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With long hours of work, might depression then lurk? A nationwide prospective follow-up study among Danish senior medical consultants

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Objective The aim of this study was to examine depression as a potential negative health effect of long work hours, anticipating an exposure–response relationship.

Method A nationwide prospective cohort study of 2790 Danish senior medical consultants was conducted (61.7% response rate). With the consent of Danish Data Protection Agency, data from a questionnaire survey was linked with data from a Medical Products Agency Register. Long work hours were defined based on a self-reported average of weekly work hours >40, while redemption of anti-depressive (AD) drug prescriptions defined depression. Proportional hazards Cox regression analyses were conducted adjusting for gender, age, marital status, medical specialty, decision authority at work, work social support, quantitative work demands, and AD drugs prescribed before baseline.

Results Long weekly work hours did not increase the risk of redeeming AD drug prescriptions at all times during follow-up compared to the reference of 37–40 work hours [41–44 hours: hazard ratio (HR) 0.95, 95% confidence interval (95% CI) 0.5–1.8; 45–49 hours: HR 0.88, 95% CI 0.4–1.8; 50–54 hours: HR 0.83, 95% CI 0.3–2.1; 55–59 hours: HR 0.67, 95% CI 0.2–2.9; ≥60 hours: HR 0.48, 95% CI 0.1–3.7]. The same result emerged when work hours was applied in a continuous form (from 25–36 hours to 37–40 hours to 41–44 hours and so on) (HR 0.93, 95% CI 0.76–1.13) and when robust analyses were conducted (data not shown).

Conclusions This study does not support the anticipation that long work hours increase the risk of depression. If anything, long work hours vaguely appear to decrease the risk of redeeming AD drug prescriptions.

Key terms anti-depressive drug; mental health; prospective study; work hour; working time; worktime.

Long work hours may confer a strain that is detrimental to health (1–8). A potential negative health effect of long work hours is the risk of depression (9–25). It has been suggested that working long hours could result in sleep deprivation, lack of recovery from work, reduced time for non-work activities, injuries, and longer exposure to work demands and workplace hazards (1). These immediate consequences might develop into depression by means of fatigue, negative mood due to lack of time for socialization, reduced joy of work and life in general due to injuries, and unwanted feelings towards work because of increased exposure to workplace demands and hazards.

Earlier studies have implied a potential relationship between long work hours and depression (9–25), but several limitations preclude causal inference: (i) the application of a cross sectional study design in the majority of the studies (11–17) disguises the direction of association between long work hours and depression; (ii) the low response rates, ranging from 35–58%, (9–13, 15, 18, 19) increase the risk of selection bias; (iii) self-reporting of exposure (9–25) and outcome (9–21, 23–25) could lead to unreliable responses from respondents when the memory reference periods are demanding or questions trigger socially desirable answers; (iv) lack of sufficient contrast in work hours (10, 12–15,

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17–20, 22, 24) hinders identification of a potential exposure–response relationship; (v) the definition of depression is unspecific or depression and anxiety are measured as one entity (9, 11, 14, 17, 19, 22). Either way, it becomes difficult to know whether depression is actually being measured and creates doubt concerning what the outcome really represents; (vi) with the exception of two studies (13, 24) none of the studies include or report modifying factors, providing a rather simple image of the relationship between long work hours and depression; and (vii) the follow-up participation is not described in the cohort studies with one exception (24). As a result, it is difficult to characterize possible bias. All in all, clarity on the relationship between long work hours and depression is still needed.

The main objective of the present study is to examine long work hour practices in relation to depression in a homogeneous group of employees with a wide span of weekly work hours. The anticipation is that long work hours increase the risk of developing depression and that the risk increases simultaneously with the number of hours worked above standard work hours. The study was designed to ameliorate some but not all limitations of earlier studies.

Methods

Population and data collection

From April–October 2008, members of the Danish Association for Senior Medical Consultants (N=4520) were encouraged to participate in an internet-based self-administered questionnaire survey addressing work conditions of senior medical consultants primarily employed in hospitals. After three reminders, a response rate of 61.7% was obtained.

Work hour information was retrieved by means of the item: “How many hours do you work a week on average (main occupation)?” Response categories were: 25–36, 37–40, 41–44, 45–49, 50–54, 55–59, and ≥ 60 hours. A fulltime work week in Denmark is 37–40 hours. Hence, senior medical consultants working >40 hours a week on average were considered as having long work hours; 37–40 hours a week on average represented the reference work week.

In 2010, data was obtained on the expedition date for redemption of anti-depressive (AD) drug prescription at a Danish pharmacy from the Medical Products Agency Register covering the period 1995–2009. The Medical Products Agency Register classifies prescribed drugs according to the Anatomical Therapeutic Chemical Classification System at the level of the generic pharmaceutical (ATC codes). Redeemed prescription of

N06AA, N06AB, N06AX, N06AF, N06AG, and N06X after the date of entry into the study was considered as a proxy for clinical depression.

The senior medical consultants were followed from their study entry date in 2008 until the end of 2009. Linkage of data from the questionnaire survey with the the Medical Products Agency Register took place with consent from the Danish Data Protection Agency. Statistics Denmark carried out the data linkage and ensured anonymity by detaching personalized identifiers before the data was made accessible for analysis. Two eligibility criteria were (i) non-missing data on work hours and (ii) no redemption of AD drug prescriptions nine months before study entry in order to exclude prevalent cases of depression at baseline. The choice of nine months was based on the fact that most depressed persons recover after six months to one year (26).

Gender, age, marital status, medical specialty, decision authority at work, social support at work, quantitative work demands and previous redemption of AD drug prescription (tables 1 and 2) were included as potential confounders. The following factors were considered as modifiers of the effect of long work hours on depression: (i) female workers with long work hours [may be predisposed to being diagnosed with depression compared to male workers with long work hours since women visit a doctor more often than men (27)]; (ii) older workers (are expected to have more work experience than younger workers because they have a longer work history and, therefore, may have a greater tolerance threshold towards the negative effects of long work hours); (iii) married workers (could be at lower risk of developing depression than unmarried, widowed, or divorced workers if being married is considered as a form of support able to buffer the potential negative effect of working long hours); (iv) working long hours in medical specialties with exposure to difficult emotional situations (might enhance the risk of developing depression compared to working long hours in medical specialties where emotional demanding situations are less common); (v) workers with long work hours and high quantitative work demands (for instance time pressure may result in higher risk of depression); (vi) decision authority and social support at work [justified for by means of Robert Karasek’s Demand Control Model (28)].

Data on all variables was retrieved from Statistics Denmark, the questionnaire survey, or the Medical Products Agency Register. Decision authority at work, social support at work, and quantitative work demands were all measured with scales. Decision authority was defined with four questions: “Do you have great influence on decisions concerning your work?”, “Do you have influence on who you work together with?”, “Do you have influence on the amount of your work?”, and “Do you

Table 1. Characteristics of senior medical consultants by work hours, categorical variables. [AD=anti-depressive.]

Characteristic	Work hours															
	N=2790		25-36 (N=126)		37-40 (N=888)		41-44 (N=743)		45-49 (N=569)		50-54 (N=260)		55-59 (N=121)		≥60 (N=83)	
			N	%	N	%	N	%	N	%	N	%	N	%	N	%
Gender																
Men	1977	70.9	93	73.8	639	72	508	68.4	397	69.8	191	73.5	86	71.1	63	75.9
Women	813	29.1	33	26.2	249	28	235	31.6	172	30.2	69	26.5	35	28.9	20	24.1
Marital Status																
Married	2296	82.3	104	82.5	724	81.5	602	81	478	84	216	83.1	102	84.3	70	84.3
Unmarried	165	5.9	11	8.7	52	5.9	51	6.9	32	5.6	12	4.6	6	5	1	1.2
Divorced	259	9.3	8	6.3	86	9.7	77	10.4	48	8.4	25	9.6	8	6.6	7	8.4
Widow/widower	35	1.3	2	1.6	10	1.1	5	0.7	7	1.2	4	1.5	3	2.5	4	4.8
Missing values	35	1.3	1	0.8	16	1.8	8	1.1	4	0.7	3	1.1	2	1.7	1	1.2
Work specialty																
Internal medicine	1187	42.5	40	31.8	354	39.9	301	40.5	265	46.6	119	45.8	60	49.6	48	57.8
Surgery	798	28.6	30	23.8	257	28.9	227	30.5	167	29.3	67	25.8	33	27.3	17	20.5
Psychiatry	361	12.9	31	24.6	145	16.3	88	11.8	49	8.6	27	10.4	12	9.9	9	10.8
Laboratory testing	238	8.5	14	11.1	63	7.1	64	8.6	53	9.3	31	11.9	10	8.3	3	3.6
Missing values	206	7.4	11	8.7	69	7.8	63	8.5	35	6	16	6	6	5	6	7.2
Previous redemption of AD drug prescription																
Yes	308	11	18	14.3	92	10.4	79	10.6	72	12.7	29	11.2	10	8.3	8	9.6
No	2482	89	108	85.7	796	89.6	664	89.4	497	87.3	231	88.8	111	91.7	75	90.4

Table 2. Characteristics of senior medical consultants by work hours, continuous variables. [SD=standard deviation; Min=minimum; Max=maximum.]

Characteristic	Work hours																			
	N=2790		25-36 (N=126)		37-40 (N=888)		41-44 (N=743)		45-49 (N=569)		50-54 (N=260)		55-59 (N=121)		≥60 (N=83)					
			Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Age	2790	100	54.5 ^a	43.4 ^b	36	80	54.7	7	55	6.5	54.4	6.5	54.2	6.4	55.2	6.9	54.4	7	56.6	6.2
Follow-up (days)	2790	100	569 ^a	6363 ^b	2	584	508.2	89.4	527.6	79.9	524.6	83.3	531.9	71.2	532.3	80.4	529.4	85.7	536	71.2
Decision authority at work	2732	97.9	3.3	0.8	1	5	3.3	0.8	3.2	0.9	3.3	0.8	3.3	0.7	3.4	0.8	3.5	0.7	3.7	0.8
Missing values	58	2.1																		
Social support at work	2692	96.5	3.4	1	1	5	3.4	1.1	3.5	1.1	3.4	1	3.4	1	3.3	1	3.3	1	3.3	1.1
Missing values	98	3.5																		
Quantitative work demands	2726	97.7	3.2	0.8	1	5	2.7	0.9	2.9	0.8	3.2	0.7	3.4	0.7	3.6	0.7	3.5	0.6	3.6	0.8
Missing values	64	2.3																		

^a Median
^b Variance

have influence on what you do at your work?”. Social support was defined by two questions: “If you have problems at your work, is it then possible to (i) “Get the necessary help and support from your management?” and (ii) “Get the necessary help and support from your own colleagues?”. Quantitative work demands was covered by the following questions: “Is your work unevenly distributed so that it builds up?”, “How often is it that you do not have time for all of your working tasks?”, “Do you fall behind with your work?”, and “Do you have enough time for your working tasks?”. Scale scores were mean scores.

The higher the mean score, the larger the experience of decision authority and social support and the smaller the experience of quantitative work demands. Tables 1 and 2 provide information on the coding of remaining variables. The data collection process and stepwise actions are depicted in figure 1.

Statistical analysis

Statistical analyses were performed with SAS version 9.1 (SAS Institute, Cary, NC, USA) and R (R version

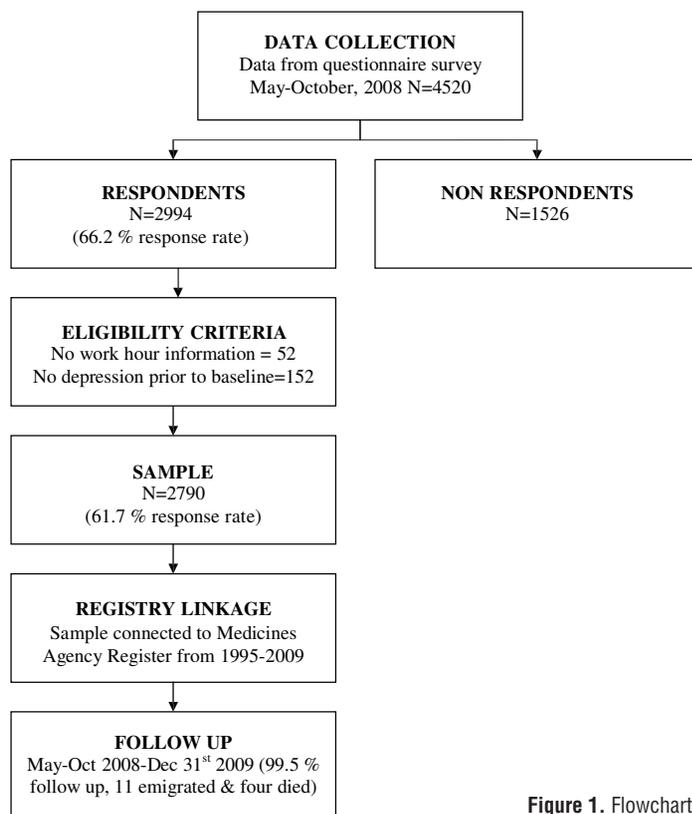


Figure 1. Flowchart illustrating actions and results in the data collection process.

2.11.1). Proportional hazards Cox regression analyses with delayed entry were applied. Follow-up time served as the time axis. Observations were censored at first expedition date of redemption of AD drug prescription during follow-up, death, emigration, or study end, whichever came first.

The modeling of observations was based on crude and adjusted measurements. Each modifier was included in the adjusted model and then excluded one at a time after having observed its potential effect.

To assess the robustness of the results obtained from the adjusted model, two analyses were made. The first analysis was on senior medical consultants without any history of previous redemption of AD drug prescriptions. The second analysis was based on the criteria that senior medical consultants redeemed more than one AD drug prescription.

In order to uncover any potential problems with representativeness, descriptive univariate analyses were made on senior medical consultants who did not participate in the study, so-called “non-respondents”. This non-response analysis was supplemented by descriptive univariate analyses comparing “initial respondents” (medical consultants who responded by means of the online questionnaire) with “late respondents” (medical consultants who received the questionnaire on paper

after several reminders) on variables where information from non-respondents was not available. Late respondents are considered to behave more like non-respondents and therefore such a supplementary comparison could also indicate problems with representativeness.

Model assessments were made by checking fulfillment of linearity and proportional hazards assumptions with Martingale & Schonefeld residuals.

Results

The majority of the senior medical consultants had long work hours. In general, the senior medical consultants were male, middle aged, married, primarily working with internal medicine, and had not previously redeemed AD drug prescriptions. On average, the senior medical consultants reported moderate amounts of decision authority at work, social support at work, and quantitative work demands. They were followed for more than a year and a half on average (tables 1 and 2). Long work hours were more common among initial than late respondents, and non-respondents had a higher redemption of AD drug prescriptions than respondents (see Appendix with tables A and B).

Main results showed that long weekly work hours did not increase the risk of redeeming AD drug prescriptions at all times during follow-up compared to the reference work week of 37–40 hours. Instead, long weekly work hours vaguely appeared to decrease the risk of redeeming AD drug prescriptions (table 3). The assumption of linearity for all the continuous variables and the proportional hazards assumption were fulfilled (data not shown).

In order to enable efficient analyses of modifiers and result robustness, work hours was applied in a continuous form (from 25–36 hours to 37–40 hours to 41–44 hours and so on) since an adjusted Cox regression analysis with work hours as a continuous variable (table 4) showed the same result as observed in the adjusted Cox regression analysis with work hours as a categorical variable. The linearity assumption and proportional hazards assumption were fulfilled for the adjusted Cox regression analysis with work hours as a continuous variable (data not shown). Decision authority and social support at work, quantitative work demands, and medical specialty indicated potential for modifying the effect of long work hours on redemption of AD drug prescriptions (table 5). Model assessments were successful (data not shown). The analyses of result robustness showed the same trend as observed in the adjusted Cox regression analysis with work hours as a categorical variable and work hours as a continuous variable. Model assessments were successful (data not shown).

Discussion

Senior medical consultants compared to Danish citizens

Long work hours are more common among the senior medical consultants than the general Danish working population. In the latter, 36.4% worked >37 hours a week

on average in 2008 (32) compared to 81% of senior medical consultants. This underlines the importance of studying long work hours among senior medical consultants. In the general Danish population, 10.9% are registered as having redeemed AD drug prescriptions on average during 2008–2009 (33) compared to 2.8% among the senior medical consultants. The proportion of senior medical consultants redeeming AD drug prescriptions is most likely an underestimation for various reasons discussed under strengths and limitations of this study.

Interpretation of findings

The present study does not support the anticipation that long work hours increase the risk of depression when measured as redemption of AD drug prescriptions among Danish senior medical consultants. If anything, long weekly work hours vaguely appear to decrease the risk of redeeming AD drug prescriptions. Three explanations should help to understand this finding. Firstly, it is a known phenomenon in occupational epidemiology that, against all expectations, the risk of an undesired outcome tends to decline at high levels of exposure in exposure–response curves because of the healthy worker effect (29, 30). Senior medical consultants with mental health problems might have reduced their work hours, withdrawn from their position as a consultant, or been excluded by the criteria of no redemption of AD drug prescription at study entry. Secondly, taking the main finding on its face value, long work hours would actually be beneficial for the senior medical consultants. Senior medical consultants are expected to have relatively influential positions in that they are employed without an upper time period of employment (31). Furthermore, it can be speculated that the appeal of working long hours could be related to the fact that senior medical consultants are happy with the work that they do, they thrive on it and have surplus energy for it, which would counteract the risk of developing depres-

Table 3. Cox regression analysis of work hours and redemption of anti-depressive (AD) drug prescription. [HR=hazard ratio; 95% CI=95% confidence interval.]

Hours	N	%	Follow-up (months)	Number of events	HR (crude)	95% CI	HR ^a	95% CI
25–36 hours	126	4.5	16.7	3	0.88	0.27–2.91	0.83	0.24–2.82
37–40 hours (reference)	888	31.8	17.3	25	1.00	..	1.00	..
41–44 hours	743	26.6	17.2	24	1.15	0.66–2.02	0.95	0.50–1.77
45–49 hours	569	20.4	17.5	16	0.99	0.53–1.85	0.88	0.43–1.78
50–54 hours	260	9.3	17.5	7	0.95	0.40–2.19	0.83	0.32–2.14
55–59 hours	121	4.3	17.4	3	0.88	0.26–2.91	0.67	0.15–2.94
≥60 hours	83	3	17.6	1	0.42	0.06–3.11	0.48	0.06–3.68

^a Adjusted for gender, age, marital status, medical specialty, decision authority at work, social support at work, quantitative work demands and previous redemption of AD drug prescription.

Table 4. Cox regression analysis of work hours as a continuous variable and redemption of anti-depressive (AD) drug prescription. [HR=hazard ratio]

Crude		Adjusted ^a	
HR	95% CI	HR	95% CI
0.95	0.80–1.12	0.93	0.76–1.13

^a Adjusted for gender, age, marital status, medical specialty, decision authority and social support at work, quantitative work demands, and previous redemption of AD drug prescription.

Table 5. Cox regression analysis of modifying effects of decision authority at work and social support at work, quantitative work demands and medical specialty on the effect of work hours on anti-depressive (AD) drug prescription. [HR=hazard ratio; 95% CI=95% confidence interval.]

Modifying variables	HR ^a	95% CI
Work hours X decision authority at work X social support at work	0.90	0.70–1.15
Work hours X quantitative work demands	0.95	0.75–1.21
Work hours X internal medicine	1.40	0.58–3.41
Work hours X psychiatry ^b	1.78	0.70–4.50
Work hours X surgery ^b	1.14	0.44–2.93

^a Adjusted for gender, age, marital status, medical specialty, decision authority and social support at work, quantitative work demands, and previous redemption of AD drug prescription.

^b Reference: medical specialty (laboratory testing).

sion. Or senior medical consultants may master coping strategies to respond to the potential negative effect of long work hours when it comes to the risk of developing depression. Thirdly, influence by chance may explain the main finding.

Earlier studies

Most earlier studies reported an increased risk of depression or poor mental health in relation to working long hours regardless of statistical significance (10–16, 19, 22, 24), while a few studies are consistent with findings of the present study (9, 13, 18). Two studies reported no association (17, 20). Associations in the earlier studies did not seem to be related to any specific occupation or type of work. The possible modifying effects of decision authority and social support at work, quantitative work demands, and medical specialty on the association between long work hours and depression were not examined in earlier studies. However, some studies have shown that the intensity and type of work can modify the effect of work factors on mental health (13, 34).

Strengths and limitations

Measuring a disorder that is recurrent, even after several years, makes it debatable to what extent long work hours

actually preceded redemption of AD drug prescriptions among senior medical consultants. Moreover, senior medical consultants seemingly free of having redeemed AD drug prescriptions before study entry could have redeemed AD drug prescriptions prior to the start of the study but would not have been registered if they redeemed such prescriptions before 1995 when the Medical Products Agency did not yet have a registry. However, considering that a person with depression is expected to recover after six months to one year (26), and that previous redemption of AD drug prescriptions was taken into account as a confounder, a relatively clear temporal direction between long work hours and redemption of AD drug prescriptions was expected.

Large contrast in work hours among the senior medical consultants enabled identification of a differentiated relationship, if any, and examining reported average work hours, made it possible to take high and low peak work periods into account. Furthermore, information on work hours was retrieved efficiently by means of the questionnaire survey. However, the work hour measurement has its limitations.

Work hours were only measured at one point in time. Moreover, long work hours naturally decrease time for other activities – for instance, responding to the questionnaire survey. However, bearing in mind that late respondents are not necessarily representative of non-respondents, the non-response analysis did not indicate under-representation of senior medical consultants with long work hours. Although, a response rate of >61.7% would reduce concerns related to non-response. Finally, some senior medical consultants may perceive long work hours as an expression of hard work and commitment. Others may regard them as a reflection of poor planning and coordination skills and disengagement from other life activities, which would not indicate a balanced worker. Both perceptions could trigger senior medical consultants to fabricate their statements of work hours to more or fewer hours than they actually work. However, since senior medical consultants are employed without an upper time period of employment, it is a central part of their work description to work according to the assignment. This implies finishing the assignment, regardless of the time taken to solve it. Also, the purpose of the questionnaire survey was not considered to be loaded in a direction that would trigger socially desirable answers. Therefore, an unfortunate impact of differing perceptions on long work hours is not considered as a large issue.

The use of registry information for outcome ascertainment enabled complete follow-up and excluded the possibility of respondent memory and interviewer bias. However, measuring a disorder like depression by means of redemption of AD drug prescriptions is not without its limitations.

Firstly, redemption of AD prescription is a crude proxy of depression as evidenced by a differing prevalence between redemption of AD prescription compared to clinical depression (35) creating uncertainty about whether depression is really measured.

Secondly, AD drugs are also prescribed for disorders such as anxiety, obsessive-compulsive disorder, eating disorders, pain, and insomnia (21), which reduces clarity on whether the senior medical consultants' redemption of AD drug prescriptions were for depression or another disorder.

Thirdly, feeling depressed could have deterred senior medical consultants from taking part in the questionnaire survey despite being under treatment with AD drugs simply because depression is a disorder that reduces energy and motivation for taking part in life activities (36). The non-response analysis showed that non-respondents had a higher redemption of AD drug prescriptions than respondents, supporting concern about an underestimation of senior medical consultants redeeming AD drug prescriptions.

Fourthly, some senior medical consultants might not redeem AD drug prescriptions despite suffering from depression, resulting in an underestimation and/or misclassification of the outcome. Four possible reasons for this are considered: (i) senior medical consultants with mild or moderate depressions could have gone undetected because these depressions are usually not tackled with AD drugs (37); (ii) some medical consultants may not have admitted to themselves that they are depressed due to social stigma, shame, exclusion (36), or difficulties with identifying themselves as patients and not treatment providers; (iii) senior medical consultants could have obtained access to AD drugs circumventing the pharmacy system; (iv) long work hours may have an impact on the behavior of the medical consultants in terms of delaying seeking medical care and/or retrieving prescribed drugs. However, considering that medical consultants have expert knowledge on the consequences of not seeking medical care in time, this is not thought of as being a large issue.

Fifthly, senior medical consultants may have resigned or been laid off from their work at study entry during the follow up period. Following the senior medical consultants with a register-based tool would not capture this information. The issues related to misclassification are not expected to be related to work hours and if anything, may cause attenuation of risk estimates.

The main result of this study cannot be generalized to other occupations and in particular not to groups that are less privileged than medical consultants in terms of their socioeconomic position.

In conclusion, this study does not support the anticipation that long work hours increase the risk of depression. If anything, the results vaguely indicate that long weekly

work hours decrease the risk of redeeming AD drug prescriptions among senior medical consultants. Most likely, this main result is explained by the healthy worker effect, but other potential explanations could be an unexpected protective effect of long work hours or chance.

More studies on workers in occupations suspected of having long work hours as well as general working populations are worth conducting to understand better the relationship between long work hours and depression. It is important that future studies address the healthy worker effect and reverse causation, for example by means of restriction to incident hires (29).

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Appendix. Supplementary tables A and B

Table A. Characteristics of respondents compared to non- or late-respondents, categorical variables. [AD=anti-depressive.]

Characteristic	Respondents (N=2790)		Non-respondents (N=1418)		Late-respondents (N=400)	
	N	%	N	%	N	%
Work hours						
25–36 hours	126	4.5	No data	No data	29	7.2
37–40 hours	888	31.8	No data	No data	138	34.5
41–44 hours	743	26.6	No data	No data	109	27.2
45–49 hours	569	20.4	No data	No data	71	17.7
50–54 hours	260	9.3	No data	No data	28	7
55–59 hours	121	4.3	No data	No data	15	3.7
≥60 hours	83	3	No data	No data	10	2.5
Redemption of AD drug prescription						
Yes	79	2.8	45	3.2	No data	No data
No	2711	97.2	1373	96.9	No data	No data
Gender						
Men	1977	70.9	1049	74	No data	No data
Women	813	29.1	369	26	No data	No data
Marital status						
Married	2296	82.3	1131	79.8	No data	No data
Unmarried	165	5.9	100	7.1	No data	No data
Divorced	259	9.3	130	9.2	No data	No data
Widow/widower	35	1.3	26	1.8	No data	No data
Missing values	35	1.3	31	2.2	No data	No data
Work specialty						
Internal medicine	1187	42.5	No data	No data	75	35.9
Surgery	798	28.6	No data	No data	71	34
Psychiatry	238	8.5	No data	No data	31	14.8
Laboratory testing	361	12.9	No data	No data	32	15.3
Missing values	206	7.4	No data	No data	191	47.7
Previous redemption of AD drug prescription						
Yes	308	11	175	12.3	No data	No data
No	2482	89	1243	87.7	No data	No data

Table B. Characteristics of respondents compared to non- or late-respondents, continuous variables. [SD=standard deviation; Min=minimum; Max=maximum.]

Characteristic	Respondents (N=2790)				Non-respondents (N=1418)				Late-respondents (N=400)			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
Age	54.5 ^a	43.4 ^b	36	80	55	48.4	36	79	No data	No data	No data	No data
Decision authority at work	3.3	0.8	1	5	No data	No data	No data	No data	3.3	0.9	1	5
Social support at work	3.4	1	1	5	No data	No data	No data	No data	3.4	1	1	5
Quantitative work demands	3.2	0.8	1	5	No data	No data	No data	No data	3.2	0.8	1	5

^a Median.

^b Variance.