FEMALE WORKER PROBLEMS : SKILL MISMATCH VERSUS WORKING HOURS MISMATCH

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Abstract

Female workers have a double burden, between work in the office and at home. Skill mismatch and working hours mismatch exacerbate the problems faced by female workers. This study aims to analyze the relationship between skill mismatch and working hours mismatch with the job satisfaction of female workers. This study used secondary data from Happiness Level Measurement Survey (SPTK) 2017. Indonesia Statistics office organized SPTK2017 at all Indonesian provinces with 72.317 respondents. Respondents in SPTK2017 are the head of the household or his/her couple. The unit of analysis in this study was female workers with a total of 21,805 observations.The analytical method used is descriptive analysis and multiple linear regression. The descriptive findings show that as many as 22.1 percent of female workers with skills mismatch and 27.85 percent of female workers working hours mismatch are not satisfied with the work they are doing. The regression findings show that skill mismatch and working hours mismatch is negatively related to women's job satisfaction. Working hours mismatch has the strongest relationship to women's job satisfaction among other variables in the model.

Abstrak

Pekerja perempuan memiliki beban ganda, antara bekerja di kantor dan mengurus keluarga di rumah. Ketidaksesuaian keterampilan (*skill mismatch*) dan ketidaksesuaian jam kerja dengan upah yang diperoleh (*workinghours mismatch*) memperburuk masalah yang dihadapi pekerja perempuan. Penelitian ini bertujuan untuk menganalisis hubungan antara *skill mismatch* dan *workinghours mismatch* dengan kepuasan kerja pekerja wanita. Penelitian ini menggunakan data sekunder dari Survei Pengukuran Tingkat Kebahagiaan (SPTK) 2017. Badan Pusat Statistik menyelenggarakan SPTK 2017 di seluruh provinsi di Indonesia dengan 72.317 responden. Responden dalam SPTK 2017 adalah kepala rumah tangga atau pasangannya. Unit analisis dalam penelitian ini adalah pekerja peempuan dengan jumlah observasi sebanyak 21.805. Metode analisis yang digunakan adalah analisis deskriptif dan regresi linier berganda. Temuan deskriptif menunjukkan bahwa sebanyak 22,1 persen pekerja perempuan *skill mismatch* dan 27,85 persen pekerja perempuan *workinghours mismatch* tidak puas dengan pekerjaan yang mereka lakukan. Temuan regresi menunjukkan bahwa *skill mismatch* dan *workinghours mismatch* berhubungan negatif dengan kepuasan kerja perempuan. Ketidaksesuaian jam kerja memiliki hubungan yang paling kuat dengan kepuasan kerja perempuan di antara variabel-variabel lain dalam model.

INTRODUCTION

Women workers have a dual-task that triggers women to put work aside for the good of the family [1]. Values and culture in Asian countries show the role of specialization in household tasks [2]. Confucian teachings emphasize the division of tasks for men in matters of being breadwinners, while women in matters of being homemakers [3]. Traditional Indonesian values in some areas view women as being in charge of the kitchen, bed, and bearing [4].

Female workers tend to have shorter working hours than male workers. Sakernas 2019 data shows that out of 100 female workers, 35 of them work under 35 hours. Female workers tend to be 2.45 times more likely to be part-time workers than male workers, before controlling for other variables [5]. Women's working hours are negatively related to job satisfaction, especially for female workers with the characteristics of being married and having children [6]. Task specialization and the double burden on women workers trigger women to tend to participate in jobs with low working hours.

The female open unemployment rate according to education is the highest in the secondary school education group, which is 8.15% [5]. The high TPT in secondary schools is made possible by the mismatch between what is taught by the school and what is required by the employer. Mismatches in the job market drag individuals into two choices, namely working in jobs that are not their area of expertise or continuing their job search [7]. Skill mismatch in the food and beverage industry sector, which is generally filled by female workers, in 2015 was recorded at 80 percent at the general high school level and above 60 percent at the vocational school level [7]. Mismatch in work affects workers in terms of wages, productivity, and job satisfaction [8].

Several studies in western countries show that women's job satisfaction is higher than men's [1]. This seems paradoxical when compared to the job characteristics of women who are generally more vulnerable than men [9]. This study aims to analyze the relationship between skill mismatch and working hours mismatch in female workers on job satisfaction. This study uses cross-sectional data so that it cannot capture cause-and-effect relationships.

LITERATURE REVIEW

Individuals on the job supply-side make decisions to be involved or not in the labor market and decisions to determine how much time is devoted to the labor market [10]. According to [10], an individual's decision to work is closely related to the reservation wage and non-labor income they have. Individuals will decide to work if the wage offered exceeds or equals the reservation wage they have. High non-labor income encourages individuals to delay entering the labor market.

Individuals will maximize their satisfaction when deciding the allocation of working hours to be taken [10]. Two mechanisms explain the effect of wages on hours worked [10]. The first is the income effect, namely when leisure is considered a normal good, an increase in income will increase leisure time. The income effect will give satisfaction to workers when workers reduce their working hours. The second is the substitution effect, which is a condition when there is an increase in the price of the service itself which results in reduced leisure time. The substitution effect gives satisfaction to workers when workers increase their working hours.

The dynamic labor supply model explains that individuals will maximize lifelong satisfaction [11,12]. This model places individual satisfaction as a function of consumption and recreation throughout his life, which dynamically follows the development of the individual's age. There are three channels that create a dynamic balance of the labor market, namely the efficiency effect, the interest rate effect, and the time preference effect [11,12]. The efficiency effect is the relationship between the wage level and the supply of labor. More individuals will work when the change in

the wage rate is positive. The interest rate effect is the interest rate that stimulates individuals to work in order to get a high return on savings. The time preference effect is an individual's time preference to enter the job market.

Job satisfaction can be captured through five indicators, namely working hours, work contracts, financial bonuses, working conditions, and individual worker orientation [13]. In [6], job satisfaction on female workers was measured by six indicators, namely overall job satisfaction, satisfaction with wages, job security, type of work, working hours, and work flexibility. General work goals come from the intrinsic factors inherent in the job and the worker itself [14]. Job satisfaction has a strong relationship with family satisfaction. Workers who are satisfied with their work are satisfied with family harmony [1].

Demands in work and family tend to drag women into conflict flows [15]. Time constraints are a source of problems that make it difficult for women to compromise their family and work [16]. Women tend to switch from full-time jobs to part-time jobs to accommodate family needs [17], and for women, work-family balance is prioritized over career achievement [18]. Job satisfaction in women tends to decrease when time and workload increase [16,19].

Mismatch in work has negative implications for worker satisfaction [20,21]. Low job satisfaction is caused by the penalty wage received and low work productivity [8]. In [6], overeducation is negatively related to job satisfaction in general. Female workers with overeducation and having dependent children tend to have higher job satisfaction in terms of work flexibility than other categories.

Several socio-demographic variables also relate to the satisfaction of female workers. Age and education are negatively related to female worker satisfaction [6]. Job satisfaction is a function of expectations, female workers with high education have high expectations. Health, marital status, wages, presence of children, and job security are positively related to female worker satisfaction [6,16].

This study hypothesizes that skill mismatch and working hours mismatch is negatively related to job satisfaction among female workers. Skill mismatch is negatively related to job satisfaction through income channels. Skill mismatch can lead to low productivity which leads to a wage penalty [7,22,23]. Low income can lead to low job satisfaction. Working hours mismatch is negatively related to job satisfaction through income and family channels. Overworked working hours make it difficult for female workers to compromise between time for work and time for family [6] .

METHOD

SPTK2017 is the source of data in this study. The 2017 SPTK is a survey that combines the subjective assessment of respondents and the objective observations and assessments of the enumerator. The unit of analysis in this study is female workers. Respondents who were successfully enumerated in the 2017 SPTK were 72,317 respondents. Of the 72,317 respondents, 53,548 work, and 21,805 of them are female workers.

The measurement of skill mismatch and working hours mismatch is based on the respondent's self-assessment. The measurement of skill mismatch refers to the SPTK question, "Is the job/business following the field of expertise/skills?". Skill mismatch is categorized into two categories (1, mismatch; 0, match). We interpret this question as a skill mismatch referring to the idea that skill mismatch is a condition where the skills possessed are not in line with the job [24]. Skill mismatch female workers are defined as female workers who consider their skills to be incompatible with the work they are doing.

The measurement of working hours mismatch refers to the question, "Is the income from your work/business following your hard work, both in terms of time and energy used?". Working hours mismatch is categorized into two categories (1, mismatch; 0, match). We interpret this

question as a discrepancy in working hours in line with the notion that a discrepancy in working hours is the gap between actual working hours and desired hours worked or with wages earned [25]. Female workers working hours mismatch are defined as female workers who consider the allocation of time and energy devoted to work not following the wages they get.

Skill mismatch and working hours mismatch will be controlled by variables such as length of the school, age, place of residence, type of worker, job security, marital status, presence of children under five, health, wages, and training. Wages on SPTK are closed questions consisting of five categories and in this study simplified into two categories (1. > Rp. 1,500,000,-; 0. Rp. 1,500,000, -).

Regressand in this study is job satisfaction. The measure of job satisfaction in the SPTK is a measure of job satisfaction in general on an interval scale of 0-10, where the greater the score, the higher the job satisfaction.

The descriptive analysis in this study presents graphs and unadjusted odds ratios. An unadjusted odds ratio is used to calculate the tendency of variables to be exposed to certain conditions before being controlled by other variables. Inferential analysis using multiple linear regression. The use of multiple linear regression is possible because the regressand is a numeric variable, even though it is on an interval scale. The Ordinary Least Square (OLS) and logit methods with a regresand in the form of an interval scale produce estimators that are not too different and even tend to be identical [16].

RESULT AND DISCUSSION

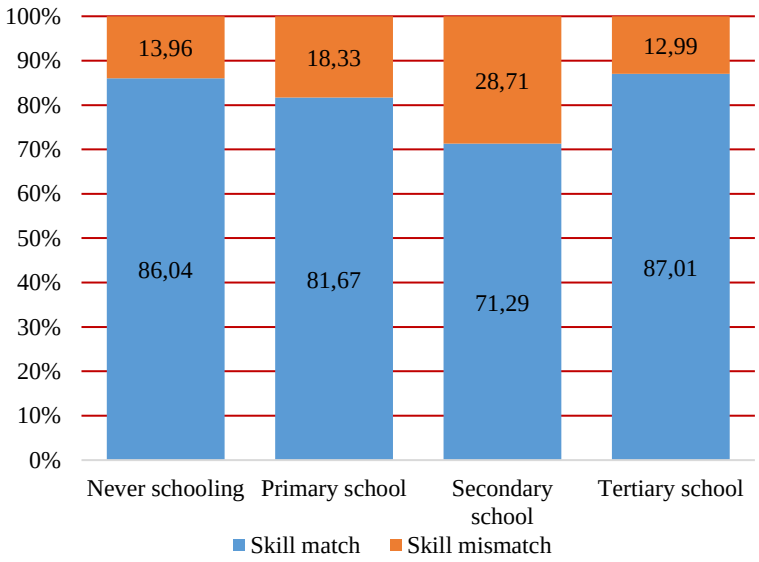
1. Descriptive Findings

Figure 1 describes the profile of mismatched female workers in the education and business field. Descriptive findings show that as many as 21.14 percent of female workers are skilled mismatch workers. Female workers with a high school education background tend to be 1.794 times more likely to experience a skill mismatch than female workers with an elementary school education background, before being controlled by other variables. This finding is in line with the phenomenon of the high unemployment rate at the secondary school education level. One of the triggers for high middle-level unemployment is the absence of a link and match between high school output and the needs of the labor market [7]. This causes women who decide to work to experience a skill mismatch.

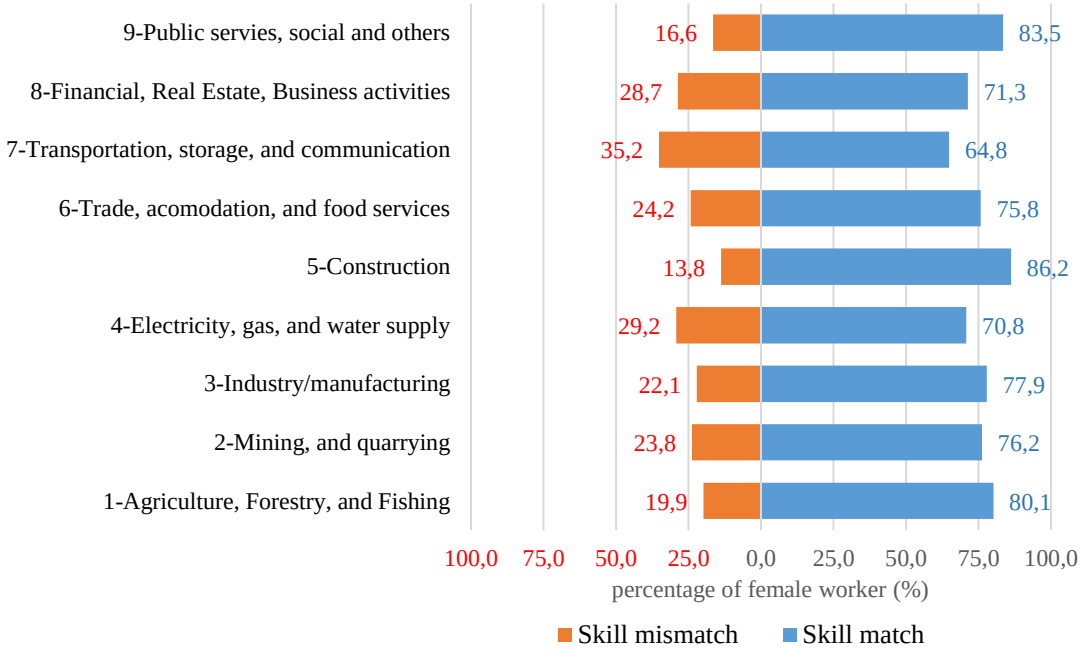
Female workers with a college education background have the lowest tendency to experience a skill mismatch. The tendency for female workers who graduated from college to experience a skill mismatch was 0.665 times lower than female workers who graduated from elementary school, before being controlled by other variables. This is because individuals with university backgrounds have high reservation wages and tend to choose jobs that are following the education taken [22].

The most mismatched skilled female workers are in the transportation, warehousing, and communication sectors. The second-largest sector filled by female workers with mismatched skills is the electricity, gas, and drinking water sector. An interesting finding is that as many as 86 out of 100 female workers in the construction sector rate the work they do according to their skills. The nature of construction work that relies on physical strength and strength does not match the innate skills of women, but [23] explains that new skills can be acquired and honed through work experience.

The profile of female worker's working hours mismatch by education and business field is shown in figure 2. The percentage of female workers working hours mismatch which is greater than skill mismatch gives an early indication that time occupies a valuable position for women. Female workers who have never attended school tend to be 2.982 times more likely to feel a working hours mismatch than female workers who have attended college, before controlling for other variables. This finding



(a) skill mismatch by education

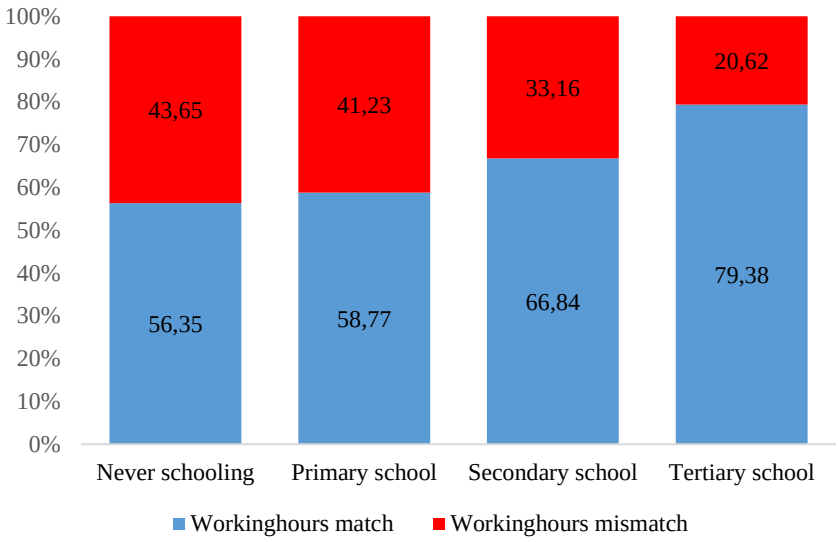


(b) skill mismatch by business field

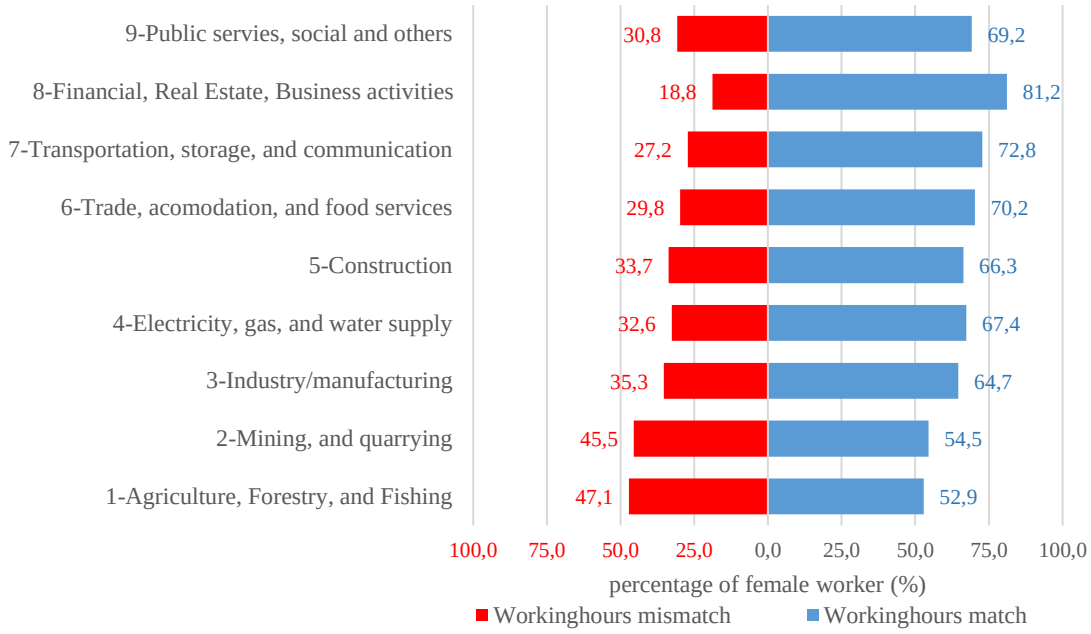
Figure 1. Profile of skills mismatch female workers by education (a) and business field (b)

can be related to the condition of female workers who do not go to school as many as 88 percent are informal workers who generally have high working hours but low wages. As many as 79 percent of female workers with tertiary education feel that there is a match between working hours and wages earned. This finding can be connected with the condition of female workers with higher education as many as 84 percent are formal workers who generally work according to standard working hours and comparable wages.

Figure 3 shows the profile of female workers by the level of job satisfaction. As many as 52 out of 100 female workers are quite satisfied with the work they do. 13 percent of female workers are dissatisfied



(a) Workinghours mismatch by education



(b) Workinghours mismatch by business field

Figure 2. Profile of workinghours mismatch female workers by education and business field

with their work. The proportion of female workers who are dissatisfied with their work is mostly found in those who experience a mismatch in their work, both skill mismatch and working hours mismatch.

Skill mismatch female workers tend to be 2.135 times more dissatisfied with their work than female skill match workers, before being controlled by other variables. As many as 57 out of 100 female workers with skills mismatch are quite satisfied with the work they are doing. The probability of female workers with skill mismatch being very satisfied with their work is 0.440 times lower than female workers with skill match, before being controlled by other variables.

Female workers working hours mismatch tend to be 5.859 times more dissatisfied with their work than female workers working hours match, before being controlled by other variables. As many as

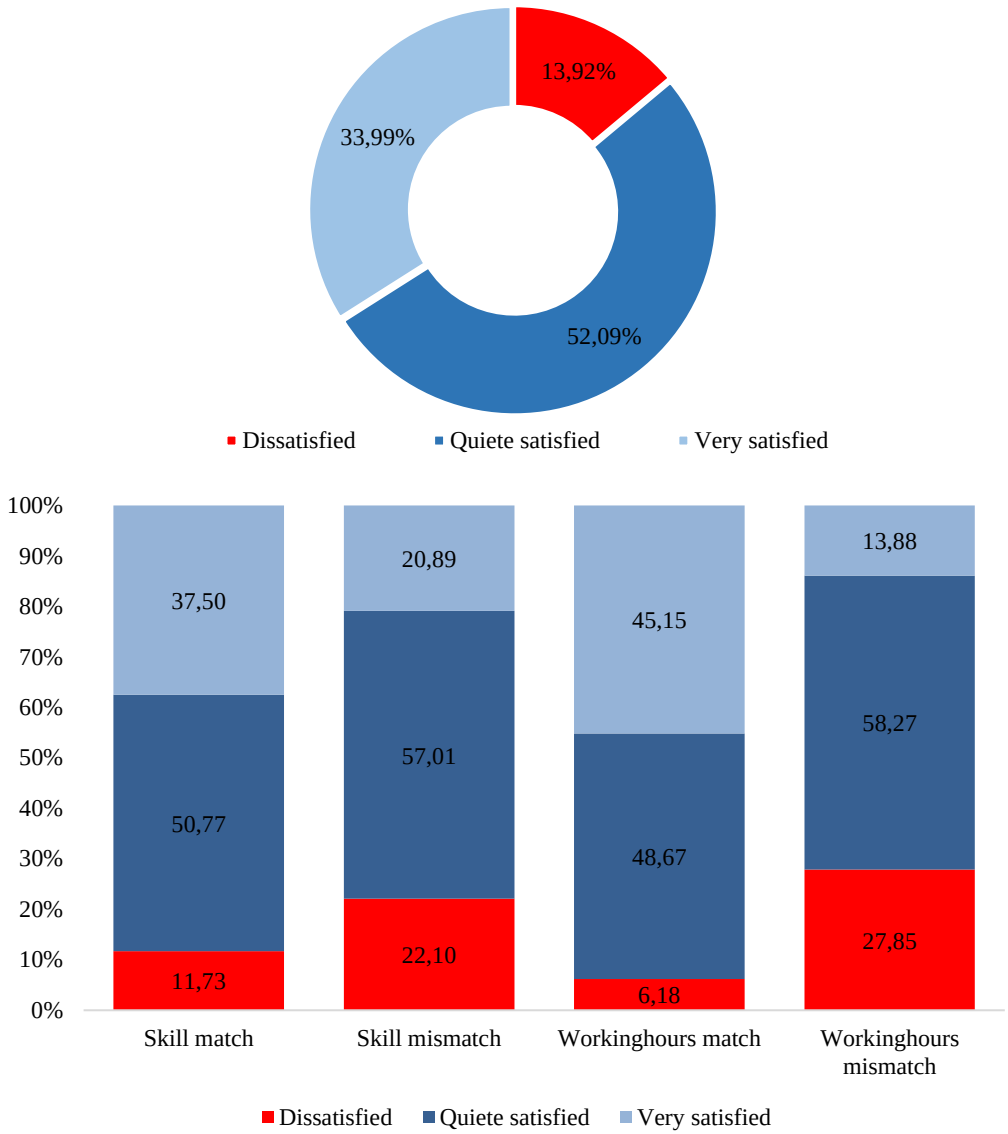


Figure 3. Profile of female workers by job satisfaction

58 out of 100 female workers working hours mismatch are quite satisfied with the work they are doing. The probability of female workers with working hours mismatch being very satisfied with their work is 0.196 times lower than female workers who work hours match, before being controlled by other variables.

2. Inferensial Findings

The results of the OLS estimation are presented in table 1. All major and control variables are significantly related to job satisfaction. The skill mismatch interaction variable with training was significantly related to job satisfaction, while the working hours mismatch interaction variable with the presence of toddlers was not significant. The model can explain the variability of job satisfaction of female workers by 23.24 percent. Skill mismatch is negatively related to the job satisfaction of female workers.

Skill mismatch female workers tend to have a lower level of satisfaction of 0.389 units compared to skill match female workers. This finding confirms [21] who explained that skill mismatch causes workers to become bored and has implications for decreased productivity and job satisfaction of workers. The low job satisfaction of skill mismatch workers is due to skill mismatch workers tend to get lower wages than workers with skill match [8,20].

Table 1. OLS estimation results on job satisfaction of female workers

	Job satisfaction		
	Coef (B)	Sig.	wald
(1)	(2)	(3)	(4)
Main variable			
Skill mismatch	-0.389	***	122.54
Working hour mismatch	-1.199	***	1437.17
Control variable			
Age	0.009	***	45.70
Marital	0.139	***	25.91
Urban	0.089	***	12.89
Health	0.215	***	36.84
Wage	0.602	***	495.51
Formal	0.142	***	23.14
Training	0.154	***	23.04
Years Schooling	0.017	***	26.11
Child	0.316	***	25.00
Secure	0.446	***	256.96
skill_mismatch*training	-0.209	***	9.06
wrkhour_mismatch*child	-0.006	-	0.01

*Catatan: ***(p<0.001); **(p<0.05);*(p<0.10); - (tidak signifikan)*

Working hour mismatch is negatively related to the job satisfaction of female workers. Female workers working hour mismatch have a lower satisfaction level of 1.199 units compared to female workers with working hours match. Working hours mismatch is the most significant variable related to job satisfaction in the model. This finding can be connected with the background of female workers who have a double burden and carry a large opportunity cost to enter the labor market [24]. Women workers will feel satisfied in their work when the time and hard work that has been sacrificed is paid for with commensurate wages.

Women workers with working hours mismatch are vulnerable to exit the labor market. In [24] research shows that female workers in DKI Jakarta choose to stop working when the burden of transportation is large and the sacrifice of leaving their families is not commensurate with the wages they get.

The negative relationship between skill mismatch and job satisfaction can be minimized by the presence of training. The interaction between skill mismatch and training can reduce the negative relationship between skill mismatch and job satisfaction. Training is a post-formal education human capital investment mechanism that can provide general skills or specific skills to workers [10]. The model shows that training is positively related to job satisfaction. Female workers who have attended training tend to have a higher satisfaction level of 0.154 units than those who have never attended the training.

The interaction between working hours mismatch variables and children is not significantly related to worker satisfaction. The presence of children under five is positively related to the satisfaction of female workers. Female workers who have children under five tend to have higher job satisfaction by 0.316 units compared to female workers without toddlers. This finding is in line with research by [6] which shows that the presence of toddlers can minimize the negative effects of overeducation on job satisfaction. Research in China shows something different from the findings of this study, the presence of children in China is not significantly related to the job satisfaction of female workers [16].

The control variables of wages and job continuity are the variables that are the most strongly related to job satisfaction of female workers among other control variables. Wages are positively related to job satisfaction. The increase in wages tends to be accompanied by an increase in job satisfaction of female workers by 0.602 units. This finding is different from the results in China in that wages are not significantly related to women's job satisfaction [16]. The positive and significant relationship between wages and job satisfaction for women gives a signal that traditional values that place women as the main caregivers of the family and only as a complement to family income are slightly fading.

The certainty of sustainability in work is positively related to women's job satisfaction. Female workers who assess their work as having the certainty of sustainability tend to have a higher level of job satisfaction of 0.446 units. This finding confirms [16] which shows that female workers in the trade sector in China who have job continuity assurance are positively related to job satisfaction. Workers feel there is a strong bond and commitment to their work when there is a certainty of work continuity, thus stimulating workers to be productive and feel satisfied with the work they are doing [16].

CONCLUSION

Job satisfaction for female workers is negatively related to job mismatch, both skill mismatch, and working hours mismatch. Working hours mismatch has a stronger relationship than skill mismatch on women's job satisfaction. Women need sufficient time allocation to compromise work and household obligations.

The working hours' mismatch needs to be a concern for employers because a case study in Jakarta shows that female workers tend to quit when there is a mismatch between working hours or hard work and wages received. Employers can minimize working hours mismatch by providing appropriate compensation mechanisms in the form of adequate maternity and maternity leave, childcare subsidies, and financial bonuses when work targets are exceeded.

Characteristics of female workers with mismatched skills are mostly secondary school education backgrounds and participate in the transportation, warehousing, and communication sectors. The negative effect of skill mismatch on job satisfaction can be minimized by providing training that is following the needs of the employer. The company's human capital investment through providing training to female workers can increase job satisfaction which ultimately leads to increased productivity and company profits.

This study has limitations including the measurement of mismatch through the self-assessment method which is prone to bias due to the subjectivity of the respondents. Female workers tend to prioritize the subjective condition of family resources that have been sacrificed to enter the labor market compared to objective conditions in the workplace related to the rules of working time and wages so that it can trigger assessment bias. The data used in this study are cross-sectional data which is not strong in capturing causality relationships. Future research can use longitudinal data so that it can capture causality relationships and use more objective mismatch measurements such as job analysis.

APPENDICES

Table A1. Variabel operational definition

Variable	Operational definition
Job satisfaction	job satisfaction in general quantified in the range 1 - 10
Skill mismatch	mismatch between the job and the skills/skills possessed by the worker (1 : mismatch); (0:match)
Working hours mismatch	mismatch between duration of work and wages received by workers (1 : mismatch); (0:match)
Age	age based on last birthday (kontinum data)
Marital	marriage status (1: marriage, 0:others)
Urban	living area (1:urban, 0:rural)
Health	health complaints that have disrupted daily activities in the past year (1:health, 0:sick)
Wage	average wages received in a month (1: >Rp.1.500.000 ; 0: <= Rp.1.500.000)
Formal	job status female worker (1: formal ; 0 : informal)
Training	participation in training whether certified or not (1 : ever ; 0:never)
Years schooling	average years of schooling
Child	presence of toddlers in the household (1 : yes ; 0 :no)
Secure	job continuity assurance (1 : yes ; 0 :no)

Table A2. Descriptive statistics

Variable	Average job satisfaction	Observation (weighted)	Persentase
Skill match	6.78	15 325 435	78.86
Skill mismatch	5.98	4 107 704	21.14
Working hours match	7.18	12 495 806	64.30
Working hours mismatch	5.58	6 937 333	35.70
Informal worker	6.42	13 117 410	67.50
Formal worker	6.99	6 315 729	32.50
Job security	6.94	13 511 756	69.53
No job security	5.84	5 921 383	30.47
Wages <= Rp. 1.500.000,-	6.20	12 360 894	63.61
Wages > Rp. 1.500.000,-	7.27	7 072 245	36.39
Rural	6.41	9 105 875	46.86
Urban	6.78	10 327 264	53.14
Ever followed tarining	6.46	14 134 219	72.73
Never followed training	6.99	5 298 920	27.27
Sick	6.14	2 476 208	12.74
Health	6.68	16 956 931	87.26
Having toddler	6.61	13 863 963	71.34
Not having toddler	6.59	5 569 176	28.66
Single/divorce	6.48	5 119 370	26.34
Marriage	6.66	14 313 769	73.66
Never schooling	6.26	1 218 716	6.27
Primary school	6.39	8 537 385	43.93
Secondary school	6.61	7 095 897	36.51
College	7.51	2 581 141	13.28
<= 40 years old	6.64	10 051 957	51.73
> 40 years old	6.58	9 381 182	48.27

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