccalaureate	-0.079 (0.089)	-0.057 (0.102)	-0.073 (0.112)
Professional competence	-0.081 (0.079)	-0.099 (0.090)	-0.063 (0.105)
Vocational certificate	-0.100 (0.088)	-0.157 (0.097)	-0.030 (0.117)
Undergraduate degree	-0.153 (0.096)	-0.217* (0.113)	-0.078 (0.117)
Other academic degree	-0.222*** (0.082)	-0.313*** (0.097)	-0.147 (0.112)
Other diploma	-0.264*** (0.099)	-0.183 (0.134)	-0.320** (0.127)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	3.519* 3.518*	4.849 4.839	2.958 2.959
R ²	(1.866)	(3.468)	(2.045)
N	49,641	23,214	26,427

Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table F2. Effect of Treatment on Self-assessed Health (good=1, suboptimum=0)

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.012 (0.011)	0.021 (0.014)	-0.003 (0.019)
(Treated)*(1999)	0.014 (0.041)	0.003 (0.039)	0.028 (0.048)
(Treated)*(2003-2006)	-0.027 (0.047)	-0.051 (0.045)	-0.011 (0.070)
Female	-0.049*** (0.008)	-0.042** (0.016)	-0.056*** (0.009)
Age	-0.002 (0.017)	-0.006 (0.037)	-0.001 (0.019)
Age ²	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Junior secondary certificate	0.042 (0.025)	0.045* (0.025)	0.033 (0.037)
Baccalaureate	0.046* (0.024)	0.039 (0.026)	0.048 (0.035)
Professional competence	0.041* (0.022)	0.043* (0.023)	0.039 (0.035)
Vocational certificate	0.050** (0.023)	0.060** (0.024)	0.036 (0.035)
Undergraduate degree	0.054** (0.025)	0.073*** (0.027)	0.032 (0.035)
Other academic degree	0.066*** (0.023)	0.076*** (0.027)	0.055 (0.035)
Other diploma	0.073*** (0.025)	0.075** (0.035)	0.070* (0.036)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	0.890* (0.453)	0.908 (0.963)	0.891* (0.490)
R ²	0.01	0.02	0.02
N	49,619	23,209	26,401

Only respondents who worked during reference period. Probit model (marginal effects shown), standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table F3. Effect of Treatment on Smoking (yes=1, no=0)

	All	Blue collars	White collars
(Treated)*(2000-2002)	0.010 (0.012)	0.005 (0.010)	0.013 (0.017)
(Treated)*(1999)	0.037** (0.017)	0.024** (0.010)	0.055* (0.029)
(Treated)*(2003-2006)	-0.041 (0.064)	-0.039 (0.055)	-0.048 (0.068)
Female	-0.030*** (0.008)	-0.007 (0.016)	-0.052*** (0.012)
Age	-0.024 (0.023)	-0.007 (0.044)	-0.032 (0.024)
Age ²	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Junior secondary certificate	0.043** (0.020)	0.010 (0.025)	0.078*** (0.026)
Baccalaureate	0.024 (0.019)	-0.002 (0.028)	0.053* (0.029)
Professional competence	0.021 (0.017)	-0.013 (0.021)	0.064** (0.026)
Vocational certificate	0.029 (0.020)	-0.007 (0.022)	0.069** (0.029)
Undergraduate degree	0.036 (0.027)	-0.005 (0.032)	0.074** (0.034)
Other academic degree	-0.006 (0.019)	-0.054** (0.022)	0.027 (0.029)
Other diploma	0.002 (0.026)	-0.009 (0.038)	0.015 (0.029)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	0.897 (0.624)	0.444 (1.172)	1.105* (0.646)
R ²	0.01	0.02	0.03
N	48,713	22,785	25,841

Only respondents who worked during reference period. Probit model (marginal effects shown), standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table F4. Effect of Treatment on Cigarettes Smoked for those who Smoke

	All	Blue collars	White collars
(Treated)*(2000-2002)	1.132 (1.688)	-1.243* (0.708)	2.821 (2.940)
(Treated)*(1999)	0.343 (1.158)	1.887*** (0.486)	-0.714 (1.987)
(Treated)*(2003-2006)	2.461 (1.683)	10.727*** (2.151)	-0.879 (3.084)
Female	-0.800 (0.706)	-2.363* (1.345)	-0.340 (0.841)
Age	-0.071 (1.167)	-2.677 (3.014)	1.216 (1.263)
Age ²	0.001 (0.011)	0.024 (0.030)	-0.010 (0.012)
Junior secondary certificate	-0.616 (1.086)	-0.139 (1.401)	-3.244 (2.189)
Baccalaureate	-0.729 (1.289)	0.130 (1.813)	-3.808** (1.763)
Professional competence	-1.253 (1.229)	0.358 (1.523)	-5.020** (2.117)
Vocational certificate	-1.142 (1.191)	-1.368 (1.623)	-2.970 (2.025)
Undergraduate degree	-0.397 (1.525)	-1.345 (1.866)	-2.017 (2.843)
Other academic degree	0.833 (1.494)	3.168 (2.131)	-2.772 (2.093)
Other diploma	-3.431** (1.528)	0.126 (2.019)	-8.305*** (2.353)
Year fixed effects	yes	yes	yes
Department fixed effect	yes	yes	yes
Constant	17.705 (30.368)	89.336 (76.857)	-15.906 (33.431)
R ²	0.06	0.12	0.10
N	6,428	2,954	3,474

Only respondents who worked during reference period. OLS, standard errors (in parenthesis) clustered at department level. * p<0.1; ** p<0.05; *** p<0.01.

Table G1. Sample characteristics at first interview before 2000

Characteristics	Total		Alsace-Moselle (control)		Rest of France (treated)	
	n=11,607		n=352		n=11,255	
	mean/%	s.e.	mean/%	s.e.	mean/%	s.e.
Body mass index	25.5	0.032	26.3	0.178	25.4	0.033
Overweight	53.1%	0.005	64.9%	0.026	52.7%	0.005
Obesity	9.2%	0.003	13.0%	0.018	9.1%	0.003