# Organizational Stress Around the World

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# Chapter 7

# Organizational Stress in Contemporary Japan

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#### Introduction

Organizational stress is a contemporary social problem that undermines workers' physical and mental health in Japan. The stress that Japanese workers experience is tightly connected to the ways in which employment is structured in society. Traditionally, Japanese employment has been characterized by things such as seniority wages, lifetime employment, and enterprise labor union (Hamaaki, Hori, Maeda, & Murata, 2012). Although this employment system was a powerful engine to prompt economic growth in postwar Japan (Hamaaki *et al.*, 2012), it started changing after 1973 when an oil shock hit the economy, deteriorating the conditions of work and affecting the lives of employed men and women. The problem of organizational stress emerged and became increasingly serious as an inevitable consequence of this change.

In this chapter, we conduct a systematic review of existing studies of organizational stress in Japan, with particular focus on the following issues: (1) Karoshi (death from overwork) and Karo-Jisatsu (suicide caused by work stress), (2) long hours of work, (3) non-regular employment, and (4) workplace harassment. Since a number of earlier research in Japan examined the relationship between organizational stressors and physical and mental health for Japanese workers (Nagata, 2005), we investigate this relationship by exploring peer-reviewed articles written in both Japanese and English and were published after the vear 2000. We searched two databases - CiNii Articles and Google Scholar - for articles by using keywords such as "Karoshi," "Karo-Jisatsu," "Cho-Jikan Rodo" (long hours of work), "Zangyo" (overtime work), "Hiseiki Koyo" (non-regular employment), and "Harasumento" (harassment). In addition to these keywords, we also used the word "Japan" when searching for articles written in English and the word "Sutoresu" (stress) to search for articles written in Japanese. After the search, we selected 38 articles - these included two articles on Karoshi and Karo-Jisatsu, 17 articles on long hours of work, 11 articles on nonregular employment, and 8 articles on workplace harassment. Each section consists of an outline of issues including definitions, statistics, and a summary of findings. We also conducted an overview of government policies in Japan and the ways that Japanese employers respond to the problem of organizational stress. We conclude this chapter by noting some limitations in this review and by offering directions for future research.

# Karoshi and Organizational Stress

# Karoshi

*Karoshi*, or death from overwork, is perhaps the worst worker outcome of organizational stress in Japan. Japan's Act of Promoting Measures to Prevent Death and Injury from Overwork defines *Karoshi* as "death due to cerebrovascular or heart disease brought on by an overload of work, or death by suicide related to mental disorder from the intense psychological burden at work" (Ministry of Health, Labour, and Welfare, 2019d). *Karo-jisatsu* is suicide caused by a work-related mental disorder, and it is usually separated from *Karoshi* (Iwata, 2009; Komorida, 2016). According to the 2018 Status Report of Industrial Accident Compensation for *Karoshi* (Ministry of Health, Labour and Welfare, 2019e), the number of *Karoshi* incidents, legally admitted as compensable by insurance, amounted to 82 in 2018 as compared to 160 incidents in 2002, while the number of *Karo-Jisatsu*, including attempted suicide, rose from 43 in 2002 to 76 incidents in 2018.

## Similarities and Differences between Karoshi and Karo-Jisatsu

There are similarities and differences between *Karoshi* and *Karo-Jisatsu*. According to the Ministry of Health, Labour, and Welfare (2019e), one of the similarities is that most workers who died from *Karoshi* or *Karo-Jisatsu* are men in regular employment. As for differences, a vast majority of *Karoshi* victims are in their 40s and 50s; whereas, *Karo-Jisatsu* tends to occur in all age groups. Employees who died from *Karoshi* are concentrated in the mailing and transportation industry; whereas, those who died from *Karo-Jisatsu* are distributed across a wide variety of industries – such as manufacturing, retail, lodging, and wholesale. In addition, many of the workers who died from *Karo-Jisatsu* occurred even among those who worked only a few hours of overtime in a day.

## Causes of Karoshi and Karo-Jisatsu

Previous studies suggest that working long hours is a significant cause of *Karoshi* (Kanai, 2008). Long hours generally reduce sleep time, while

increasing the risk of cerebrovascular and heart disease (Iwasaki, 2008). In addition to long hours, the presence of an extremely heavy workload is required for death to be certified as *Karoshi* by the Industrial Accident Compensation Insurance (Ministry of Health, Labour, and Welfare, 2019d). On the other hand, a prerequisite for suicide to be insured as *Karo-Jisatsu* is an individual experience of strong psychological pressure from work (Ministry of Health, Labour, and Welfare, 2019d). For example, *Karo-Jisatsu* is associated with unreasonable changes in job assignments, overtime work exceeding 80 hours per week, workplace harassment, and interpersonal problems with supervisors (Ministry of Health, Labour, and Welfare, 2019e).

# Karoshi, Karo-Jisatsu, and Organizational Stress in Japan

Although a variety of work stressors is relevant to *Karoshi* and *Karo-Jisatsu*, a limited number of studies have explored how they may be related to organizational stress. Iwata (2009) found that workers who died from *Karoshi* had experienced a sudden increase in workload, and their work conditions were more likely to be severe compared to those who committed *Karo-Jisatsu*. In contrast, unexpected job assignments and interpersonal problems with their supervisors were more likely to be observed in the cases of *Karo-Jisatsu*. Komorida (2016) showed that those who committed *Karo-Jisatsu*, compared to those who died from *Karoshi*, tend to have been assigned an unreasonable amount of work and have experienced harassment in their workplace.

# Long Work Hours and Organizational Stress

## Long Work Hours

A general consensus seems to be that Japanese workers work long hours (Ogura, 2008). According to the Monthly Labor Survey conducted by the Japanese Ministry of Health, Labor, and Welfare (Ministry of Health, Labour, and Welfare, 2019a), the average annual hours rendered by an individual worker in 2018 is 1,706. Due to the increase in non-regular employment, the overall hours of work for the Japanese have gradually decreased in recent years. However, the hours for regular workers have not noticeably changed (2,010 hours in 2018), and they still work nearly twice as long as non-regular workers (1,025 hours in 2018). Moreover, men in their 30s and 40s and those who work in the mailing, transportation, building, manufacturing, and information and communication industries are more likely to put long hours at work. Table 7.1 shows the average number of hours worked by individual workers annually, as well as the proportion of workers working 49 hours or more per week in developed countries. As shown in the table,

|             | The Average Annual Number<br>of Hours Worked by<br>Individual Workers in 2017 | The Proportion of Workers<br>Working 49 Hours or More<br>Weekly in 2017 |
|-------------|---|---|
| Japan       | 1,709   | 20.6%   |
| ŬŜA         | 1,780   | 19.3%   |
| Canada      | 1,695   | 12.3%   |
| UK          | 1,543   | 11.7%   |
| Germany     | 1,360   | 8.5%  |
| France      | 1,522   | 10.1%   |
| South Korea | 2,018   | 29.0%   |

 Table
 7.1
 The Average
 Annual
 Number
 of
 Hours
 Worked
 by
 Individual

 Workers and the Proportion of Workers
 Working 49 Hours or More
 Weekly in Developed Countries

Sources: OECD (2020); International Labour Organization (2020).

Japan (1,713 hours in 2016) is among the countries with the longest hours of work in 2016. Other countries include South Korea (2,069 hours) and the United States (1,783 hours). While Japan's work hours are decreasing, the average annual overtime hours have slowly increased after 2009 – reaching 129 hours in 2018. Note that the number of employees working for more than 60 hours per week, excluding those who work in agricultural industries, has decreased in recent years, yet 4.32 million workers (7.7% of all workers) are still at risk of *Karoshi*. As Table 7.1 shows, the proportion of Japanese workers working 49 hours or more per week was 20.8% in 2015, and this proportion is the second largest next to Korea (32.0%).

#### Long Hours of Work and Organizational Stress in Japan

A number of studies conducted in Japan attempted to examine the relationship between long work hours and workers' health, but the results remain unclear. Approximately half of the research reported that long hours made workers' physical and mental health deteriorate. For example, an increase in work hours and overtime was negatively related to mental health for women workers with children and workers in community services (Koizumi, Sugawara, Maekawa, & Kitamura, 2003; Suzumura *et al.*, 2013; Yamaguchi, 2010). Long hours and overtime also exerted harmful influence on workers' physical health – such as back and neck pain, fatigue, sleep deprivation, and tinnitus (Koda *et al.*, 2000; Kubo, Sasaki, & Matsumoto, 2010; Nakata *et al.*, 2001). Furthermore, Umehara, Ohya, Kawakami, Tsutsumi, and Fujimura (2007) showed that psychosomatic symptoms were more likely to result when workers work long hours and overtime. Fukui, Haratani, Fukazawa, Nakata, Takahashi, and Fujioka

(2003) found a significantly higher level of psychological and physical strain among IT engineers who work long hours beyond 10 P.M. The remaining half of the research failed to confirm the presence of a significant relationship between long hours and individual health (Fukuyama & Inoue, 2017; Haoka *et al.*, 2010; Kataoka, Kazuhiro, Masahito, Tetsuya, & Beth, 2014; Nakada *et al.*, 2016; Nishikitani, Nakao, Karita, Nomura, & Yano, 2005; Nishitani & Sakakibara, 2010; Nozaki *et al.*, 2012; Tarumi & Hagihara, 2002; Tominaga & Asakura, 2006). Rather than long hours and overtime, some research showed that having heavy workload was negatively associated with physical and mental health (Fukuyama & Inoue, 2017; Haoka *et al.*, 2010; Nakada *et al.*, 2016; Tominaga & Asakura, 2006).

# Non-Regular Employment and Organizational Stress

# Non-Regular Employment

Expansion of non-regular employment is one of the most significant changes that took place in Japanese labor markets during the past 20 years. While there is no solid agreement on the definition of nonregular employment (Kitagawa, Ohta, & Teruyama, 2018), a recent labor force survey conducted by the Japanese government has categorized non-regular employment based on the terms used in employment contracts and divided non-regular employment into six types (Fu, 2013). Part-time workers share a large proportion of nonregular employees, and they can be classified further into *paato* (parttime workers) and arubaito (fringe workers). On one hand, the vast majority of paato workers are married mothers with children, and they are likely to have fixed work schedules. On the other hand, many arubaito workers tend to consist of young people, including students, who often have flexible and short work schedules. Contract workers work in a fixed-term employment contract. Haken workers (dispatch workers) are hired by and sent from a staffing agency. Entrusted workers tend to consist of older workers who are reaching retirement. Others include seasonal, emergency, or daily workers who are employed for a designated period of time.

# Increasing Non-Regular Employment

According to the 2018 Labor Force Survey conducted by the Ministry of Internal Affairs and Communications (Ministry of Internal Affairs and Communications, 2019), the number of non-regular workers has gradually increased over the years and has reached 21.2 million in 2018. This includes 10.35 million *paato*, 4.55 million *arubaito*, 2.94 million contract workers, 1.36 million *haken*, 1.2 million of entrusted workers,

and 0.8 million others. Non-regular workers consist of approximately 38% of all employees in 2018. Why have non-regular workers increased in Japan? Asano, Ito, and Kawaguchi (2013) argue that a part of the reason why non-regular employment boomed in Japan is that a large number of young men and women had to reluctantly choose non-regular work due to employer reluctance of long-term hiring of employees. In addition, Japanese Ministry of Health, Labour, and Welfare (2019c) suggests that the increase in foreign-born part-time workers, including international students, may have contributed to the increase of non-regular workers.

#### Non-Regular Employment and Organizational Stress in Japan

Along with an increase in non-regular workers, researchers have come to focus on two topics relevant to non-regular employment. The first topic is the antecedents of non-regular workers' stress. Earlier studies showed that organizational stressors – such as a wide range of job assignments (Ozono, 2010), employment insecurity (Takahashi, Morita, & Ishidu, 2014), and heavy workload (Takahashi et al., 2014) - have a detrimental effect on non-regular workers' mental health. Furthermore, women in non-regular employment (Ozono, 2010) and economically challenged non-regular workers (Takahashi et al., 2014) experience higher levels of stress in their jobs. Previous research also found several antecedents that exert positive effects. For example, job autonomy (Ozono, 2010; Uehara, Kanbara, Shido, Nishi, & Miyake, 2014), supervisors' active listening, and the number of supportive co-workers are likely to ameliorate non-regular workers' mental health. Moreover, age (Morita, 2018), family satisfaction (Nakahara, 2007; Uehara et al., 2014), health satisfaction (Uehara et al., 2014), internal locus of control (Uehara et al., 2014), job satisfaction (Nakahara, 2007; Takahashi et al., 2014), perceived work-life balance (Uehara et al., 2014), and a sense of contributing to their work (Morita, 2018) are also positively related to nonregular workers' mental health.

The second relevant topic is the difference in mental health between regular workers and non-regular workers. Compared to regular employment, M. Inoue (2012) argued that non-regular work may negatively affect an individual's mental health due to employment insecurity, severe work conditions, and limited opportunities for job training and career development. Although previous research conducted in the United States and European Union countries showed that non-regular workers' mental health is worse than those in regular employment (Virtanen *et al.*, 2005), many earlier Japanese studies failed to confirm the difference in mental health between regular and non-regular workers (Imai, 2018; Matsuyama, 2010; Mori, Iwata, & Tanaka, 2014; Morita, 2018; Nakahara, 2007; Takahashi *et al.*, 2014; Uehara *et al.*, 2014). Only A.

Inoue, Kawakami, Tsuchiya, Sakurai, and Hashimoto (2010) found that men in part-time work experience a higher level of psychological distress than men regular workers. Inoue *et al.* (2010) also showed that women in temporary/contract work are more likely to experience psychological distress than women regular workers. Some prior research, however, found better mental health among non-regular workers than among regular workers (Kamiya, Sugiyama, Toda, & Murayama, 2011; Komura & Ishitake, 2012). Thus, results are mixed when it comes to the difference in mental health between regular and non-regular workers in Japan.

# Workplace Harassment and Organizational Stress

# Workplace Harassment

In Japan, workplace harassment is a serious emergent social problem at work. Although workplace harassment includes various types of harassment and bullying, this section deals with two major types of harassment in Japan: power harassment and sexual harassment. Power harassment is the most common type of harassment at work (Ministry of Health, Labour, and Welfare, 2017), and it is defined as "the acts of a worker that cause his/her co-workers (usually subordinates) mental or physical pains, or cause their work environment to deteriorate, using his/her managerial or relational superiority in the workplace" (The Japan Institute for Labour Policy and Training, 2013). Sexual harassment is the second most common type of harassment at work (Ministry of Health, Labour, and Welfare, 2017). The Japanese government defines sexual harassment as "an incident when a worker suffers disadvantages such as dismissal, demotion, and a decrease in wages as a result of his/her responses to harassment, and such incident seriously causes the work environment to deteriorate, thus exerting serious and adverse effects on the worker's performance" (Ministry of Health, Labour, and Welfare, 2012).

# Characteristics of Power Harassment and Sexual Harassment

The Workplace Power Harassment Survey conducted in 2016 by Japanese Ministry of Health, Labour, and Welfare (Ministry of Health, Labour, and Welfare, 2017) reported that approximately one-third of Japanese workers had experienced power harassment at work in the past. According to the survey results, power harassment mainly consists of psychological abuse (73.5%) and physical attack (14.6%) (Ministry of Health, Labour, and Welfare, 2017). In most cases, supervisors are the perpetrators who harass their subordinates, and some junior and non-regular workers are also among the victims. In addition, the lack of

communication between supervisors and subordinates in the workplace tended to cause power harassment.

According to the Annual Health, Labor, and Welfare Report 2018 (Ministry of Health, Labour, and Welfare, 2019b), sexual harassment is a type of job discrimination that Japanese women experience most frequently. A survey conducted in 2015 reported that 34.7% of regular workers experienced sexual harassment in the past, while only 17.8% of non-regular workers experienced it (The Japan Institute for Labour Policy and Training, 2016). The survey also found that 53.9% of the victims experienced unwanted remarks about their age and physical appearance, and 40% were asked sexual questions and experienced nonconsensual bodily touch. In a large proportion of cases, men, – particularly men in supervisory positions – harassed women, and the vast majority of victims could do nothing but tolerate such harassment.

#### Workplace Harassment and Organizational Stress in Japan

Although no prior research has focused on the relationship between power harassment and organizational stress, some studies looked at how workplace harassment may be related to Japanese workers' health. First, sexual harassment exerts a negative influence on workers' physical and mental health. For example, sexual harassment induces anxiety and stress-related physical symptoms for women in care work (Taniguchi et al., 2012; Taniguchi, Takaki, Hirokawa, Fujii, & Harano, 2016). Although Kakuyama, Matsui, and Tsuzuki (2003) showed that sexual harassment is not associated with psychological and physical stress responses, they found a moderating effect of the victim's vulnerability in the relationship between sexual harassment and physical stress responses for women. Furthermore, sexual harassment has a positive influence on burnout of research workers (Takeuchi et al., 2018). Second, workplace bullying is negatively associated with workers' physical and mental health. Persontargeted bullying at work (e.g., malicious gossip and rumors) has a negative effect on vigor for women in care work (Taniguchi et al., 2012) and has a positive effect on their psychological and physical stress responses (Taniguchi et al., 2016). Work-related bullying (e.g., intentionally withholding necessary information to affect co-worker's or subordinate's work) is negatively related to men care workers' vigor and positively associated with women's depression (Taniguchi et al., 2012), but it has no significant influence on psychological and physical stress responses for care workers (Taniguchi et al., 2016). Moreover, workplace bullying not only increases depression, but also intensifies the relationship between job strain and depression (Takaki et al., 2010).

# Government Policies and Employer Responses to Organizational Stress in Japan

As reviewed above, there are various issues relevant to organizational stress in Japan. Now then, how do the Japanese government and employers attempt to tackle the problems? In this section, we briefly summarize Japanese government policies and employer responses to organizational stress.

# Acts for Promoting Work Style Reform

The Japanese government set goals in 2018 to reduce the proportion of workers who were rendering more than 60 hours of work per week to no more than 5% while increasing the usage rate of paid vacation days by up to 70% in 2020 (Ministry of Health, Labour, and Welfare, 2019d). To promote the Japanese government's Work Style Reform wherein the Japanese government attempted to decrease long hours of work, regulations on overtime work were tightened by amending the Labor Standards Law (Ministry of Health, Labour, and Welfare, 2018). The new regulation caps overtime at 45 hours per month and 360 hours per year, and employers must agree that the number of overtime hours is within the limits of the law and their employees. Moreover, the government encourages employers to adopt a work time scheduling system for reducing hours of work. The system sets intervals between each day's work so that employees have enough time to recover from fatigue.

# Fair Treatment of Non-Regular Employment

The government has implemented policies to improve the work conditions of non-regular workers. Although employers have increasingly hired non-regular employees to reduce labor costs and to adjust employment (Hirano, 2010), they will be required to provide fair treatment for regular and non-regular workers from 2020 – if non-regular workers have the same job assignments as regular workers (Ministry of Health, Labour, and Welfare, 2018). In addition, the government has raised the minimum wage, and this has increased the number of social insurance holders among non-regular workers (Ministry of Health, Labour, and Welfare, 2019b).

# Preventing Harassment at Work

The Japanese government stipulates that employers should take active measures against workplace harassment. For example, an act that will become effective in 2020 requires that employers launch consultation services and training programs to tackle power harassment while

penalizing perpetrators of power harassment in accordance with their employment rules (The Japan Institute for Labour Policy and Training, 2019). As revealed in the 2016 Workplace Power Harassment Survey (Ministry of Health, Labour, and Welfare, 2017), a large number of employers had already implemented preventive measures against power harassment. Although employers are likely to opt for verbal reprimands and job transfers as punitive measures for perpetrators of power harassment, they are much less likely to fire or cut salaries of perpetrators (Ministry of Health, Labour, and Welfare, 2017). The government also obliges employers to respond firmly to sexual harassment, while providing appropriate consultations and educational programs (Cabinet Office, 2019). Employers commonly investigate sexual harassment claims and give warnings to those who are accused, yet some employers force victims of harassment into resigning or ignore their claims without taking any action (The Japan Institute for Labour Policy and Training, 2016).

#### Stress Check Program

The Japanese government initiated the Stress Check Program in 2015 in order to screen workers experiencing high levels of psychosocial stress in the workplace (Kawakami & Tsutsumi, 2016; Tsutsumi, Shimazu, Eguchi, Inoue, & Kawakami, 2018). The program requires employers to do the following steps (Tsutsumi et al., 2018): First, employers are required to examine workers' stress every year by administering the Brief Job Stress Questionnaire (BJSQ), a survey developed in Japan in reference to the Job Content Questionnaire (JCQ) (Karasek, 1979) and the NIOSH Generic Job Stress Questionnaire (Enoki, Maeda, Iwata, & Murata, 2017; Inoue et al., 2014). Second, they must inform workers of their stress levels based on the questionnaire results. Third, it is stipulated that employers must arrange physician interviews for workers experiencing high levels of work stress. Fourth, employers are expected to improve their workers' job environment in accordance with the physician's advice. Although the BJSQ predicts future risks of employees' long-term sick leaves (Tsutsumi et al., 2018), there is little evidence as to why and how the physician interviews may be effective (Kawakami & Tsutsumi, 2016; Tsutsumi et al., 2018). Moreover, it is indicated that employers are less likely to arrange interviews for highly stressed workers (Tsutsumi et al., 2018). The program also urges employers to take advantage of the survey data for improving their workplace, and it is expected that data analyses are conducted by more than 60% of employers (Ministry of Health, Labour, and Welfare, 2019d).

# Facilitating Health and Productivity Management

Health and productivity management is viewed as an effective measure to enhance organizational performance by improving workers' health (Morinaga, 2019). The government launched the Certified Health and Productivity Management Organization Recognition Program to recognize outstanding organizations engaging in health and productivity management (Ministry of Economy, Trade, and Industry, 2018). Although no more than 0.1% of all profit and non-profit organizations in Japan obtained this certification in 2019, there are many unique examples. For instance, an information systems company provided a lump sum of money based on the extent of workers' engagement in health practices and the results of medical examinations. Another power and telecommunications company installed monkey bars at work, so that employees may exercise at the office (Morinaga, 2019).

# Limitations and Future Directions

In this chapter, we reviewed existing research on organizational stress in Japan, focusing on *Karoshi* and *Karo-Jisatsu*, long work hours, non-regular employment, and workplace harassment. We conclude this chapter by underscoring some limitations in our review and by showing directions for future research.

## Limitations

First, we admit that some stressors (e.g., workload) and outcomes (e.g., job satisfaction and absenteeism) were not included in this chapter. Although we are fully aware of their importance in organizational stress research, we decided to limit the content of this chapter to keep it focused. Second, although articles published without peer reviews in inhouse journals of Japanese universities report interesting findings, we only included the results from peer-reviewed articles in this chapter, so that we could keep our systematic review academically acceptable. Third, we used a limited number of keywords when searching databases, so we may have omitted possible searchable studies with other keywords – such as "medical research."

# Directions for Future Research

First, researchers examining the relationship between long work hours and workers' health must look at the influence of workload. Some of the previous studies showed that the impact of long hours on physical and mental health disappears when workload is taken into consideration (Fukuyama & Inoue, 2017; Haoka *et al.*, 2010; Nakada

et al., 2016; Tominaga & Asakura, 2006). The information on workload might tell us something about the root cause of the negative influence that long hours exert on workers. Second, researchers studying Karoshi and Karo-Jisatsu should look more carefully at the specific characteristics of workplaces and organizations. There are many studies investigating the cause of Karoshi and Karo-Jisatsu (e.g., Ministry of Health, Labour, and Welfare(2019d)), but few have focused on how those causes might be related to characteristics of workplaces and organizations in which Karoshi and Karo-Jisatsu take place. We believe it is valuable to integrate the contexts of workplaces and organizations in analyses of Karoshi and Karo-Jisatsu. Third, researchers comparing regular and non-regular employment would benefit by using all types of non-regular employment in their analyses. It may be possible that the unsubstantiated difference in mental health between regular and non-regular workers reflects a variety of backgrounds and work conditions associated with each type of non-regular employment. Fourth, researchers should pay more attention to power harassment. Despite the growing awareness about the devastating consequences of workplace harassment (Tsuno, 2016), there has been little research that focuses on power harassment (e.g., Nii, Tsuda, Tou, Yamahiro, and Irie (2018)). In particular, research examining the relationship between power harassment and mental health is important because Karo-Jisatsu is related to interpersonal problems with their supervisors (Iwata, 2009; Komorida, 2016). Fifth, it would be worth conducting intervention studies in order to confirm the effectiveness of certain policies and management strategies. Since the vast majority of reports highlight unique examples of workplace practices, it is important for policymakers and employers to expand their scope by engaging in a new endeavor, like intervention study, so that Karoshi and Karo-Jisatsu - as well as deterioration of workers' health - may better be prevented.

#### References

- Asano, Hirokatsu, Ito, Takahiro, & Kawaguchi, Daiji (2013). Why has the fraction of nonstandard workers increased? A case study of Japan. *Scottish Journal of Political Economy*, 60(4), 360–389. 10.1111/sjpe.12015.
- Cabinet Office. (2019). White paper on gender equality 2019. Retrieved from http://www.gender.go.jp/english\_contents/about\_danjo/whitepaper/index.html.
- Enoki, Mamiko, Maeda, Eri, Iwata, Toyoto, & Murata, Katsuyuki (2017). The association between work-related stress and autonomic imbalance among call center employees in Japan. *The Tohoku Journal of Experimental Medicine*, 243(4), 321–328. 10.1620/tjem.243.321.
- Fu, Huiyan (2013). An emerging non-regular labour force in Japan: The dignity of dispatched workers. London, U.K.: Routledge.
- Fukui, Satoe, Haratani, Takashi, Fukazawa, Kenji, Nakata, Akinori, Takahashi,

Masaya, & Fujioka, Yosei (2003). Stress reactions and their correlates of engineers working in the information technology industry: Using the brief job stress questionnaire. *Job Stress Research*, 10(4), 273–279.

- Fukuyama, Kazue, & Inoue, Nobutaka (2017). Relationship of work hour and mental stress: Focusing gender differences of stress vulnerability. *Japanese Journal of Occupational Medicine and Traumatology*, 65(3), 147–152.
- Hamaaki, Junya, Hori, Masahiro, Maeda, Saeko, & Murata, Keiko (2012). Changes in the Japanese employment system in the two lost decades. *ILR Review*, 65(4), 810–846. 10.1177/001979391206500403.
- Haoka, Takeshi, Sasahara, Shin-ichiro, Tomotsune, Yusuke, Yoshino, Satoshi, Maeno, Tetsuhiro, & Matsuzaki, Ichiyo (2010). The effect of stress-related factors on mental health status among resident doctors in Japan. *Medical Education*, 44(8), 826–834. 10.1111/j.1365-2923.2010.03725.x.
- Hirano, Mitsutoshi (2010). Diversification of employment categories in Japanese firms and its functionality: A study based on the human resource portfolio system. In R. Bebenroth & T. Kanai (Eds.), *Challenges of human resource management in Japan* (pp. 202–223). London: Routledge.
- Imai, Hironori (2018). An analysis of the association between functional limitation and distress among employees with chronic illness: Moderating roles of gender and employment status. *Doshisha Policy and Managemant Review*, 19(2), 135–146. 10.14988/pa.2017.0000017000.
- Inoue, Akiomi, Kawakami, Norito, Shimomitsu, Teruichi, Tsutsumi, Akizumi, Haratani, Takashi, Yoshikawa, Toru, & Odagiri, Yuko (2014). Development of a short version of the new brief job stress questionnaire. *Industrial Health*, *52*(6), 535–540. 10.2486/indhealth.2014-0114.
- Inoue, Akiomi, Kawakami, Norito, Tsuchiya, Masao, Sakurai, Keiko, & Hashimoto, Hideki (2010). Association of occupation, employment contract, and company size with mental health in a national representative sample of employees in Japan. *Journal of Occupational Health*, 52(4), 227–240. 10.153 9/joh.O10002.
- Inoue, Mariko (2012). Association between precarious employment and stress. *The Japanese Journal of Stress Sciences*, 27(1), 91–97.
- International Labour Organization. (2020). ILOSTAT database. Available from https://ilostat.ilo.org/data/.
- Iwasaki, Kenji (2008). Long working hours and health problems. *The Japanese Journal of Labour Studies*, 575, 39–48.
- Iwata, Ittetsu (2009). Relation among death or suicide due to overwork, mental factors, and the working environment. *Labor and Management Review*, 19, 151–164. 10.24502/jalm.19.0\_151.
- Kakuyama, Takashi, Matsui, Tamao, & Tsuzuki, Yukie (2003). Influence of organizational climate on sexual harassment: The validity of the integrated process model. *Japanese Association of Industrial/Organizational Psychology Journal*, 17(1), 25–33.
- Kamiya, Tetsuji, Sugiyama, Ryuichi, Toda, Yuichi, & Murayama, Yuichi (2011). Stress response and employment situation of teachers in day-care centers with a focus on employment status and the ratio of part-timers. *The Japanese Journal of Labour Studies*, 608, 103–114.

- Kanai, Atsuko. (2008). "Karoshi (work to death)" in Japan. Journal of Business Ethics, 84(2), 209–216. 10.1007/s10551-008-9701-8.
- Karasek, Robert A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285–308. 10.2307/2392498.
- Kataoka, Mika, Kazuhiro, Ozawa, Masahito, Tomotake, Tetsuya, Tanioka, & Beth, King (2014). Occupational stress and its related factors among university teachers in Japan. *Health*, 6(5), 299–305. 10.4236/health.2014.65043.
- Kawakami, Norito, & Tsutsumi, Akizumi (2016). The stress check program: A new national policy for monitoring and screening psychosocial stress in the workplace in Japan. *Journal of Occupational Health*, 58(1), 1–6. 10.1539/ joh.15-0001-ER.
- Kitagawa, Akiomi, Ohta, Souichi, & Teruyama, Hiroshi (2018). *The changing Japanese labor market: Theory and evidence* (Vol. 12). Singapore: Springer Nature.
- Koda, Shigeki, Yasuda, Nobufumi, Sugihara, Yuki, Ohara, Hiroshi, Udo, Hiroshi, Otani, Toru, & Aoyama, Hideyasu (2000). Analyses of workrelatedness of health problems among truck drivers by questionnaire survey. *Sangyo Eiseigaku Zasshi*, 42(1), 6–16. 10.1539/sangyoeisei.KJ00002552185.
- Koizumi, Tomoe, Sugawara, Masumi, Maekawa, Kyoko, & Kitamura, Toshinori (2003). Direct and indirect effects of negative spillover from work to family, on depressive symptoms of Japanese working mothers. *The Japanese Journal of Developmental Psychology*, 14(3), 272–283. 10.11201/jjdp.14 .272.
- Komorida, Tatsuo (2016). The causal condition that distinguishes "suicide by overwork" from "death by overwork": Qualitative comparative analyses (QCA) of judicial precedents. *Sociological Theory and Methods*, 31(2), 211–225. 10.11218/ojjams.31.211.
- Komura, Mitsuyo, & Ishitake, Tatsuya (2012). The relationship between burnout, personal traits, and the work environment of caregivers in group homes. *Japanese Journal of Public Health*, 59(11), 822–832. 10.11236/jph.5 9.11\_822.
- Kubo, Tomohide, Sasaki, Tsukasa, & Matsumoto, Shun (2010). Relationship between emotional load and behavioral fatigue in simulation of long-time intensive work. *Journal of Occupational Safety and Health*, 3(1), 47–54. 10.2486/josh.3.47.
- Matsuyama, Kazuki (2010). Job attitudes and mental health of nonpermanent employees. *Japanese Journal of Administrative Science*, 23(2), 107–121. 10.5 651/jaas.23.107.
- Ministry of Economy, Trade, and Industry. (2018). Enhancing health and productivity management. Retrieved from https://www.meti.go.jp/policy/mono\_ info\_service/healthcare/downloadfiles/180717health-and-productivitymanagement.pdf.
- Ministry of Health, Labour, and Welfare. (2012). Inquire at the equal employment office of your prefectural labour bureau. Retrieved from https:// www.mhlw.go.jp/bunya/koyoukintou/pamphlet/pdf/funso\_en.pdf.
- Ministry of Health, Labour, and Welfare. (2017). Syokuba no pawaa harasumento ni kansuru jittai chosa hokokusyo.[Workplace power harassment survey in

FY2016.] Retrieved from https://www.mhlw.go.jp/file/04-Houdouhappyou-112 08000-Roudoukijunkyoku-Kinroushaseikatsuka/0000164176.pdf.

- Ministry of Health, Labour, and Welfare. (2018). Outline of the act on the arrangement of related acts to promote work style reform. Retrieved from https:// www.mhlw.go.jp/english/policy/employ-labour/labour-standards/dl/201904 kizyun.pdf.
- Ministry of Health, Labour, and Welfare. (2019a). 2018 monthly labour survey. Retrieved from https://www.mhlw.go.jp/toukei/itiran/roudou/monthly/30/3 0r/30r.html.
- Ministry of Health, Labour, and Welfare. (2019b). Annual health, labour and welfare report 2018. Retrieved from https://www.mhlw.go.jp/stf/wp/hakusyo/kousei/18/.
- Ministry of Health, Labour, and Welfare. (2019c). Gaikokujin koyo jyokyo no todokede jyokyo matome (heisei 30 nen 10 gatsu matu genzai). [Status of reporting on the employment of foreign workers by employers (October 2018).] Retrieved from https://www.mhlw.go.jp/stf/newpage\_03337.html.
- Ministry of Health, Labour, and Welfare. (2019d). Heisei 30 nen ban karoshi tou boshi taisaku hakusyo. [White paper on prevention of karoshi 2018.] Retrieved from https://www.mhlw.go.jp/wp/hakusyo/karoushi/18/index.html.
- Ministry of Health, Labour, and Welfare. (2019e). Heisei 30 nen do karoshi tou no rosai hosyo jyokyo. [Status of industrial accident compensation for karoshi, etc. In FY2018.] Retrieved from https://www.mhlw.go.jp/stf/newpage\_05400.html.
- Ministry of Internal Affairs and Communications. (2019). 2018 labor force survey. Retrieved from http://www.stat.go.jp/english/data/roudou/results/ annual/ft/index.html.
- Mori, Kohei, Iwata, Ruka, & Tanaka, Atsushi (2014). Study of factors affecting the mental health of teachers involved in special needs education: Analysis of work area and employment. *Asian Journal of Human Services*, 6, 111–124. 10.14391/ajhs.6.111.
- Morinaga, Yuta. (2019). Uerubiingu keiei no kangaekata to susumekata: Kenko keiei no shintenkai [The theory and practice of well-being management: New developments in health and productivity management.] Tokyo, Japan: Rodo Simbunsya.
- Morita, Shinichiro (2018). The relation between job satisfaction and mental health among white-collared regular workers and involuntary non-regular workers: Focus on the support provided by supervisors and co-workers. *Japanese* Association of Industrial/Organizational Psychology Journal, 31(2), 155–166.
- Nagata, Shoji (2005). Sangyo sutoresu [occupational stress]. In Ishikawa, T. & Kawano, T. (Eds.), *Dictionary of stress*. Tokyo, Japan: Asakura Syoten.
- Nakada, Akihiro, Iwasaki, Shinichi, Kanchika, Masaru, Nakao, Takehisa, Deguchi, Yasuhiko, Konishi, Akihito, & Inoue, Koki (2016). Relationship between depressive symptoms and perceived individual level occupational stress among Japanese schoolteachers. *Industrial Health*, 54(5), 396–402. 10.2486/indhealth.2015-0195.
- Nakahara, Tomoko (2007). The gap between the employment system and stress: Focusing on the full-time non-regular employment of women with preschoolers. *Japanese Journal of Family Relations*, 26, 49–60.
- Nakata, Akinori, Haratani, Takashi, Kawakami, Norito, Takahashi, Masaya,

Shimizu, Hiroyuki, Miki, Akiko, & Araki, Shunichi (2001). Relationship between perceived job stress and sleep habits in daytime female workers: An epidemiological study of employees in an electric equipment manufacturing company in Japan. *Japanese Journal of Behavioral Medicine*, 7(1), 39–46. 10.11331/jjbm.7.39.

- Nii, Momoko, Tsuda, Akira, Tou, Ka, Yamahiro, Tomomi, & Irie, Masahiro (2018). Development of the power harassment questionnaire for workplaces. *Stress Management Research*, 14(2), 78–90.
- Nishikitani, Mariko, Nakao, Mutsuhiro, Karita, Kanae, Nomura, Kyoko, & Yano, Eiji (2005). Influence of overtime work, sleep duration, and perceived job characteristics on the physical and mental status of software engineers. *Industrial Health*, 43(4), 623–629. 10.2486/indhealth.43.623.
- Nishitani, Naoko, & Sakakibara, Hisataka (2010). Job stress factors, stress response, and social support in association with insomnia of Japanese male workers. *Industrial Health*, 48(2), 178–184. 10.2486/indhealth.48.178.
- Nozaki, Takuro, Mafune, Kosuke, Inoue, Akiomi, Tanaka, Nobuaki, Hori, Chiemi, Masuda, Kazuyuki, & Hiro, Hisanori (2012). The relationship between job stressors and mental health in relation to overtime work hours. *Health Development*, 17(2), 57–62.
- OECD. (2020). LFS Average Annual Hours Worked. Retrieved from https:// stats.oecd.org/Index.aspx?DatasetCode=ANHRS accessed on 22 Jun 2020.
- Ogura, Kazuya (2008). Long working hours in Japan: International comparison and research subjects. *The Japanese Journal of Labour Studies*, 575, 4–16.
- Ozono, yoko (2010). Non-regular employees' job stress and their status as key workforces. *Journal of Career Design Studies*, 6, 19–34.
- Suzumura, Miwa, Fushiki, Yasuhiro, Kobayashi, Kota, Oura, Asae, Suzumura, Shigeo, Yamashita, Masafumi, & Mori, Mitsuru (2013). A cross-sectional study on association of work environment, coping style, and other risk factors with depression among caregivers in group homes in Japan. *Industrial Health*, 51(4), 417–423. 10.2486/indhealth.2012-0204.
- Takahashi, Miho, Morita, Shinichiro, & Ishidu, Kazuko (2014). The comparison of the mental health of full-time workers, part-time workers and unemployed people: Focusing on the voluntariness of the employment situation and attitude towards work. *The Japanese Journal of Labour Studies*, 650, 82–96.
- Takaki, Jiro, Taniguchi, Toshiyo, Fukuoka, Etsuko, Fujii, Yasuhito, Tsutsumi, Akizumi, Nakajima, Kazuo, & Hirokawa, Kumi (2010). Workplace bullying could play important roles in the relationships between job strain and symptoms of depression and sleep disturbance. *Journal of Occupational Health*, 52(6), 367–374. 10.1539/joh.L10081.
- Takeuchi, Masumi, Nomura, Kyoko, Horie, Saki, Okinaga, Hiroko, Perumalswami, Chithra R., & Jagsi, Reshma. (2018). Direct and indirect harassment experiences and burnout among academic faculty in Japan. *The Tohoku Journal of Experimental Medicine*, 245(1), 37–44. 10.1620/tjem.245.37.
- Taniguchi, Toshiyo, Takaki, Jiro, Harano, Kaori, Hirokawa, Kumi, Takahashi, Kazumi, & Fukuoka, Etsuko (2012). Associations between workplace bullying, harassment, and stress reactions of professional caregivers at welfare facilities for the elderly in Japan. *Journal of Occupational Health*, 54(1), 1–9.
- Taniguchi, Toshiyo, Takaki, Jiro, Hirokawa, Kumi, Fujii, Yasuhito, & Harano,

Kaori (2016). Associations of workplace bullying and harassment with stress reactions: A two-year follow-up study. *Industrial Health*, 54(2), 131–138. 10.2486/indhealth.2014-0206.

- Tarumi, Kimio, & Hagihara, Akihito (2002). The effects of working hours and vacations on distress: A study of white-collar workers in a Japanese manufacturing company. *Japanese Journal of Health Promotion*, 4(2), 87–99.
- The Japan Institute for Labour Policy and Training. (2013). Workplace bullying and harassment. Retrieved from https://www.jil.go.jp/english/reports/ documents/jilpt-reports/no.12.pdf.
- The Japan Institute for Labour Policy and Training. (2016). Ninshin tou wo riyu to suru hurieki toriatsukai oyobi sekusyuaru harasumento ni kansuru jittai chosa kekka. [A survey of disadvantage handling and sexual harassment due to pregnancy etc.] Retrieved from https://www.jil.go.jp/institute/research/201 6/150.html.
- The Japan Institute for Labour Policy and Training. (2019). Syokuba no pawaa harasumento ni kansuru hiaringu chosa kekka. [Interview report on power harassment in workplace.] Retrieved from https://www.jil.go.jp/institute/ siryo/2019/216.html.
- Tominaga, Maki, & Asakura, Takashi (2006). The effect of perceived work and organizational characteristics on psychological distress and intention to quit of information technology professionals. *Japanese Journal of Public Health*, 53(3), 196–207. 10.11236/jph.53.3\_196.
- Tsuno, Kanami (2016). Recent evidence in terms of antecedents and health and organizational outcomes of workplace bullying. *The Japanese Journal of Stress Sciences*, 31(1), 37–50.
- Tsutsumi, Akizumi, Shimazu, Akihito, Eguchi, Hisashi, Inoue, Akiomi, & Kawakami, Norito (2018). A Japanese stress check program screening tool predicts employee long-term sickness absence: A prospective study. *Journal of Occupational Health*, 60(1), 55–63. 10.1539/joh.17-0161-OA.
- Uehara, Naohiro, Kanbara, Ryu, Shido, Koichi, Nishi, Motoi, & Miyake, Hirotsugu (2014). The relevant factors and depressive symptoms in male workers of hokkaido and tohoku: Study in by type of employment. *Bulletin of Social Medicine*, 31(1), 95–104.
- Umehara, Katsura, Ohya, Yukihiro, Kawakami, Norito, Tsutsumi, Akizumi, & Fujimura, Masanori (2007). Association of work-related factors with psychosocial job stressors and psychosomatic symptoms among Japanese pediatricians. *Journal of Occupational Health*, 49(6), 467–481. 10.1539/joh.49.467.
- Virtanen, Marianna, Kivimäki, Mika, Joensuu, Matti, Virtanen, Pekka, Elovainio, Marko, & Vahtera, Jussi (2005). Temporary employment and health: A review. *International Journal of Epidemiology*, 34(3), 610–622. 10.1093/ije/dyi024.
- Yamaguchi, Yoshie. (2010). The current status of operations in community general support centers and the correlation of personal traits, work environment and occupational stress. *Sangyo Eiseigaku Zasshi*, 52(3), 111–122. 10.1539/sangyoeisei.B9010.