

UNWILLING EMPLOYMENT STATUS AND HEALTH AMONG HIGHLY EDUCATED WOMEN

高学歴女性の不本意雇用形態と健康の関係

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Study background

- Generally, non-regular employees have more unhealthy people than regular employees, and they often engage in work with unwillingness. This situation is controversial in studies of female workers in Japan.
- Non-regular employees working as "professionals" have strong anxiety for their future and health based on poor working conditions, and lack of social security, such as holiday system and pension.



Objectives

Questions

- Most female specialists are put under the same conditions as male workers. Their health status and health related factors may be similar to males.
- Non-regular employment status should deteriorate female workers' health, too, as far as they are specialists.

Study purpose

- To clarify the health related factors deteriorating the health of non-regular employment, female workers graduated from university were assessed according to their employment status and occupations.

Subjects

- Study participants were recruited from the alumnae of a national university located in Tokyo to produce a sample with a uniform educational level and relatively common family background.
- Among those declaring the agreement of study participation, 1,515 alumnae answered self-administrated questionnaires about work and health.
- Among those **graduated after 1986** (Equal Employment Opportunity Law was amended), 894 employees **working more than 20 hours per week** were extracted for study analysis.



Methods

1. Participants were divided into two groups; regular employment status, and non-regular employment status.
2. Lifestyles and health indicators were simply compared between two groups.
3. Participants were grouped according to occupations (Figure 1); Clerks, vs. **Specialists/engineers**,
 - Teachers: Teachers other than universities,
Teachers working in universities (UT).
4. Comparison and assessment of health related factors were conducted among each occupational group.

Results

Table 1. Health indicators of participants: Comparison between employment status (Participants who graduated after 1986, and work more than 20 hours per week)

Total participants (n=889 ^a)	Regular employees (n=666)	Non-regular employees (n=223)
Anxiety for health (yes)	274 (41%)	95 (43%)
Skip everyday enough breakfast (yes)	303 (46%)	86 (38%)*
Sleep dissatisfaction (yes)	339 (51%)	87 (38%)**
Not receiving health check (yes)	37 (6%)	70 (31%)**
Lack of knowledge for health check at work place (yes)	66 (10%)	59 (26%)**

^a Five participants did not answer their employment status.

*P<0.05, **P<0.01 by Chi-square test.

Grouping study participants

(N=894) ↵

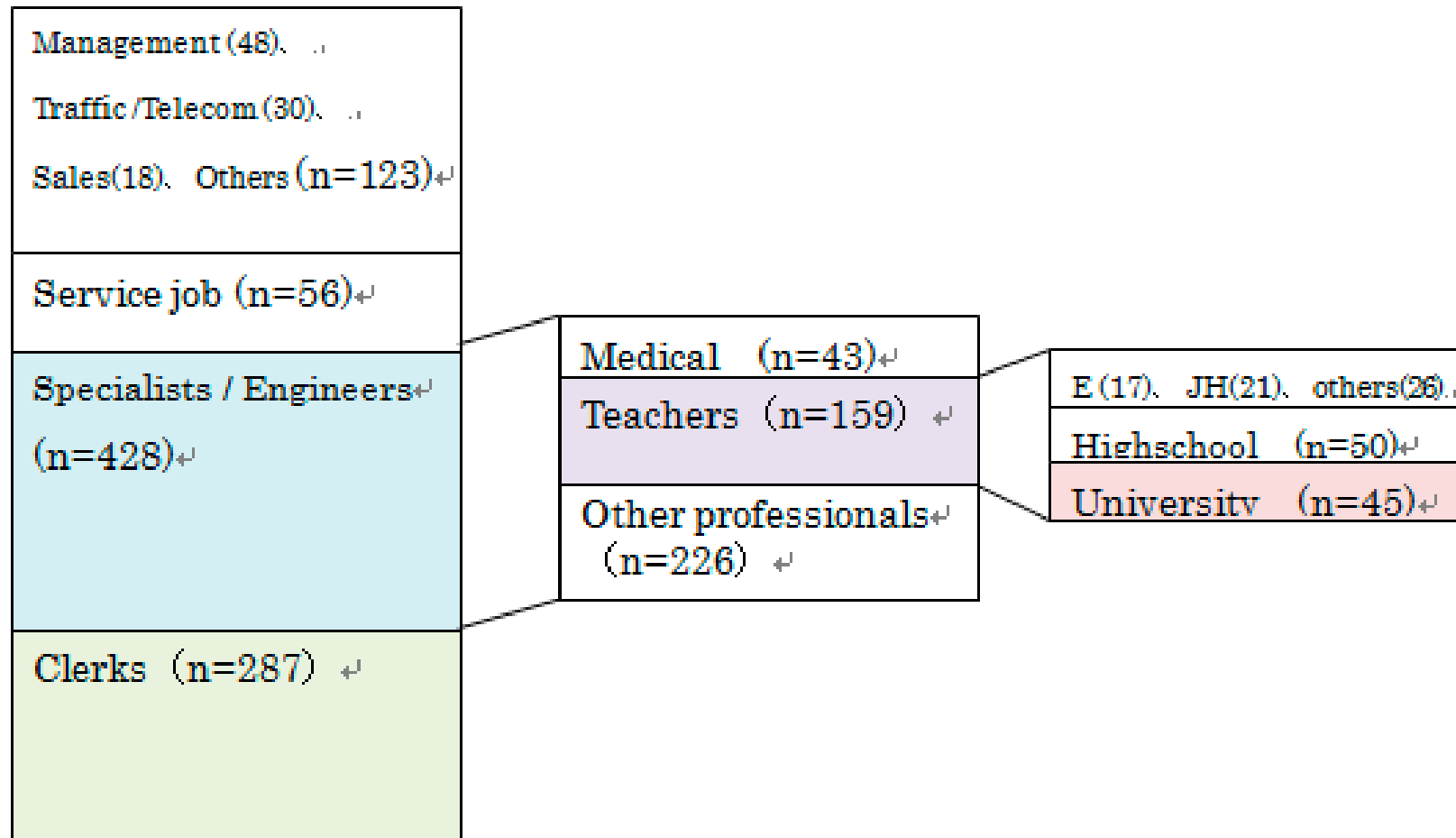


Table 2. Basic characteristics of participants: Comparison between employment status by each occupation (Participants who graduated after 1986, and work more than 20 hours per week)

	Clerks		Specialist / Engineers		Teachers (except UT)		University Teacher(UT)	
	Regular (220)	Non-regular (67)	Regular (314)	Non-regular (113)	Regular (121)	Non-regular (37)	Regular (34)	Non-regular (11)
Age (years)	32 (28-38)	33 (28-39)	33 (29-39)	35 (30-40)*	36 (31-41)	37 (34-41)	40 (36-42)	36 (31-44)
Marriage (yes)	93 (42%)	41 (61%)*	168 (53%)	66 (58%)	72 (59%)	20 (54%)	17 (50%)	6 (55%)
Living with Family (yes)	90 (41%)	41 (61%)*	149 (48%)	59 (52%)	65 (54%)	17 (46%)	17 (52%)	6 (55%)
Subjective economic status (good)	69 (31%)	18 (27%)	152 (48%)	37(32%)**	69 (57%)	12 (32%)*	23 (38%)	5 (45%)

*P<0.05, **P<0.01 by Chi-square test.



Table 3. Job characteristics of participants: Comparison between employment status by each occupation (Participants who graduated after 1986, and work more than 20 hours per week)

	Clerks		Specialist / Engineers		Teachers (except UT)		University Teacher (UT)	
	Regular (220)	Non-regular (67)	Regular (314)	Non-regular (113)	Regular (121)	Non-regular (37)	Regular (34)	Non-regular (11)
Working time (hr/month)	180 (170-200)	120 (100-160)*	190 (170-208)	160 (100-180)**	200 (175-220)	150 (100-180)**	180 (150-200)	160 (120-160)
Working years (years)	8.2 (4.7-14.7)	3.7 (2.7-5.7)*	8.7 (4.7-13.7)	3.7 (2.2-7.6)**	8.7 (5.7-13.7)	4.2 (2.7-8.7)**	7.7 (4.7-10.7)	6.7 (2.7-7.7)
Unwillingness to working (yes)	21 (10%)	19 (29%)*	39 (13%)	42(38%)**	14 (11%)	18(50%)**	3 (9%)	7 (64%)**
Work environment								
Demanding	156(71%)	2 (3%)*	203(64%)	15(13%)**	86 (70%)	4 (11%)**	17 (50%)	0 (0%)**
Dirty	4 (2%)	1 (1%)	8 (3%)	1 (1%)	3 (2%)	0 (0%)	0 (0%)	0 (0%)
Dangerous	7 (3%)	0 (0%)	23 (7%)	5 (4%)	8 (7%)	1 (3%)	0 (0%)	0 (0%)

*P<0.05, **P<0.01 by Chi-square test.



Table 4. Health indicators of participants: Comparison between employment status by each occupation (Participants who graduated after 1986, and work more than 20 hours per week)

	Clerks		Specialist / Engineers		Teachers (except UT)		University Teacher (UT)	
	Regular (220)	Non-regular (67)	Regular (314)	Non-regular (113)	Regular (121)	Non-regular (37)	Regular (34)	Non-regular (11)
Anxiety for health (yes)	87 (40%)	22 (33%)	127 (41%)	53 (49%)	55 (45%)	19 (51%)	12 (35%)	8 (73%)*
Skip everyday enough breakfast (yes)	92 (42%)	26 (39%)	137 (44%)	46 (41%)	43 (36%)	10 (27%)	12 (35%)	5 (45%)
Sleep dissatisfaction (yes)	124(56%)	21(31%)*	152 (48%)	48 (42%)	57 (47%)	14 (38%)	12 (35%)	5 (45%)
Not receiving health check (yes)	13 (6%)	21(31%)*	19 (6%)	31 (27%)**	8 (7%)	10(27%)**	2 (6%)	5 (45%)*
Lack of knowledge for health check at work place (yes)	20 (10%)	11 (16%)	37 (12%)	36 (62%)**	10 (8%)	11 (30%)**	2 (6%)	4 (36%)*

*P<0.05, **P<0.01 by Chi-square test.



Table 5. The risk on anxiety for health of employment status and unwillingness to working (adjusted odds ratio^a and 95% confidence interval)

	Clerks (n=270)	Specialists / Engineers (n=409)	Teachers except UT (n=157)	University teachers (n=45)
Non-regular employment (A)	0.95 (0.46-1.96)	1.50 (0.88-2.53)	1.51(0.60-3.84)	6.69 (1.03-43.5)
Unwillingness to working (B)	1.80 (0.89-3.62)	2.33 (1.37-3.94)	2.15 (0.92-5.00)	3.74 (0.61-23.1)
Interaction (A) & (B)	1.81 (0.63-5.23)	2.33 (1.01-4.49)	2.87 (0.86-9.58)	19.2 (1.21-304.6)

^a Adjusted by age, resident area, marital status, subjective economic status, working conditions.

Limitation of this study

- **Possible random misclassification:** All categories came from subjective, and self-rated status.
- **Lack of statistical power:** Some occupational groups were small sample size.
- **Difficulty of generalizability:** Study participants were recruited from only one university, and alumnae might be confounded by several specific majors and education.



Summary

- Bad effect on health of unwilling working and non-regular working have been known among male employees in Japan, and both genders in developed countries. However, female employees did not show such effect unless their occupation were specified.
- In this study, female employees working as professionals (specialists and engineers, including teachers) showed the relationship between deteriorated health status and unwillingness to working and non-regular employment.
- Female teachers in universities showed similar relationship. Non-regular employment was observed as the single factor to deteriorate health status.

Conclusion

Non-regular employment was shown to be the factor of health deterioration among female worker engaging as a teacher in universities.

Including university teachers, female professionals may deteriorate their health by unwillingness to work as non-regular employees.

→ Types of job and employment status would be very important for females to work healthy, in particular, for female professionals.

