Factors affecting workers’ mental health based on gender differences
-From the perspective of workplace satisfaction, marital coping, and WLB-

Norimasa Itakura 1)  Haruka Maruyama 2)

1) Gifu University Faculty of education
2) General Association Sustainable Support

ABSTRACT. Correlations among workplace satisfaction, marital coping, and Work-Life Balance (WLB) were examined based on gender to identify factors affecting workers’ mental health. The results indicated that “job content” in workplace satisfaction and “delegated dyadic coping by the self” as well as “negative dyadic coping by the partner” in marital coping directly affected the mental health of male workers. On the other hand, job content and “delegated dyadic coping of the partner” as well as “negative dyadic coping by the partner” directly affected the mental health of female workers. Moreover, it was suggested that in both men and women, job content and negative dyadic coping by the partner might affect workers’ mental health, mediated by “commitment to work,” which is one WLB factors.

KEY WORDS: workplace satisfaction, marital coping, work-life balance, mental health levels

Introduction

The current economic situation is severe, and problems related to workers’ mental health have been attracting attention. Based on the Charter for Work-Life Balance and the Action Guidelines for Promoting Work-Life Balance, the Cabinet Office (2015) has been conducting measures to achieve work-life balance (WLB). It has been indicated that the deterioration of WLB could increase depression, anxiety disorders, and psychological stress responses (Shimizu, 2014). Therefore, it is considered necessary to maintain an appropriate WLB to sustain the mental health of workers.

Various factors have been identified as affecting workers’ mental health. These include working time, human relationships in workplaces, support of the boss and colleagues, the workload, discretion, and pay, among others (Fujino, Horie, & Hoshuyama et al., 2006). Moreover, Faragher, Cass, and Cooper (2005) conducted a meta-analysis and indicated that the satisfaction with work was strongly related to mental and psychological issues. Job satisfaction is an important factor that affects workers’ mental health. When job satisfaction is high, mental health improves. On the other hand, when job satisfaction is low, workers’ mental health deteriorates.

Factors related to the home in addition to work-related factors should be considered when discussing workers’ mental health and WLB. Marital relationships are known to highly influence the mental health of married people, (Ito, Sagara, & Ikeda, 2004). Kawashima,
Itakura, Yoshitake, and Matsumoto (2014) examined correlations between marital coping and depression and indicated that when the frequency of affirmative marital coping increases, depressive tendencies decrease, and when the frequency of negative marital coping increases, depressive tendencies also increase. It has also been suggested that affirmative marital coping might decrease correlations between stress and anger as well as aggressiveness (Bodenmann, Meuwly, & Bradbury et al., 2010). These results suggest that dyadic coping between a husband and a wife might be one of the factors affecting workers’ mental health.

Okubo, Matsuzaka and Takahashi et al (2011) surveyed workers’ depression. The results indicated that workplace factors such as job and workplace satisfaction, workload, and work discretion affected depression in men under 39 years of age, whereas workplace factors did not affect the depression in women working in the same workplace, but the health levels and family/friend satisfaction levels affected depression in women. It is considered that the effects of workplace factors on mental health are stronger in men, compared to women. On the other hand, wives have more home-to-work conflicts, compared to husbands. When husbands perform a larger proportion of housework and childcare, the home-to-work conflicts of wives decrease (Matsuda, 2006). Shimada, Shimazu, and Kawakami (2012) examined correlations between WLB and mental health in double-income married couples having pre-school children. The results indicated that negative spillover from work to home was positively correlated one year later with psychological stress responses in men. On the other hand, psychological stress responses in women one year later had a positive correlation with qualitative load at home, whereas it had a negative correlation with discretion at home. Also, Ito et al. (2004) suggested that satisfaction with marital relationships might have stronger effects on women’s subjective well-being than workplace satisfaction. Moreover, Kato and Kanei (2006) focused on coping behaviors with Work-Family Conflict (WFC) and indicated that flexible role assignment between a husband and wife had positive effects on mental health and marital satisfaction in women. It is suggested that marital coping increases commitment to the home, which leads to an improvement in mental health levels.

However, only a few studies to date have comprehensively examined the correlations among workers’ mental health, WLB, workplace factors, and home factors. Moreover, the effects of workplace factors and home factors on the achievement of WLB have not been clarified (Kato, 2009). Kanei (2002) suggested that men tend to place a heavier emphasis on work, whereas women do so on the family. In men, job satisfaction increases commitment to work, such as “always thinking about work even on holidays,” and an increase in commitment to work predicts a deterioration of mental health. On the other hand, home factors such as role assignment between the husband and wife might have stronger effects
on the mental health of women. In the case of women, marital coping increases the commitment to home, such as “valuing time with family on holidays,” and the increase in commitment too home improves their mental health.

Based on the above considerations, this study considered workplace satisfaction as a workplace factor and marital coping as a home factor and investigated correlations among WLB, workplace satisfaction, marital coping and mental health based on gender, to identify factors that affect workers’ mental health. Figure 1 shows a model of the hypothesis of this study.

Hypothesis 1: Workplace satisfaction would have a positive effect on mental health scores of men mediated by commitment to work. Moreover, workplace satisfaction would have a direct negative effect on mental health scores.

Hypothesis 2: Marital coping would have a negative effect on mental health scores of women mediated by commitment to the home. Moreover, marital coping would have a direct negative effect on mental health scores.

Methods

1. Participants

A questionnaire was administered to married workers aged 30-49 years (N=241) in a survey conducted from December 2016 to February 2017. The number of questionnaires distributed was 335, of which 241 were collected (response rate of 72%). Among them, responses with deficiencies (N=3) were excluded, and 238 datasets were analyzed.

2. Procedures

Questionnaires were distributed using the snowball sampling technique. The authors requested the participants to respond to the questionnaire through acquaintances and delivered it by hand or by post. The following explanation was given on the cover of the questionnaire; the data obtained through the survey would be anonymously processed statistically, such that individuals would not be identified. The privacy of the participants would be carefully protected, and the would be used only for fulfilling the objectives of the study. Participants can freely stop responding if they feel any difficulties in responding or do not feel like responding. Responses have to be made only if the participants agree with the objectives of this study.

3. Measures

(1) Mental health

The Japanese version of the Kessler Psychological Distress Scale (K6) developed by Kessler, Andrews, and Colpe et al. (2002) and translated by Furukawa, Kawakami, and Saitoh et al. (2008) was used. In this scale, the
mental health level is considered to be low when the score of adding the six-item score is high, whereas mental health is considered to be high when the score is low. Participants were requested to respond to all the six items using a five-point scale: 0 (None of the time), 2 (Some of the time), 3 (Most of the time), and 4 (All of the time).

(2) WLB
The WLB scale for husbands and wives developed by Ogata (2013) was used. This scale consists of four factors; “utilization of leisure time (e.g. “I enjoy my hobbies when I have time.” 5 items),” “commitment to home (e.g. “I value the time I spend with my wife (or husband) on vacation.” 7 items),” “commitment to work (e.g. “Sometimes I cannot get my job out of my mind even on vacation.” 7 items),” and “local community exchanges (e.g. “I have quite a few interactions with people in the community on my holidays.” 3 items).” Participants were requested to respond to all the 22 items using a four-point scale: 1 (Not at all), 2 (No), 3 (Neither no or yes), and 4 (Yes).

(3) Workplace satisfaction
The scale of satisfaction with the workplace environment, job content, salary, and human relationships (Adachi, 1998) was used. This scale consists of four factors; “job content (e.g. “I am interested in my job.” 9 items),” “workplace environment (e.g. “Opinions and demands of the staff are accepted in my company.” 8 items),” “salary (e.g. “My job performance and salary are well-balanced.” 6 items),” and “human relationships (e.g. “I have good human relations at my workplace.” 10 items).” Participants were requested to respond to all the 33 items using a four-point scale: 1 (Unsatisfied), 2 (Rather unsatisfied), 3 (Rather satisfied), and 4 (Satisfied).

(4) Marital coping
The Japanese version of the Dyadic Coping Inventory, developed by Bodenmann (2008) and translated by Kawashima et al. (2014) was used. This scale is composed of 10 factors; Stress communication by the self (e.g. “let my partner know that I appreciate his/her practical support, advice, or help,” 4 items), Supportive dyadic coping by the self (e.g. “I show empathy and understanding to my partner,” 5 items), Delegated dyadic coping by the self (e.g. “When my partner feels he/she has too much to do, I help him/her out,” 2 items), Negative dyadic coping by the self (e.g. “I blame my partner for not coping well enough with stress,” 4 items), Stress communication of the partner (e.g. “My partner lets me know that he/she appreciates my practical supports, advice, or help,” 4 items), Supportive dyadic coping of the partner (e.g. “My partner shows empathy and understanding to me,” 5 items), Delegated dyadic coping of the partner (e.g. “When I am too busy, my partner helps me out,” 2 items), Negative dyadic coping by the partner (e.g. “My partner blames me for not coping well enough with stress,” 4 items), Common dyadic coping (e.g. “We try to cope with the problem together and search for ascertained solutions,” 5 items), and Evaluation of dyadic coping (e.g.
"I am satisfied with the support I receive from my partner and the way we deal with stress together," 2 items). Negative dyadic coping by the self and negative dyadic coping by the partner are invert items. This study focused on the concrete behaviors of marital coping. Therefore, two items for evaluating dyadic coping were excluded from the analysis. Participants were requested to respond to all the 37 items using a five-point scale: 1 (Very rarely), 2 (Rarely), 3 (Sometimes), 4. (Often), and 5 (Very often).

(5) Basic attributes

The gender, age, employment status, occupations, positions, working hours, working

| Table1. Demographics |
|----------------------|
|                     | Men (N=140) | Women (N=98) | Total (N=238) |
| Age                  |             |             |               |
| 30~39 years old      | 94 (67.14%) | 48 (48.98%) | 142 (59.66%)  |
| 40~49 years old      | 46 (32.86%) | 50 (51.02%) | 96 (40.34%)   |
| Employment status    |             |             |               |
| Regular staff        | 134 (95.71%)| 66 (67.35%) | 200 (84.03%)  |
| Part-time workers    | 1 (0.71%)   | 31 (67.35%) | 32 (13.45%)   |
| Self-employed        | 5 (3.57%)   | 1 (1.02%)   | 6 (2.52%)     |
| Occupation           |             |             |               |
| Sales work           | 32 (22.86%) | 2 (2.04%)   | 34 (14.29%)   |
| Clerical work        | 58 (41.43%) | 59 (60.20%) | 117 (49.16%)  |
| Service business     | 2 (1.43%)   | 7 (7.14%)   | 9 (3.78%)     |
| Professional work    | 28 (20.00%) | 22 (22.45%) | 50 (21.01%)   |
| Technical work       | 17 (12.14%) | 2 (2.04%)   | 19 (7.98%)    |
| Others               | 1 (0.71%)   | 1 (1.02%)   | 2 (0.84%)     |
| Unknown              | 2 (1.43%)   | 5 (5.10%)   | 7 (2.94%)     |
| Positions            |             |             |               |
| Managerial positions | 40 (28.57%) | 7 (7.14%)   | 47 (19.75)    |
| Non-managerial positions | 99 (70.71%) | 89 (90.82%) | 188 (78.99%)  |
| Unknown              | 1 (0.71%)   | 2 (2.04%)   | 3 (1.26%)     |
| Working hours        |             |             |               |
| Less than 40 hours per week | 11 (7.86%) | 45 (45.92%) | 56 (23.53%)   |
| More than 40 hours per week | 129 (92.14%) | 53 (54.08%) | 182 (76.47%)  |
| Length of service    |             |             |               |
| 1~5 years            | 16 (11.43%) | 30 (30.61%) | 46 (19.33%)   |
| 6~10 years           | 51 (36.43%) | 31 (31.63%) | 82 (34.45%)   |
| 11~15 years          | 37 (26.43%) | 19 (19.39%) | 56 (23.53%)   |
| 16~20 years          | 15 (10.71%) | 11 (11.22%) | 26 (10.92%)   |
| over 21 years        | 21 (15.00%) | 7 (7.14%)   | 28 (11.76%)   |
| Transfers            |             |             |               |
| Have                 | 64 (45.71%) | 32 (32.65%) | 96 (40.34%)   |
| Do not have          | 76 (54.29%) | 66 (67.35%) | 142 (59.66%)  |
| Number of children living together | | | |
| 0                    | 34 (24.29%) | 31 (31.63%) | 65 (27.31%)   |
| 1                    | 39 (27.66%) | 15 (15.31%) | 54 (22.69%)   |
| 2                    | 52 (37.14%) | 37 (37.76%) | 88 (36.97%)   |
| 3                    | 16 (11.43%) | 14 (14.29%) | 30 (12.61%)   |
| 4                    | 1 (1.02%)   | 1 (1.02%)   | 1 (0.42%)     |

Note: The numerical values on the left side indicate the number of respondents, and those in parentheses on the right side indicate the percentage.
days, the length of service, the presence of transfers, family members living together, and their age were inquired.

**Results**

1. Demographics

Table 1 shows the basic attributes of the participants. There were 140 men and 98 women. Their mean age was 37.53 years (SD=5.98). Their employment status was as follows; full time workers (N=200), part-time workers (N=329), and self-employed people (N=6). The occupations of the participants included the following, sales staff (N=34), clerical staff (N=117), service business (N=9), professionals (N=50), technical staff (N=19), others (N=2), and unknown (N=7). Their job positions included, managerial positions (N=47), non-managerial positions (N=188), and unknown (N=3). The mean working hours per week of the participants was 43.83 hours (SD=12.88) and their length of service was as follows; 1-5 years (N=46), 6-10 years (N=82), 11-15 years (N=56), 16-20 years (N=26), and over 21 years (N=28). The number of those that had been transferred was 96, and those that had not been transferred was 142. The number of children living together was below; 0 (N=65), 1 (N=54), 2 (N=88), 3 (N=30) and 4 (N=1).

**Table 2. Mean values and SDs of each sub-scale score**

| Sub-scale                        | Mean | SD  |
|----------------------------------|------|-----|
| Mental health                    | 3.90 | 3.83|
| **WLB**                          |      |     |
| Utilization of leisure time      | 14.03| 3.19|
| Commitment to home              | 23.18| 3.42|
| Commitment to work              | 15.39| 3.29|
| Local community exchange        | 6.83 | 2.40|
| **Workplace satisfaction**       |      |     |
| Job content                      | 25.77| 4.44|
| Workplace environment            | 21.04| 3.9 |
| Salary                           | 16.09| 3.58|
| Human relationships              | 29.06| 4.44|
| **Marital coping**               |      |     |
| Stress communication by the self (SCS) | 13.16 | 4.31 |
| Supportive dyadic coping by the self (SDCS) | 16.71 | 3.68 |
| Delegated dyadic coping by the self (DDCS) | 6.47 | 1.68 |
| Negative dyadic coping by the self (NDCS) | 15.91 | 2.89 |
| Stress communication of the partner (SGP) | 13.18 | 3.60 |
| Supportive dyadic coping by the partner (SDCP) | 15.87 | 4.76 |
| Delegated dyadic coping by the partner (DDCP) | 5.29 | 1.84 |
| Negative dyadic coping by the partner (NDCP) | 15.70 | 3.35 |
| Common dyadic coping (DDC)       | 15.14| 4.73 |
2. Calculation of sub-scale scores

The mean values and SDs of each sub-scale score of mental health were calculated for WLB, workplace satisfaction, and marital coping scales (Table 2).

3. Examination of the model

Path analysis was conducted based on gender using covariance structure analysis to examine the validity of the hypotheses. The results indicated the goodness-of-fit of the hypothesis model was rather low (Hypothesis 1: $\chi^2 = 91.94$, CFI = .852, RMSEA = .119, SRMR = .068, GFI = .844, AGFI = .671, Hypothesis 2: $\chi^2 = 73.05$, CFI = .855, RMSEA = .146, SRMR = .146, GFI = .848, AGFI = .489). Therefore, the hypothesis model was reexamined. Consequently, the model shown in Figure 2 was adopted for men and the model shown in Figure 3 was adapted for women. The results obtained by using the models are as follows:

(1) Regarding WLB, workplace satisfaction affected commitment to work, and commitment to work had a positive effect on mental health scores regardless of the gender. Moreover, in women, marital coping affected local community exchanges and local community exchanges had a negative effect on mental health scores.

(2) Regarding workplace satisfaction, job content had a direct negative effect on mental health scores, regardless of gender.

(3) Concerning marital coping, negative dyadic coping by the partner had a direct positive effect on mental health scores in both genders. Moreover, delegated dyadic coping by the self, had a direct positive effect on the mental health scores of men, whereas delegated dyadic coping of the partner had a direct positive effect on mental health scores of women. The goodness-of-fit indices of the model in men were $\chi^2 = 47.19$, CFI = .999, RMSEA = .014, SRMR = .035, GFI = .966, AGFI = .873, and those in women were $\chi^2 = 66.51$, CFI = .990, RMSEA = .035, SRMR = .057, GFI = .936, AGFI = .815.

Discussion

This study examined correlations among WLB, workplace satisfaction, marital coping, and mental health, to identify the factors that would affect workers’ mental health based on gender. Results indicated that the commitment to work had a positive effect on the mental health scores of men. Moreover, job content, negative dyadic coping by the self, and supportive dyadic coping by the partner also had positive effects on the commitment to work, whereas the workplace environment and negative dyadic coping by the partner had negative effects on the commitment to work. Furthermore, job content had a direct negative effect on mental health scores of men. On the other hand, it was indicated that negative dyadic coping by the partner might have a direct negative effect on mental health scores, whereas delegated dyadic coping by the self might have a positive effect on mental health.
Note) Only significant paths are indicated.

Note) Negative dyadic coping by the partner is an inverted item.

Figure 2. The results of path analysis for men
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- Job content
- Human relationships
- Work environment
- Salary
- CDC
- NDCP
- SDCP
- DDCP

Utilization of leisure
Commitment to work
Commitment to home
Local community exchange

Mental health

Note: Only significant paths are indicated.

Note: Negative dyadic coping by the partner is an inverted item.

Figure 3. The results of path analysis for women

$P<0.10^*, P<0.05, P<0.01^{**}$
scores. These findings partly supported Hypothesis 1.

In women, the commitment to work had a positive effect and local community exchanges had a negative effect on the mental health scores. Moreover, job content and negative dyadic coping by the partner had positive effects on the commitment to work, whereas human relationships had a negative effect on the commitment to work in women. Regarding local community exchanges, supportive dyadic coping of the partner had a negative effect and negative dyadic coping by the partner had a positive effect on it. Furthermore, negative dyadic coping by the partner had a direct negative effect on mental health scores and delegated dyadic coping of the partner had a direct positive effect on mental health scores. Job content had a direct negative effect on mental health scores also in women. These findings partly supported Hypothesis 2.

It has been indicated that job content directly affects mental health in both men and women. This result supports the idea that workplace factors are more difficult to manipulate than home factors (Higgins Duxbury, & Irving, 1992). When workers have complaints about their job content, in many cases, it is difficult to deal with it, which might directly affect their mental health. On the other hand, Thompson and Prottas (2006) indicated autonomy at work affected employees’ well-being. Moreover, it has been suggested that employees with high work engagement tend to be proactively involved in work, which has positive effects on their physical and mental health (Demerouti, Bakker, & Schaufeli et al., 2001). It could be possible that workers’ mental health improves when their autonomy is valued, and workers are motivated to work.

It has been suggested that a person’s mental health could decline when the marital partner shows a negative attitude to the person’s stress regardless of gender. This result supports the crossover hypothesis (Westman & Jone, 2006), i.e. marital couples experiencing stress have many negative interactions and conflicts, and stress responses are propagated as a result. Moreover, marital coping has a stronger correlation with the quality of the marital relationship, compared to marital communication (Ledermann, Bodenmann, & Gagliardi et al., 2010). Negative attitudes and behaviors between married couples tend to escalate symmetrically (Watzlawick, Bavelas, & Jackson, 1967), which might deteriorate workers’ mental health.

It has also been indicated that job content lowers the mental health scores of both men and women, mediated by the commitment to work. This result might be discussed from the perspective of being workaholic. Workaholic employees bring work into their homes and feel anxious
about leaving work, which deteriorates their mental health (Schaufeli, Taris, & Van Rhenen, 2008). Workers feeling that they must work excessively hard bring their work home, increase their psychological stress, and deteriorate the quality of the marital relationships, regardless of gender. On the other hand, it was suggested that local community exchanges might improve women’s mental health. Women tend to have interactions with people in the local community more often than men. Local community exchanges might play an important role in improving the mental health of women. The above results suggest that excessively high commitment to work might have negative effects on mental health. Therefore, stress buffering factors such as local community exchanges should be considered.

Furthermore, it was suggested that delegated dyadic coping by oneself might deteriorate the mental health of men, whereas delegated dyadic coping by the partner might deteriorate the mental health of women. Watanabe and Itakura (2017) reported that when a wife encourages a husband to take care of children, the wife’s home-to-work conflicts increased. On the contrary, when a mother suppressed a father’s involvement in childcare, her mental burden might decrease because she felt she was playing an important role as a mother. Therefore, marital mental health might improve through decreasing the inconsistency between husbands’ delegate behaviors and wives’ needs. Moreover, Shimizu (2017) advocated in a keynote address that each person has an obligation called “Yozou” when they get married and start a family (Kozuka, Wakashima, and Hasegawa, 2018). Yozou is an active behavior that exceeds give-and-take relationships. “Delegated dyadic coping by the self” by men in this study is the Yozou to the home by men. However, further study on the issues below are required: Do women recognize it as Yozou to the home when men play a traditional role played by women? Shimizu (2017) suggested that admitting the diversity of family members is necessary for the home to (Kozuka, Wakashima, & Hasegawa, 2018). At home, each family member has a different position. Each family member thinks about how to behave, relate to one another, and the functions of the home, by maintaining these differences. In other words, “delegated dyadic coping by oneself,” i.e. men playing the traditional roles played by women implies that a married couple functions through copying “similarities instead of through admitting “differences”. It is possible that women would become deprived of their discretion at home because of this similarity. Therefore, women’s mental health might deteriorate as a result of “delegated
dyadic coping by the male partner”. However, this study did not collect pair data on marital couples. Studies on WFC have investigated marital couples using pair analysis (Hammer, Allen, & Grigsby, 1997). In the future, data of married couples should be analyzed for conducting research with more elaborate designs.

This study indicated that workplace satisfaction did not affect the commitment to one’s home in men, whereas the workplace environment and the salary affected the commitment to one’s home in women. The above results differ from the findings of Okubo et al. (2011), i.e., men tend to bring work into their home more often than women. Approximately 70% of the female participants in this study were regular workers, which might have increased the degree of commitment to work. Workplace factors had a higher weight for these women, which might have increased its effect on the home. It is suggested that future studies take differences in employment status into consideration. Moreover, this study suggested the possibility that satisfaction with the job might directly improve mental health and commitment to work. On the other hand, it was also indicated that mental health deteriorated when satisfaction with the job content is mediated by commitment to work. The above results suggest that when a person is satisfied with the job content, his/her mental health could be improved by work engagement. On the other hand, the work-life-balance might be lost when commitment to work increased through satisfaction with job content, which causes problems such as workaholism leading to the deterioration of mental health. Based on the above results, it is suggested that both work engagement and workaholic processes should be examined in the future. This study comprehensively examined factors affecting workers’ mental health, which might contribute to the achievement of workers’ WLB and improve their mental health.

Note
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