The gender difference in sickness absence: Do managers evaluate men and women differently with regard to the appropriateness of sickness absence?

Supplementary Material

**Part 1. Information on the vignettes**

*Vignette example*

[Frank] works as a [scaffolder]. [He is afflicted by a stiff and painful neck and pain in both shoulders. The pain is not very strong, but present as a more or less constant ache. He notices a tendency of improvement when he can take it easy, while the pain is aggravated by stress.] [Frank] has been at home for three days of self-certified sickness absence, but thinks that [he] needs more time before [he] returns to work. How reasonable or unreasonable do you think it is that [Frank] receives a physician-certified sick leave in this situation?

Each vignette was rated by four graded response categories; “completely unreasonable” (1), “fairly unreasonable” (2), “fairly reasonable” (3), and “completely reasonable” (4), in addition to “don’t know” (5).

Words/phrases in brackets describe gender (by first name or subject pronoun), occupation and medical condition and vary across the vignettes. List of occupations and medical conditions follows. Entries in italics are in both the employee and the establishment survey, those in ordinary type only in the employee survey.

*Occupations*

*1 Scaffolder*

2 Bricklayer/mason

*3 Car mechanic*

*4 Plumber*

*5 Truck driver*

6 Carpenter

*7 Manager of a construction firm*

*8 Firefighter*

9 Unskilled construction worker

*10 Mechanical engineer*

*11 Janitor*

12 Offshore platform worker

13 Timber mill worker

*14 IT manager in a firm*

15 Warehouse worker

16 Graduate engineer in a construction firm

17 Offshore installation manager

*18 Police superintendent*

19 IT consultant in a firm

20 Graduate engineer in the oil industry

21 Paper carrier

*22 University professor*

*23 Security guard*

*24 Police inspector*

*25 Air traffic controller assistant*

26 Unskilled farming or fishing worker

*27 Stockbroker*

*28 Parish priest*

*29 Bank manager*

30 Marketing director in a firm

*31 Real estate agent*

32 Store manager

33 Dairy worker

34 Prison guard

*35 Postal worker*

*36 Musician in an orchestra*

37 Train ticket collector

38 Skilled worker in a meat processing firm

*39 Manager of a hotel*

*40 Lawyer in a law firm*

41 Researcher at a research institute

*42 Hospital physician*

*43 Journalist*

44 Landscape gardener

*45 Restaurant chef*

*46 Telemarketer*

47 Gardener

*48 Accountant in an accountancy firm*

49 Teacher in high school/secondary education

50 Finance manager in a firm

51 Corporate adviser

*52 Customer service adviser in a bank*

53 Window dresser/shop decorator

54 Case worker in a government agency

*55 Human resources manager in a firm*

*56 Assistant head teacher in an upper secondary school*

57 Milieu therapist in the child welfare service

58 Department manager in local government

*59 Receptionist*

*60 Shop assistant*

*61 Travel representative*

*62 Head teacher at a primary school*

63 Consultant at local labour and welfare office

64 Interpreter

65 Day-to-day manager of a beauty parlor

*66 Pharmacist in a pharmacy*

*67 Health care assistant in an institution*

68 Teacher in primary and lower secondary school

69 Dishwasher

*70 Consultant in a travel agency*

71 Welfare nurse

*72 Flight attendant*

*73 Physiotherapist*

*74 Accounts officer*

*75 Librarian*

*76 Kindergarten assistant*

77 Home help/aid

*78 Head nurse*

79 Nurse

80 Head librarian

*81 Nursing assistant at a nursing home*

*82 Office secretary*

83 Nursery school/kindergarten teacher

84 Cleaner in a cleaning firm

*85 Cleaning manager*

*86 Hairdresser*

87 Veterinary assistent

88 Floral designer

*89 Dental hygienist*

90 Secretary for a dentist

*Medical conditions*

*1 MENTAL HEALTH - Unease/worry: '[Name] has recently been through a very harrowing divorce. In the aftermath [Name] has felt tense and anxious. [Name] often lays awake all night and has had considerable problems concentrating during the day'.*

*2 MENTAL HEALTH - Anxiety disorder: 'For a long time, [Name] has felt tense and anxious. Lately [Name] has experienced anxiety attacks, with significant shaking and dizziness, both at work and at home. Very different situations have triggered the seizures, and this unpredictability makes him/her constantly afraid of new episodes.'*

*3 MENTAL HEALTH - Feeling depressed: '[Name] has recently struggled with a sense of inadequacy and not being able to handle day-to-day life. The feelings of inadequacy have only gotten worse, and [Name] is often very unhappy and walks around with "a pressure" in the chest.'*

*4 MENTAL HEALTH - Depression disorder: 'For a long time, [Name] has been depressed and downcast. Most things feel heavy and joyless, and even simple tasks can seem insurmountable. [Name] also has poor appetite and difficulty sleeping.'*

*5 MENTAL HEALTH - Mild burnout: '[Name] has recently felt tired and empty. His/her concentration is poor, and partly also his/her memory. [Name] has fierce mood swings.'*

*6 MENTAL HEALTH - Burnout: '[Name] has recently felt tired and empty. His/her concentration is very poor, and [Name] often finds that memory fails. [Name] has fierce mood swings. Sometimes it seems as if the spark of life is completely gone.'*

*7 GENERAL - Mild fatigue/tiredness: '[Name] has in recent weeks generally felt very tired and exhausted, and that [Name] lacks the strength to perform tasks at work as well as daily chores at home.'*

*8 GENERAL - Fatigue/tiredness: '[Name] has for some time generally felt very tired and exhausted, and that [Name] lacks the strength to perform tasks at work as well as daily chores at home. [Name] is also bothered by drowsiness and often has difficulty staying awake, such as when sitting in front of a computer.'*

*9 THE NERVOUS SYSTEM - Milder headache: '[Name] has recently been plagued by headaches. The pain can be there from the early morning, but usually it surfaces during the day. At times the headaches make it difficult to concentrate.'*

*10 THE NERVOUS SYSTEM - Headache: '[Name] is much plagued by headaches. The pain can be there from the early morning, but usually it surfaces during the day. Lately the headaches have been particularly bad and coming every day, making it hard to concentrate. Sometimes the pain is so strong that [Name] vomits.'*

11 THE NERVOUS SYSTEM - Dizziness mild: '[Name] has in recent weeks been feeling very dizzy and shaky. On several occasions [Name] has been forced to lie down and wait for the vertigo to decrease.'

12 THE NERVOUS SYSTEM - Dizziness: '[Name] has in recent weeks been feeling very dizzy and shaky, and there have been episodes where [Name] was afraid of fainting. On several occasions [Name] has been forced to lie down and wait for the vertigo to decrease.'

*13 MUSCLE/SKELETAL - Neck/shoulder afflictions: '[Name] is afflicted with a stiff and painful neck and pain in both shoulders. The pain is not very strong, but is always present to a greater or lesser extent. [He] notices a tendency of improvement when he can take it easy, while the pain is aggravated by stress.]*

*14 MUSCLE/SKELETAL - Neck/shoulder syndrome: '[Name] has chronic severe pain and reduced mobility in the neck and shoulders. The pain is significantly aggravated by stress.'*

*15 MUSCLE/SKELETAL - Lower back afflictions: '[Name] is afflicted with stiffness and pain in the lower back. The pain is not very strong, but worsens with prolonged sitting. Going on easy walks is one of the things that best helps.'*

*16 MUSCLE/SKELETAL - Lower back syndrome: '[Name] has severe pain in the lower back and especially at the back of the left thigh and leg. The foot also feels numb. [Name] limps because of the pain, especially when [Name] has sat still for a while. [Name] has least symptoms when laying down, but it also helps to go for easy walks.'*

*17 MUSCLE/SKELETAL - Muscle and skeletal disease: '[Name] is plagued by persistent pain in the muscles of most of the body. The pain varies; there are often periods ranging from a few days to several weeks when symptoms are intense, and occasionally periods with milder symptoms.'*

*18 MUSCLE/SKELETAL - Fibromyalgia: '[Name] has strong and persistent pain in the muscles of most of the body. Lately the pain has been particularly bad, and [Name] has also noticed a significant reduction in the strength of the arms and legs.'*

*19 RESPIRATORY INFECTIONS - Common cold without fever: 'During the weekend, [Name] has had a strong cold and is now plagued with a sore throat, stuffy nose and headache. [Name] does not have a fever.'*

*20 RESPIRATORY INFECTIONS - Common cold with fever: 'During the weekend, [Name] has had a strong cold and is now plagued with a sore throat, stuffy nose and headache. [Name] also has a bit of a fever (38 degrees).'*

21 RESPIRATORY INFECTIONS - Sinus infection without diagnose mentioned: '[Name] has had a cold for a few weeks and has still been going to work. Now his/her nose is more blocked and [Name] is also plagued with headaches and a feeling of pressure over the eyes. [Name] has a slight fever and feels generally in bad shape.'

22 RESPIRATORY INFECTIONS - Sinus infection with diagnose mentioned: '[Name] has had a cold for a few weeks and has still been going to work. Now his/her nose is more blocked and [Name] is also plagued with headaches and a feeling of pressure over the eyes. [Name] has had sinus infections before and is sure that that is what [Name] has got now. [Name] has a slight fever and feels generally in bad shape.'

*23 RESPIRATORY INFECTIONS - The flu without fever: 'During the night [Name] started to cough and ache over almost his/her entire body. [Name] has no fever, but there are many people with flu at the moment and [Name] thinks that that is what [Name] has too.'*

*24 RESPIRATORY INFECTIONS - The flu with fever: 'During the night [Name] started to cough and ache over almost his/her entire body. [Name] also has a fever (38.4 °C). There are many people with flu at the moment and [Name] thinks that that is what [Name] has too.'*

*25 CAREGIVING - for child: '[Name] has a teenage son with an acute mental illness. After a stay in a psychiatric institution, his/her son has become a little better and has come home. Both him/her and his/her wife/husband are still afraid that their son is going to harm himself, and they follow him closely. His/her concern for his/her son makes him/her sleep badly at night.'*

*26 CAREGIVING - for mother: '[Name] has a mother who lives alone and who has Alzheimer's disease. The mother is supposed to go into a nursing home, but it is taking some time to get everything sorted out. In recent weeks, the mother's health has deteriorated sharply, and [Name] wants to look after his/her mother so she does not harm herself.'*

*27 WORK CONFLICT - manager: '[Name] has for a long while had a poor relationship with his/her direct manager and feels unfairly treated. [Name] also feels a lack of sympathy from colleagues. [Name] has trouble sleeping at night and thinks that this is due to the situation at work.'*

*28 WORK CONFLICT - colleagues: '[Name] has found him/herself in an uncomfortable conflict situation at work involving several colleagues, and feels frozen out. [Name] is considering changing jobs, but does not know how easy this would be. [Name] is tired of dreading going to work every day.'*

**Part 2: Covariate balance**

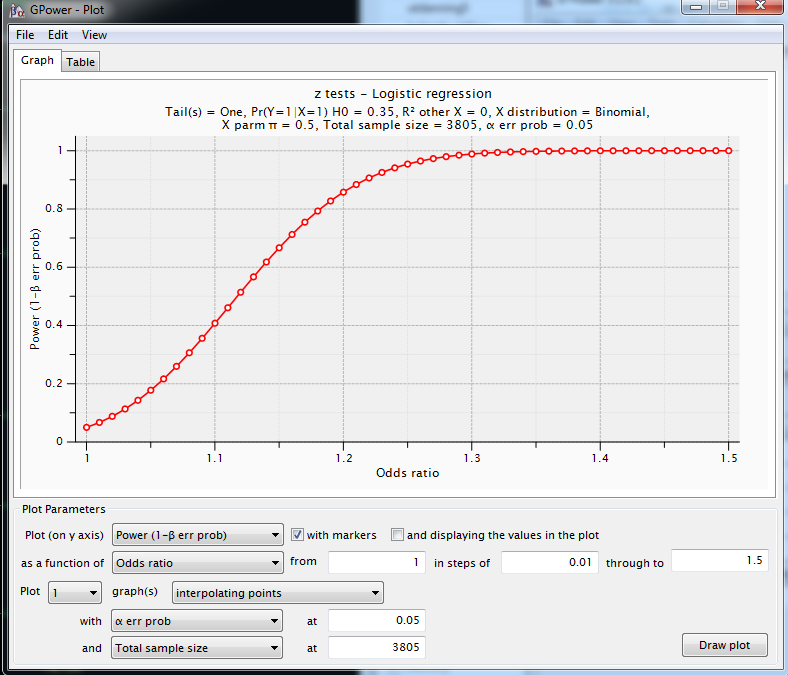
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| Table S1. The distribution of respondent characteristics by vignette person gender. Percent. | | | |
|  |  | Vignette person gender | |
|  |  | Man | Woman |
| Gender | Man | 49.4 | 49.4 |
| Woman | 50.6 | 50.6 |
| Sum | 100 | 100 |
| N | 5094 | 5117 |
| Age | 15-19 | 0.3 | 0.3 |
| 20-24 | 3.9 | 3.9 |
| 25-39 | 26.5 | 26.1 |
| 40-54 | 30.8 | 31.0 |
| 55-66 | 38.2 | 38.3 |
| 67-74 | 0.4 | 0.4 |
| Sum | 100 | 100 |
| N | 5090 | 5113 |
| Level of education | Lower secondary or less | 23.7 | 24.0 |
| Upper secondary | 21.2 | 21.0 |
| Higher education, lower level | 33.4 | 33.3 |
| Higher education, higher level | 21.7 | 21.7 |
| N | 100 | 100 |
| Sum | 5094 | 5117 |
| Job level | Higher managerial | 14.5 | 14.8 |
| Other managerial | 22.5 | 22.8 |
| Non-managerial | 63.0 | 62.5 |
| N | 100 | 100 |
| Sum | 5094 | 5117 |

**Part 3: The statistical power of the estimate of the effect of vignette gender**

Power calculations are not entirely straightforward with the structure of our data and the statistical methods we employ. First, with regard to the data structure, the crucial issue is the clustering of the observations resulting from the fact that each respondent responds to several vignettes. In general, such clustering may lead to increased standard errors and thereby to lower power. In our case, however, the estimated standard error of the vignette gender OR is in fact slightly lower when adjusted for clustering (using the Huber-White ‘sandwich’ estimator) than it is without the adjustment. We conclude from this that it is not necessary to take the clustering into account when computing the statistical power.

A second issue is that we are not aware of a straightforward method for computing power when using ordinal logistic regression. We therefore use the approach developed for binary logistic regression instead. The justification for doing this is that ordinal logistic regression in general makes use of more of the information available in the data and therefore have lower standard errors and better power than binary logistic regression. By taking binary logistic regression as our point of departure, we shall therefore if anything err on the conservative side and underestimate the statistical power of our analyses.

With these points of departure, the statistical of a regression analysis like that reported in Table 2 with regard to the OR for vignette gender is as shown in this chart (computed by means of the G\*Power program):



We assume a one-tailed hypothesis, since we are interested in whether there is a gender bias leading to higher rates of absence among women than among men. Further, we assume a baseline probability of a permissive response of .35, corresponding to the overall proportion choosing a permissive response (‘fairly reasonable’ or ‘completely reasonable’) when dichotomising the response scale. Given these assumptions, the chart shows that the power approaches one for an odds ratio of 1.3 or above. Even with an OR of 1.2 it is of acceptable magnitude, i.e., .83. Since we believe an OR of 1.2 would generally be considered as very small, the statistical power of the analyses seems satisfactory. (Using Cohen’s guidelines for effect size [1] and the conversion of OR to Cohen’s d suggested by Hasselblad & Hedges [2], OR’s of 1.43 or less are to be regarded as ‘small’.)

References

[1] Cohen J. *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale NJ: Erlbaum, 1988.

[2] Hasselblad V and Hedges LV. Meta-analysis of screening and diagnostic tests. *Psychological Bulletin* 1995; 117:167–178.