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**Do adverse psychosocial working conditions
cause the onset of depression?
International scientific evidence**

**Psychosocial job characteristics and
depression and the related outcomes
in Japanese workers**

**Akizumi Tsutsumi
University of Occupational and Environmental
Health**

Background and study objective

- **Prospective evidence on the association between psychosocial job characteristics and depression is very limited, in particular among other than those conducted on western populations.**
- **The paper reviews findings from three recent epidemiologic studies with various Japanese working populations on the effects of psychosocial job characteristics on depression and the related outcomes.**

Overview

- **Prospective study on psychosocial job characteristics and depression**
 - **Japan Work Stress and Health Cohort Study**
- **Prospective study on low job control and suicide**
 - **Jichi Medical School Cohort Study**
- **Occupational class differences in risk of depression: role of Effort-Reward Imbalance**
 - **Cross-sectional study among civil servants**

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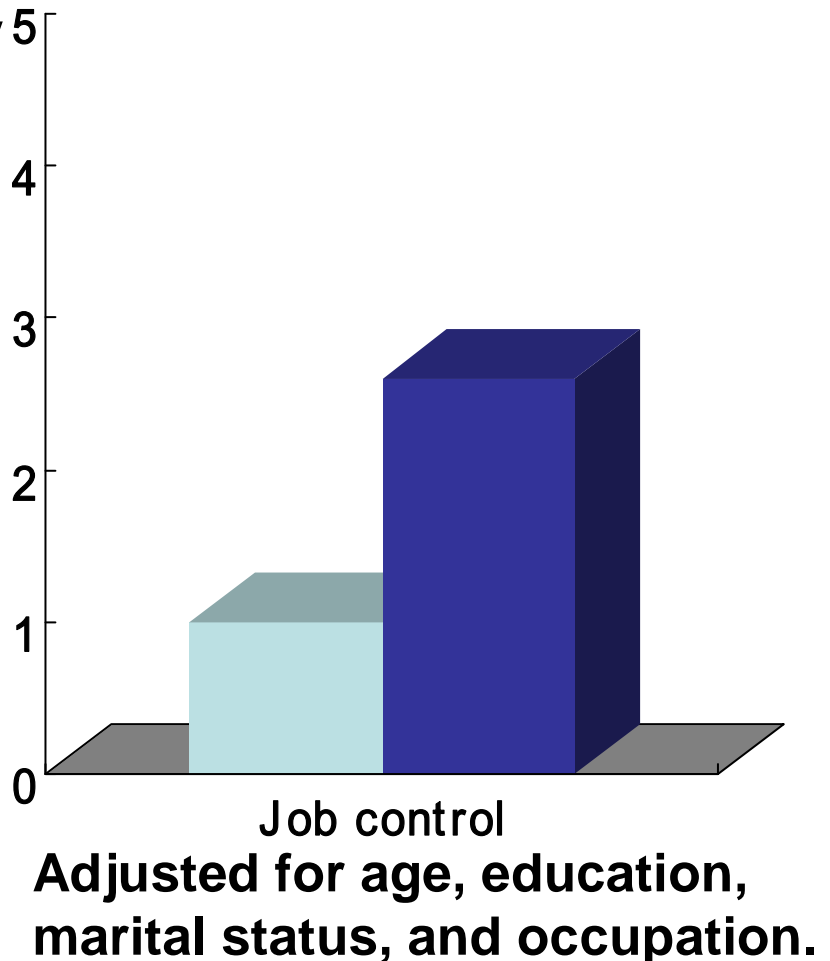
Japan Work Stress and Health Cohort Study

- **A large-scale prospective cohort study**
- **Multiple worksites**
 - **metal, automobile, electric, other manufacturing and electric power industries**
- **A total of 15438 employed men without history of psychiatry diseases were followed from 1997 to 2003.**
- **Depression cases with sickness absence of ≥ 30 days were registered by the occupational physician.**
- **Job characteristics were measured by NIOSH Generic Job Stress Questionnaire.**

Job control and subsequent depression

- **50 cases:**
- **Incidence rate = $0.63 / 10^3$ py**
- **Men with low job control had significantly higher RR for depression (RR 2.6; 95%CI 1.2-5.6).**
- **Role ambiguous and role conflicts were also associated with depression (2.1; 0.9-4.7, and 2.6; 1.2-5.8, respectively).**

OR



Overview

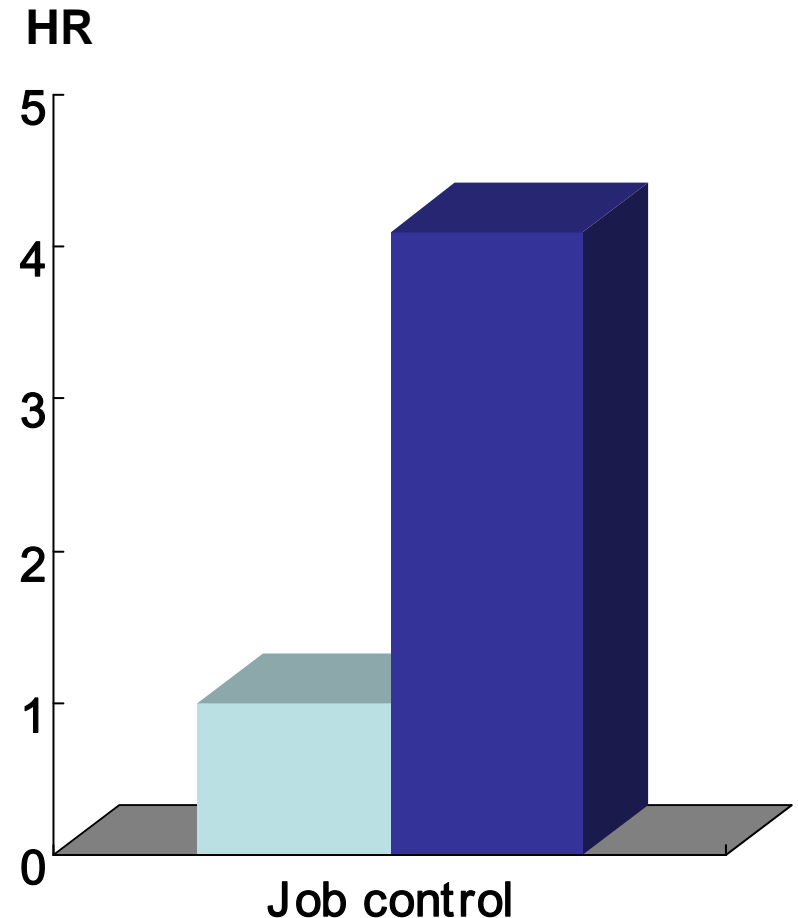
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The Jichi Medical School Cohort study

- **Design:**
 - Prospective cohort
 - 12 rural communities
 - Baseline:1992-1995
- **Participants:**
 - Totally 12490 men and women
- **Analyzed:**
 - 3125 men aged ≤ 65 without history of major illness were followed 9 years
 - More represent for community-dwelling workers
- **Suicide confirmed by death certificate**
- **Job characteristics measured by WHO-MONICA DCQ**

Job control and suicide death

- **14 suicides: a slightly lower suicide death rate (48.1 / 10⁵ py) than the Japanese national rate for men 40-69 y of age in 2000 (54.6 / 10⁵ py)**
- **The incidence rate of suicide among men with low job control (83.6 / 10⁵ py) was substantially high.**



Adjusted for age, occupation, study area, marital status, education, smoking, alcohol, and TC.

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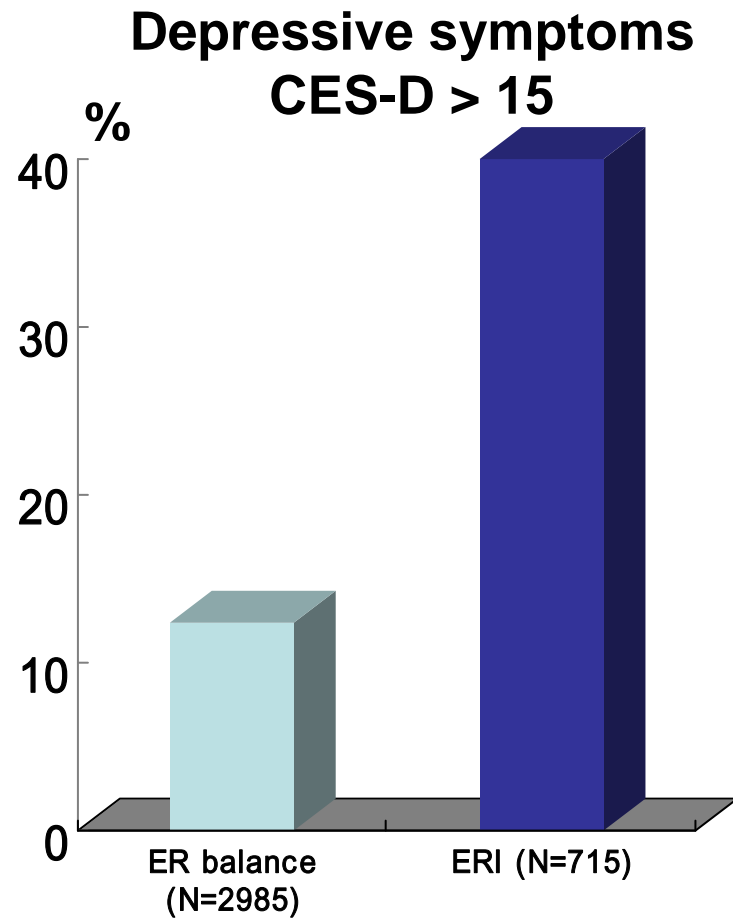
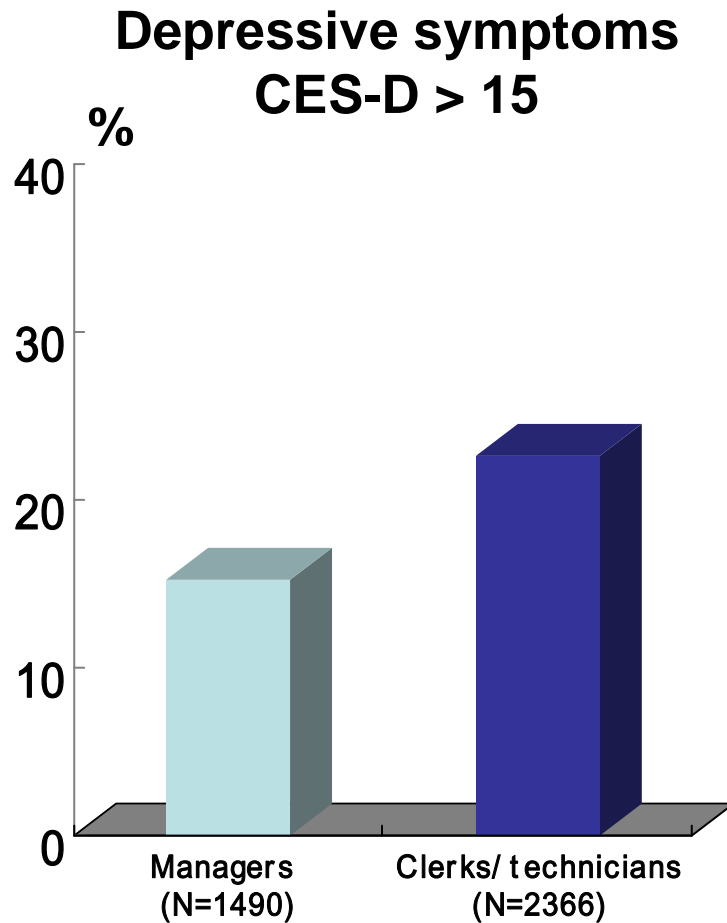
Occupational class differences in risk of depression: role of ERI

- **The impact of ERI on depression may be equal to low job control (Tsutsumi et al 2001).**
- **Health inequality is one of the most important public health issues.**
- **It is hypothesized that the lower social class, the more getting ill, and job stress might explain this phenomena.**

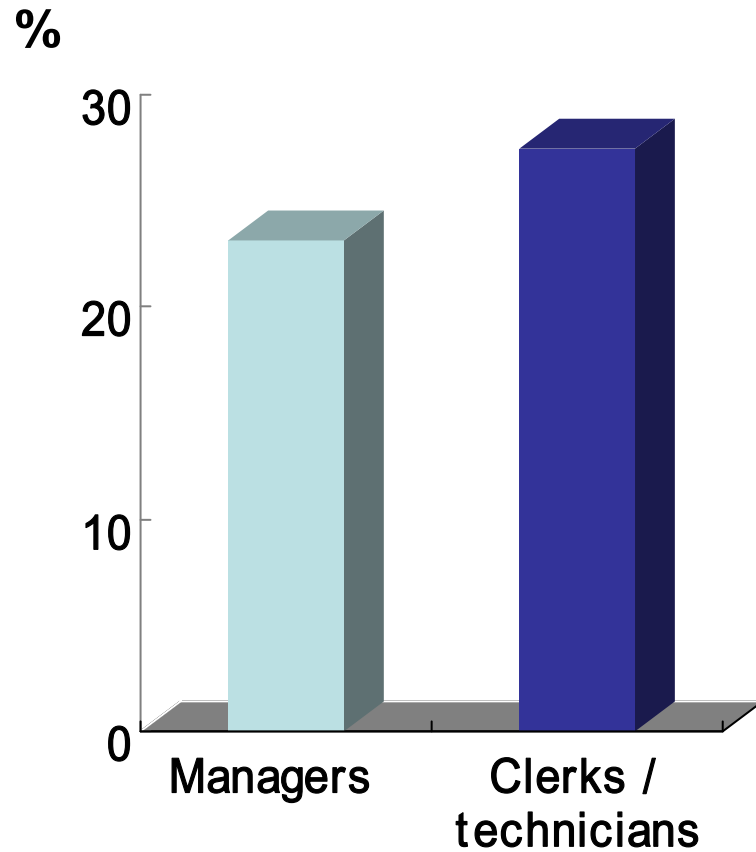
Methods

- **A cross-sectional study was conducted in 3856 Japanese civil servants.**
- **Depressive symptomatology was measured by Center for Epidemiologic Studies Depression Scale.**
- **The work related stress was evaluated by the model of effort-reward imbalance at work.**

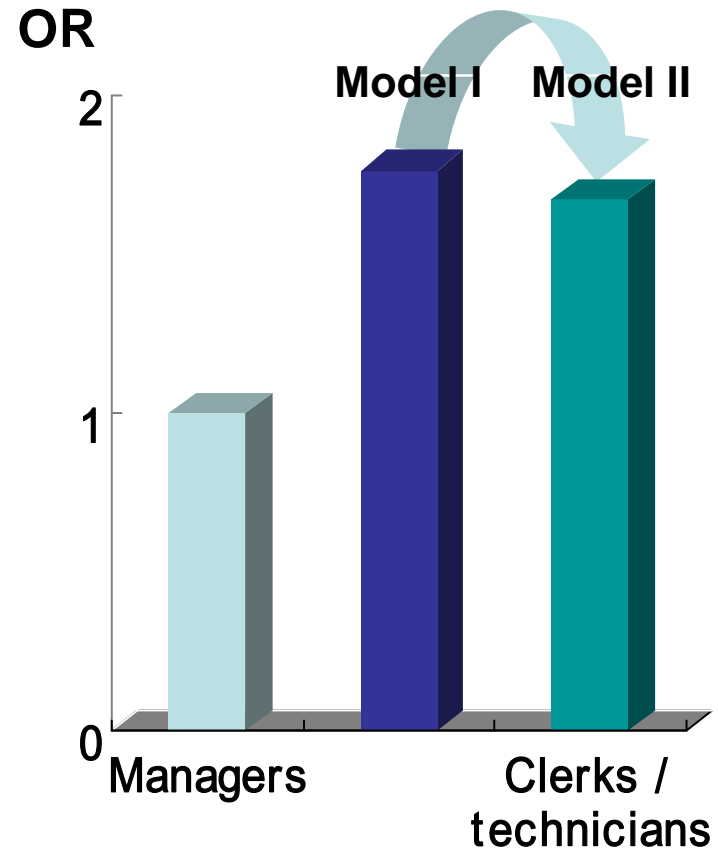
Prevalence of depressive symptoms according to occupational class and ERI, employees of a prefectural government office



Prevalence of effort-reward imbalance by occupational class



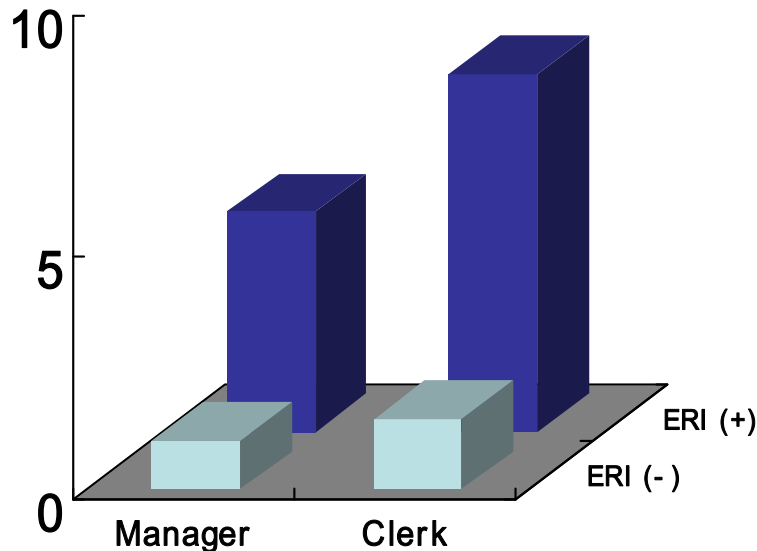
Relative risk of depressive symptoms by occupational class



Model I; adjusted for sex, age, education, working hours and workplace
Model II; adjusted for the above plus ERI

Combined exposure to lower occupational class and ERI in relation to depressive symptoms

Adjusted OR



Reference: manager & ERI(-)

Synergy index

$$S_{AB} = \frac{(OR_{AB} - 1)}{(OR_A + OR_B) - 2} = 1.6$$

1; perfect additivity,
>1; synergistic interaction
(Rothman, 1986)

Proportion of the effect that is attributable to the interaction of the two exposures:

$$AP_{AB} = \frac{OR_{AB} - OR_A - OR_B + 1}{OR_{AB}} = 32\%$$

Discussion

Re: prospective findings,

- **Underestimation of the outcome**
 - **Depression case with sickness absence of ≥ 30 days**
 - **Death certificate of suicide**

Re: civil servant study,

- **Cross-sectional design**
- **Supervisors = survivors?**

Limited data among women

Conclusion

- **Japanese data suggest that psychosocial job characteristics, in particular low job control, predict depression and the related outcomes.**
- **There may be an occupational class differences in risk of depressive symptomatology among Japanese workers. Workers in low occupational positions may suffer an increased susceptibility to ERI.**
- **Further studies are needed both for men and women, using more definite outcome measurement.**

Thank you for your attention.

