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Understanding the Psychosocial Mechanisms of Karoshi

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ABSTRACT

As often documented by international media, Japan is characterised by an extreme overwork culture. The term *karoshi* - death from overwork - emerged in Japan in the early 1980s, and has since been an ongoing occupational threat for the Japanese working society. The notion is used to describe deaths due to cerebrovascular/heart diseases, or suicide due to mental disorders stemming from heavy psychological burden caused by an overload of work (Ministry of Health, Labour and Welfare, Japan, 2022a). The adapted term *karo-jisatsu* is used to refer to suicide from overwork. Despite the fact that karoshi persists to this day, little research has been done to identify the psychosocial mechanisms behind this social phenomenon. Consequently, research is urgently needed to better understand this occupational threat and raise awareness about the risks associated with excessive work habits.

In this cross-sectional study, we investigated the relations between key factors that are theoretically related to the phenomenon of karoshi: overwork climate, workaholism, perceived exploitation and turnover intentions. In addition, we hypothesised and tested these relationships while considering the moderating effects of collectivism and career calling (N = 80 Japanese workers). Our results indicate that overwork endorsement is highly associated with workaholism and perceived exploitation, suggesting that interventions to prevent excessive work habits should be aimed at the organisational level. Furthermore, we observed that workaholics with high levels of collectivism and career calling tend to experience lower levels of perceived exploitation. This finding may shed light on why some employees push themselves to the point of exhaustion, or worse death. Overall, our research provides deeper insights into this occupational issue, serving as a foundation for further empirical research into the underlying psychosocial causes of karoshi.

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"Don't go to work"

- *poem written by Ma-kun (National Family Association for Karoshi, n.d.)*

Ma-kun is a boy who had lost his father to *karoshi* (death from overwork) during his first year of primary school. The heart-breaking poem speaks clearly to the importance of adopting empirically-based solutions to a phenomenon that is killing at least 10,000 workers each year (Kawahito, 1998).

Excessive work culture is a longstanding issue in Japan. After the end of World War II, the country experienced a rapid economic growth, emerging as the world's third largest industrial nation in less than 25 years, becoming the world leading exporter of steel, ships, and consumer electronics (Brookings Institution Press, 1976). However, this success came at a cost: the well-being of workers. During this so-called "Economic Miracle," Japanese

employees were labelled as *kigyō-senshi* (corporate warriors) or *mōretsu-shain* (fierce employees), willing to work extensive hours in order for their company to achieve success. This nickname derived from an energy drink commercial that aired during the late 1980s with the catchphrase "Can you fight for 24 hours for your company?" which was perceived as a symbol of pride and vitality during the economic bubble era (Takagi, 2015; Yuki, 2017). The music video for this commercial song, *Yūki no Shirushi* (Signs of Courage), features a man dressed as a *samurai*, singing that working 24 hours a day is a sign of bravery for a Japanese businessman (yunico2012, 2012). Indeed, Japanese workers are often associated with the famous pre-modern warriors, drawing comparisons between their value of loyalty towards their leader and the employee's loyalty towards their superiors or their company. Furthermore, Japan's religious background is diverse and complex, with a mixture of Shintoism, Buddhism, and Confucianism that resulted in a unique religion of its own, influencing Japanese citizens to this day. We believe that the Japanese work ethic has been influenced by all of the factors above, creating a strict work culture deeply rooted in the country's history and traditions.

In recent years, the phenomenon has been featured in the media all around the globe (e.g., Demetriou, 2020; Dickinson, 2023; Santini, 2021), warning people about the existence of this occupational hazard and its potential worldwide outbreak in the future. In fact, overwork death has already been witnessed and recognised in China and South Korea, where the terms *guolaosi* and *gwarosa* are used to refer to overwork death, respectively (Kang, 2021; Salleh, 2008). Therefore, not only is there an urgent need to unearth the root causes of karoshi in Japan, but it is also necessary to apply these findings in other cultures where a similar phenomenon is being observed, in order to prevent further spreading of this occupational threat.

This paper is split into six main sections. The first chapter will introduce the readers with a brief history of Japan's religious background. The aim is to give the audience a general overview, in order to explain how the Japanese work ethic is deeply rooted in its religious history. The second chapter will be a preliminary literature review of the various factors that underlie karoshi, which will be subsequently presented in our theoretical framework and hypotheses in chapter three. Chapter four will present the methodology and procedures that were employed in this research, followed by the results in chapter five. Finally, chapter six will conclude the paper with a discussion of our findings, limitations of the current study, and implications for future research.

CHAPTER 1

A BRIEF HISTORY OF JAPAN AND KAROSHI

Origins of Japanese Work Ethics

We argue that the religious and philosophical foundations of Japan, consisting of Shintoism, Buddhism, and Confucianism, have had a significant impact on the Japanese work culture. While these beliefs cannot explain all business practices, they serve as a valuable framework for understanding Japanese culture and its influence on managerial behaviour (Rarick, 1994). In this chapter, we will briefly discuss these religions and their possible influences on the work attitudes of modern Japanese workers.

Buddhism and Shintoism

The mysterious nature of Japanese religion, where individuals can adhere to both Buddhism and Shintoism simultaneously, is viewed as an unchanging characteristic of Japanese culture (Toshio et al., 1981). While most Japanese considered themselves to be both Shintoists and Buddhists until a few decades ago (Rice, 1978), recent surveys suggest that only 36% of the Japanese people follow a religion today, with Buddhism being by far the most prominent, followed by Shintoism (Kobayashi, 2019).

Buddhism, originating in India and subsequently introduced to Japan through China, is a religion centred around the pursuit of "enlightenment" - direct intuitive knowledge that is superior to reasoning and discussion - and the relief from suffering through rigorous training and spiritual development (Eliot, 2014). The religion was imported into Japan in 538, and it was officially integrated into the country through the Seventeen-Article Constitution, written by Prince Shotoku and adopted in the reign of Empress Suiko in 604 (Nagasaki, 2021; Sueki,

1996). It is the first constitutional law that was introduced in Japan, with the aim to recreate China's sophisticated political institutions based on Buddhist and Confucian teachings (Columbia University, n.d.). The thirteenth article of the constitution states that "workers, especially those in public office, should be diligent in their duties, but should also be aware of the duties of their colleagues and their connection with their own" (Nagasaki, 2021). This principle has served as a cornerstone of the Japanese work ethic, instilling a sense of duty in work and highlighting the interdependence of one's own responsibilities with those of others. In fact, scholars argue that the Japanese government used Buddhism to incorporate Buddhist teachings into their ruling strategies, in an effort to centralise power and maintain order in the country (Sueki, 1996).

Zen, an influential sect of Buddhism, has played a significant role in shaping Japanese culture. It was successfully introduced to Japan by Buddhist monks Eisai and Dogen, highlighting meditation and introspective questioning as pathways to achieving "enlightenment" (Morton & Olenik, 2004; Sueki, 1996). The core principle of Zen revolves around maintaining an empty mind, characterized by clarity, openness, and a willingness to embrace inspiration without bias (Eliot, 2014). Eliot argues that Zen Buddhism appealed to samurais during Japan's military dictatorship, due to its emphasis on continuous spiritual self-discipline and aiding in the development of mental control amongst the soldiers. Moreover, the author explains that its atheistic nature made it convenient for rulers to maintain authority over the samurais. Conversely, other Buddhist sects introduced during the Kamakura period (1185-1333) leaned toward monotheistic religions, which posed a challenge for the ruling shoguns as they presented the samurais with a potential alternative source of faith that could undermine their leadership (Sueki, 1996). As a result, Zen Buddhism spread

across Japan, becoming the second most followed religion in the country during the 18th century (Mascherpa, 2018).

We believe that this mindset of continuous self-discipline and gradual training amongst samurais have influenced, to some extent, the mindset of Japanese workers. The philosophy may have contributed to their ingrained strive for excellence and constant growth, which in turn has fostered a hard-working culture. Indeed, the philosophy of Zen has deeply permeated various aspects of Japanese culture, including traditions of craftsmanship, flower arrangements (ikebana), and tea ceremonies, as well as serving as the foundation for the renowned Toyota Production System that gave rise to lean production (Chiarini et al., 2018).

Meanwhile, Shintoism is the indigenous religion of Japan which literally means "way of the Gods" (Rarick, 1994). The earliest form of Shinto is based on the *Kojiki*, otherwise known as the "Bible of the Japanese"; a compilation of old stories about the origin of deities and the establishment of men (Underwood, 2007). The purpose of the book was to show that the ruling family had a divine origin, as the emperors were concerned that Buddhism might weaken the monarchy's foundations and threaten its authority in the nation (Sueki, 1996). In fact, it is often argued that Shintoism does not provide any philosophical beliefs or doctrine, but rather a different manifestation of Buddha in which he converts and saves human beings (Sueki, 1996, Toshio et al., 1981). Therefore, Shintoism has primarily offered the people an object of faith, whereas Buddhism has imparted the Japanese with principles guiding their thinking and way of life.

Confucianism and Neo-Confucianism

Unlike Buddhism and Shintoism, both of which are commonly regarded as religions, the influence of Confucianism on Japanese society has been more philosophical rather than

spiritual in nature (Rarick, 1994). In fact, Confucianism can be defined as a constellation of ways of thinking, writing, behaving, and practising that were combined into a single unified tradition (Paramore, 2016). It is a philosophy that emphasises proper human relationships as the foundation of society, which has profoundly influenced East Asian culture, having been adopted as the official philosophy of many dynasties in China, the Yi dynasty in Korea, and the Tokugawa shogunate in Japan (Yum, 1998; McNaughton, 1974).

During the late 1500s and early 1600s, Japan systematically eradicated several active religions such as Shin Buddhism and Roman Catholic Christianity (Paramore, 2016). This marked the beginning of the Tokugawa shogunate, a military dictatorship that governed Japan from 1603 to 1868, which introduced a feudal system designed to ensure political control over the territorial lords and peasants (Tsukahira, 1966). However, the government's extreme coercive rules led to a plot to overthrow the shogunate, forcing the government to shift to a civilian government (Kawai, 2008). To facilitate this transition, several Confucian scholars introduced the philosophy of Neo-Confucianism to indoctrinate people and maintain social order, while simultaneously relaxing penalties imposed on lords (Kawai, 2008). This advanced form of Confucianism rapidly developed as an academic discipline of the shogunate, emphasising the importance of social structures such as the family, country, and empire and regarding the hierarchical order as absolute, supporting the legitimacy of the feudal system (Kawai, 2008; Paramore, 2016). For this reason, Neo-Confucianism became a convenient practice for the regime to govern the country peacefully while centralising power in the shogunate.

As Berkson (2016) explains, the teachings of Confucianism had a significant impact on how people perceived the meanings of their lives, particularly with regard to living up to the desires and expectations of one's parents. Filial piety, one of the key teachings of

Confucianism, highlights the importance of faithfulness, loyalty, and respect in human relationships, especially toward elders (Yum, 1987, 1988). Indeed, the five moral codes of Confucianism that define proper human relationships are: loyalty between ruler and subject, closeness between father and son, distinction in duty between husband and wife, orders between elders and the young, and faith amongst friends (Yum, 1987).

In Japanese society, the company or organisation plays a significant role in social group composition and perception, as reflected in expressions such as *uchi* (home) that is also used to refer to one's workplace. Nakane (1967) argues that a company and an employee often have more than a contractual relationship, almost like a bond bound by fate that can be compared to that of a husband and wife. For instance, employees in Japan do not say that they work for Toyota or Sony, but rather state that they "belong" to Toyota or Sony (Rarick, 1994). Furthermore, workers in Japan talk to their colleagues about their own families and relationships, workplace marriages are common, and family members often participate in company retreats (Nakane, 1967). Therefore, the idea of perceiving the company as family is deeply rooted in Japanese culture, and it is not surprising that Japanese employees are thus willing to sacrifice a large portion of their lives for their work. Confucian values emphasise the importance of living out the desires of the family, and in Japan's case, it can also mean to live up to the expectations of one's organisation.

Karoshi and its Antecedents

History of Karoshi

The term karoshi made its first appearance in a book written by Japanese physicists Hosokawa, Uehata and Tajiri (1982), who defined it as conditions in which excessive workload has triggered and aggravated underlying diseases such as hypertension, arteriosclerosis, cerebral hemorrhage, subarachnoid hemorrhage and cerebral infarction,

which have caused the acute onset of ischaemic heart disease or acute heart failure such as myocardial infarction, leading to permanent work disability or death. Kawahito (2005, p.134), an expert lawyer in the field of overwork, summarised the phenomenon as "death due to overwork or due to stress caused by overworking." Kawahito currently serves as the head of The National Defence Counsel for Victims of Karoshi, which launched the KAROSHI Hotline in 1988 to aid those who suffer from overwork-related issues (Kawahito Law Office Homepage, n.d.).

During the 1980s, research on karoshi mainly consisted of an accumulation of individual case studies, often revealing that karoshi victims had been working more than 3,000 hours per year prior to their death (Nishiyama & Johnson, 1997). This figure is substantially higher than the average annual work hours calculated in Japan between 1980 and 1989, which averages to approximately 2,100 hours (OECD, 2023). However, Uehata (2014) explained in an interview that the phenomenon was already present in Japan from the early 1970s, when he received many consultations on compensation claims from bereaved family members who claimed that they had lost their relatives due to overwork. According to Uehata, these employees used to work irregular night shifts, often two to three times a week. At the time, these cases used to be referred to as "occupational sudden death" (Nishiyama & Johnson, 1997, p.626), but since these consultations amounted to approximately 100 cases, this phenomenon was officially presented as "karoshi" in subsequent conferences. The term is in fact a combination of three words: *ka* (excess), *rō* (work), and *shi* (death).

Despite the growing number of karoshi consultations, the Japanese Ministry of Health, Labour and Welfare (MHLW) was initially reluctant to acknowledge and approve karoshi as a work-related accident (Kanai, 2009). In 1987, in response to the issue of long working hours, the Japanese government took action by revising the Labour Standards Law,

changing the weekly working hours from 48 to 40 hours with an 8-hour workday system (Iwasaki et al., 2006; Umezaki, 2008). Since then, the criteria for recognising karoshi has been revised several times and the Labour Standards Law has been modified accordingly. In a recent review, Kanai (2022) described the key turning points in this legislative trajectory of karoshi, stating that the legal criteria for recognising brain and heart disease due to overwork was revised in 1995, and further relaxed in 2002. She further explains that the growing number of *karo-jisatsu* (suicide from overwork) cases also led to the revision of criteria for work-induced mental illnesses in 1998 and 2011, albeit initially being disapproved of for being perceived as deliberate acts from employees. Figure 1 demonstrates the change in the number of approved karoshi-related compensation claims from 1997 to 2021 and indeed, we witness a slight increase in the number of recognised cases each time after the laws were revised.

Figure 1

*Change in the Number of Approved Karoshi-related workers' Compensation Claims in Japan*
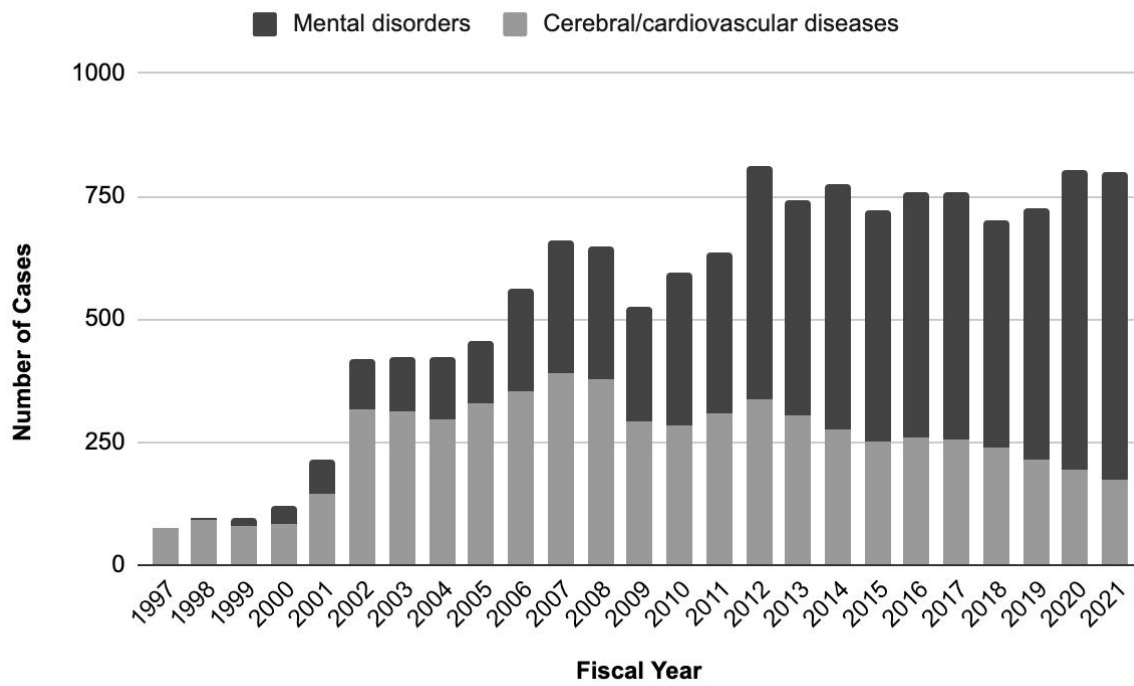
Note. Data was compiled and adapted from "Status of workers' compensation for mental disorders and other work-related injuries," by MHLW, Japan (2002a); "Status of workers' compensation for cerebrovascular disease and ischaemic heart disease (karoshi and other cases)," by MHLW, Japan (2002b); "White Paper on Measures to Prevent Karoshi," by MHLW, Japan (2022b).

However, this trend should not be taken for granted. If we closely observe the breakdown of these compensation claims we witness a steady decrease in cases related to cerebral/cardiovascular disease, but on the other hand, a growing number of cases related to mental illnesses. According to the MHLW (2022b), the total number of submitted compensation claims (both approved and non-approved) related to brain and heart disease amounted to 753 in 2021, while 2,346 claims were submitted for cases related to mental disorders, adding up to a total of 3,099. Compared to 2020, the former decreased by 31 cases but the latter increased by 295, raising further concerns over the mental strain inflicted upon the Japanese workers. In fact, as Figure 2 clearly shows, the total number of submitted claims

related to karoshi has been continuously increasing over time. Consequently, although more claims seem to be receiving approval, the total number of submitted claims have been growing simultaneously.

Figure 2

Change in the Total Number of Submitted Workers' Compensation Claims Related to Karoshi
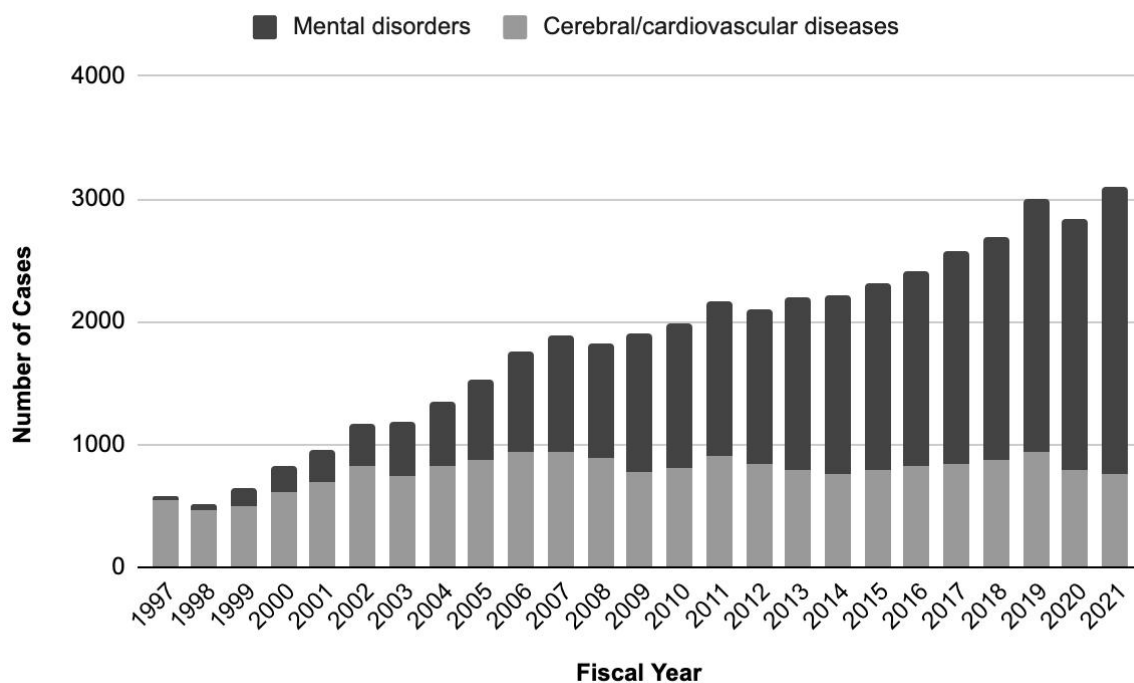
Note. Same as Figure 1.

Moreover, there are some doubts as to whether the available data fully represents the current situation. Out of the submitted claims mentioned above, in 2021, the number of approved compensation claims related to brain/heart disease were 172, and 629 for claims related to mental disorders, meaning that only 22.8% and 26.8% of the claims were accepted, respectively (MHLW, 2022). Kanai et al. (2022) suggest that the awareness of this low approval rate may be preventing workers or their family members from filing compensation claims related to karoshi, meaning that these figures are potentially not reflecting the actual

number of occurrences of karoshi. As a matter of fact, based on the data released by the

MHLW, Kawahito (1998) estimated that there were approximately 10,000 annual casualties

in Japan stemming from overwork caused by cerebral/cardiac diseases alone. If this number

were still true for recent years, and we take into account the additional cases caused by

mental disorders, it is possible that there is a large discrepancy between the reported figures

and the actual situation.

Karo-jisatu

Suicide from overwork was first brough into the spotlight in 2000 when Dentsu Inc.,

the largest advertising agency in Japan, was held legally responsible for an employee's

suicide caused by depression from overwork (Kawahito Law Official Homepage, n.d.). The

incident involved a 24-year-old Dentsu employee, Ichiro Oshima, who worked for the

company for 17 months and hanged himself at home in 1991 after never taking a full day off,

spending numerous nights at the office (Hamberg, 2020). According to McGuire (2012),

Oshima worked extremely long hours that were not accurately reported on paper, and this

overload of work led to his physical and mental deterioration that ultimately ended in a tragic

suicide. The author further describes that Dentsu was held liable for the negligence of

Oshima's manager and team leader to alleviate his workload, as they were aware of his

excessive overtime and declining health. Furthermore, the court determined that the victim

could not be considered to have been negligent for taking care of his health. His

characteristics and work style were within the expected range for employees in similar

positions, and because his manager had positively valued his character in relation to his work,

the Tokyo Supreme Court concluded that overwork was the cause for Oshima's suicide

(McGuire, 2012).

Similarly, in 2015, a 24-year-old employee of Dentsu tragically took her own life by jumping out of her corporate dormitory window after working over 100 hours of overtime in the last month of her life, despite being with the company for only eight months (Hamberg, 2020). The employee, Matsuri Takahashi, documented her daily work experiences on Twitter which not only brought media attention to the issue of overwork but also provided the public with a deeper understanding of the challenging reality of this occupational problem (Mason, 2019). In fact, her Twitter account is still accessible online, and many articles have referred to her tweets to describe the toxic work environment at Dentsu.

These two cases of karo-jisatsu, combined with other reported cases of karoshi in recent years, have had a great impact on the awareness regarding the issue of overwork. The Japanese government was forced to take clear measures in order to reform organisational structures that allowed such work habits, and in 2018, the "Work Style Reform Act" was established, setting an upper limit for overtime work of 45 hours a month and 360 hours a year, with penalties being imposed on companies that violate this limit (Takami, 2020). Considering that there was no limit to overtime work as long as there was agreement between the employee and the organisation (Nishiyama & Johnson, 1997), this was a huge step for the country's work society. Furthermore, the increase in the number of submitted compensation claims from 2018 to 2019 may have been incited by this reform, as more and more people became aware of the possibility to submit a claim regarding occupational issues (see Figure 2). Thus, cases of karo-jisatsu, especially those of young employees, have deeply influenced the lay public's awareness and perception of karoshi in Japan, to such a degree that it has brought about major legislative changes.

Long Work Hours

The extent to which Japanese workers tend to put in long work hours has received both national and global criticism (Kanai, 2009). According to the OECD database, as cited by Takami (2020), the average annual working hours in Japan was substantially higher than that of Western countries until the 1980s. However, this work trend shifted during the late 1980s and has continued to decline until today, although working hours are still much longer compared to European nations. Kanai (2009) argues that male full-time employees between the age of late 20s and early 40s work the longest hours, even longer in recent years, due to the increase in the employment rate of non-regular employees that has left regular workers with more workload.

Until recently, the Labour Standards Law allowed unlimited overtime hours and rest-day work in the event of an employee-organisation agreement called "Art. 36 Agreement", more commonly known as *saburoku kyoutei* (Iwasaki et al., 2006). However, in response to widely reported karo-jisatsu accidents, the government issued the following limits to overtime work (MHLW, n.d.):

- Within 720 annual working hours
- Within 80 monthly working hours between 2 to 6 months, on average
- Less than 100 monthly working hours in any given month

These regulations were established as part of the aforementioned "Work Style Reform Act" in 2018, as work hours that exceed these limits are highly correlated with the onset of karoshi (MHLW, 2022a).

Japanese scholars argue that these excessive work habits derive from the lifetime employment practice that forces employees to work longer in return for a promotion by seniority system, which guarantees stability (Yamaguchi, 2013). Yuki (2017) argues that the workers' "forced self-motivation" is the root cause of long working hours in Japan, a typical

example being the practice of *furoshiki zangyō* (taking work home) and *sābisu zangyō*

(unpaid overtime work), both of which consist of performing overwork outside work hours in

order to show motivation and loyalty towards his or her organisation.

Long working hours is often cited as the main antecedent of karoshi (Kanai et al.,

2022). Studies have shown positive associations between long working hours and negative

outcomes, such as psychological distress (Bannai et al., 2015), impaired cognitive

performance (Proctor et al., 1996), depression of immune system (Yasuda et al., 2001), and

increased risk of cardiovascular disease (Emdad et al., 1998). Moreover, studies have found a

positive relationship between long working hours and adverse health outcomes, including

depression, anxiety, sleep conditions, and coronary heart disease (Bannai & Tamakoshi,

2014; Wong, et al., 2019). However, recent scholars argue that long work hours may not be

the sole cause of these negative work outcomes. For instance, Ten Brummelhuis et al. (2017)

found that workaholism is associated with impaired health regardless of the number of hours

worked, primarily due to the inability of workaholics to psychologically detach from work.

Hence, rather than measuring only the number of hours worked, we have decided to integrate

the concept of workaholism in our present study, with the aim to understand its role in the

psychological process of karoshi.

CHAPTER 2

THEORETICAL BACKGROUND

Overwork Climate

History of Climate Research

During the 1960s and 1970s, the study of organisational climate gained prominence in the rapidly growing field of organisational psychology (Schneider et al., 2013). Back then, there was a noticeable lack of research that examined behaviour as a function of both personal and situational factors, which prompted psychologists to systematically incorporate environmental variation in their research design to better understand human behaviour in organisations (Forehand & Von Haller Gilmer, 1964). However, early empirical research on climate was invariably conducted at the individual level of analysis (i.e., as a personal attribute perceived by individuals in the organisation), which led to ambiguity in studying it as an attribute of the organisation itself (Schneider et al., 2017). To address this conceptual issue, James and Jones (1974) introduced the notion of psychological climate to refer to climate as an individual attribute, distinguishing it from organisational climate that refers to the situational attribute. This distinction became a critical contribution to climate research, allowing researchers to have a shared terminology and conceptualisation of the two levels of analysis, and to determine at which level of analysis a specific study was conducted (Schneider et al., 2017).

Furthermore, it was suggested that individual-level climate perceptions could be aggregated and averaged to represent the global climate of the organisation (James & Jones, 1974). This theory was explained in detail by Kozlowski and Klein (2000), who emphasised that group members are often exposed to common features, events, and processes, who in

turn affect their interactions and interpretations, converging on consensual views of the organisational climate over time. Consequently, organisational climate has been defined as "the shared perceptions of and the meaning attached to the policies, practices, and procedures employees experience and the behaviours they observe getting rewarded and that are supported and expected" (Schneider et al., 2013, p.362).

The goal of organisational psychology is to understand what affects the behaviour of individuals in organisations and seek ways to improve work outcomes such as employee motivation, well-being, and performance. To achieve this, it is important to consider the individual perceptions of the environment because individuals respond primarily to cognitive representations of the situation rather than the situation per se (James et al., 1978). For example, even if two people work in the same environment, they may perceive the situation differently and behave in their own separate ways. Thus, numerous studies have demonstrated that individual-level climate perceptions mediate the relationship between contextual factors at higher levels (group or organisation) and individual level-outcomes, highlighting the importance of the meanings that members attach to a particular feature of the work setting (Kozlowski & Klein, 2000).

Regarding measurement, some critics have argued that climate measures often use identical items to those used in satisfaction research, suggesting that climate is no different from job satisfaction or work attitude (Guion, 1973; Johannesson, 1973). However, it should be noted that James and Jones (1974) emphasised the importance of ascertaining the accuracy of climate perceptions using items that refer to a description of the organisation rather than to a subjective evaluation of the organisation. In this regard, Chan (1998) proposed the use of the referent-shift consensus model, which uses questionnaire items that refer to attributes of the unit to which responses will be aggregated, rather than the individual's own evaluation of

the organisational attributes. This makes the questionnaire conceptually appropriate, as they tend to yield better consensus when aggregated (LeBreton & Senter, 2008; Schneider et al., 2013). For instance, an item like "It is considered normal to work on weekends" (perception of global climate) is different from "I consider it normal to work on weekends" (evaluation of one's own perception). This goes in line with the findings of Schneider and Snyder (1975), who provided evidence that job satisfaction and climate were two divergent constructs when climate is conceptualised as a description of the work environment.

Climate vs. Culture

Organisational culture, rooted in social anthropology, originally used qualitative research methods to understand what culture means as an entity and what it represents (Schneider et al., 2017). Pettigrew (1990) suggested that culture consists of a complex set of values, assumptions, and beliefs that define the ways in which a company conducts its business, influencing the cognitive systems that explain how employees think, reason, and make decisions. Ostroff et al. (2003) explain that climate, on the other hand, is the surface of the organisational experience that employees perceive, and thus more immediate than culture. In fact, they define culture as a deeper phenomenon based on symbolic meanings that reflect core values and underlying ideologies of the organisation, hence more of a "why" of organisational behaviour. In contrast, climate is described as the "what" of culture. As a result, Schneider et al. (2013, p.362) summarised organisational culture as "the shared basic assumptions, values, and beliefs that characterise a setting and are taught to newcomers as the proper way to think and feel, communicated by the myths and stories people tell about how the organisation came to be the way it is as it solved problems associated with external adaptation and internal integration."

Researchers have proposed various ways to approach organisational culture, and Martin (2001) advocates for a three-perspective theory: integrationist, fragmented, and differentiation views. The integrationist view perceives organisations as being or having one shared culture by all, while the fragmented view suggests the opposite, arguing that employees at different levels and positions of an organisation, in addition to the varying personalities, would not all share the same experiences. The differentiation view takes a middle ground and suggests that employees create various subcultures in the organisation, resulting in different experiences or attaching different meanings to the same events. Meanwhile, Schein (2010) proposed a framework that demonstrates different layers of cultures within organisations, composed of artifacts, espoused values, and underlying beliefs, each representing different levels of observation, from shallow to deeper factors. As such, culture research has to be specific about which culture level a study is addressing, and which theory approach to employ, thereby making it a complicated construct. Furthermore, as we will see in more detail below, the newly emerged notion of overwork climate has been found to be associated with overwork-related factors such as workaholism, and research has been expanding recently in this field.

How Organisational Climate is Formed

Based on the work by Schneider & Reichers (1983), Ostroff et al. (2003) proposed that organisational climate can be formed through four different approaches: 1) the structuralist perspective, 2) the homogeneity approach, 3) the social interaction approach, and 4) the leadership perspective. We will briefly summarise their argumentation of these four approaches to understand the different ways in which climate can be developed.

The structuralist perspective posits that the structural characteristics of an organisation, such as policies, practices, and procedures, can create a strong basis for a shared perception amongst employees. When these characteristics are communicated and administered consistently throughout the organisation, they reduce ambiguity and enhance clarity, enabling employees to detect the appropriate behaviour in that context.

The homogeneity approach is based on the attraction-selection-attrition cycle proposed by Schneider (1987), which suggests that individuals are attracted to organisations with similar values and attitudes to their own. As organisations hire workers who fit the environment, the ones who do not fit tend to leave the organisation, leading to an increase in the homogeneity of its employees. This creates a consistent climate over time, as similarity increases amongst individuals who are attracted to and stay in the organisation.

The social interaction approach rests on the idea that "the people make the place" (Schneider, 1987), implying that the repeated patterns of interaction and communication between employees help create a shared perception and meaning of the context.

Finally, the leadership perspective posits that leaders and supervisors act as interpretive filters and role models for the employees. By repeatedly exposing employees to the relevant organisational policies, practices, and features, leaders can influence and induce uniform behaviour, which is then re-perceived by the members to form a common climate perception. This approach will be further elaborated in the following subsection on overwork climate.

The Development of Overwork Climate

At the turn of the millennium, a new era of climate research began with the introduction of process climates: a subtype of organisational climate focused on the processes

that surround the execution of everyday work, such as justice or harassment (Schneider et al., 2017). This led to the emergence of the concept of overwork climate, defined as the employees' perception that "working beyond set work hours, taking work home, and working during weekends or holidays are considered to be indispensable conditions for success and career advancement" (Mazzetti et al., 2014, p.234). Subsequently, Mazzetti et al. (2016, p.884) conceptualised overwork climate as consisting from two dimensions: 1) overwork endorsement, which refers to "the perception of a work environment that requires and expects employees to perform overwork," and 2) lacking overwork rewards, which refers to "the employees' perception of lacking compensation in response to their long work hours."

The key point is why and how employees perceive overwork as vital for their career success. In her early works on workaholism, Porter (1996) identified certain organisations where long work hours and sacrifice are widely believed to be required for career success. Common stereotypes of such organisations include communication, commerce/trade and consultancy firms, which are also market sectors in which workaholism has been found to be the most prevalent (Taris et al., 2012). Ng et al. (2007) argue that workaholism can be especially prevalent in masculine organisational cultures in which members are competitive, power-hungry, task-oriented and fearful of failure, as these characteristics are compatible with workaholism. Indeed, Japan is one of the most masculine societies in the world, characterised by a severe competition between groups (Hofstede Insights, 2023). In such environments, individuals who are capable of working long hours tend to be perceived as highly dedicated and committed, better able to compete with other peers for recognition, rewards, and career success (Burke, 2001). In fact, supervisors and managers may use the number of hours worked as a measure of the employees' productivity, especially when they cannot closely monitor their subordinates (Golden, 2009). As a result, consciously or

unconsciously, leaders tend to reward employees who work long hours by means of verbal recognition or more tangible rewards such as promotions, bonuses, or salary increases, thereby conveying the message that working excessively is the desired behaviour (Van Wijhe et al., 2010). Employees who see these behaviours being rewarded subsequently understand that working long hours is the key for success in the organisation, which triggers a vicious cycle of extra voluntary work and rewards that ultimately leads to workaholic behaviour. This theory of continuous reinforcement was initially proposed by McMillan et al. (2005), who used Skinner's operant conditioning theory to explain how pleasant peer approval from extra work can increase the likelihood of future voluntary overwork of the individual.

According to Schneider et al. (2013), organisational climate includes the perception of behaviours that employees observe getting rewarded, supported, and expected. Consequently, the cycle explained above visibly demonstrates how organisation leaders can endorse overwork to its employees using rewards and recognition, implying that long work hours are expected and indispensable for achieving success in that workplace. Incidentally, this description fits the characteristics of the Japanese working environment during the rapid economic growth, where the previously mentioned *kigyō-senshi* (corporate soldier) or *mōretsu-shain* (fierce employees) were highly appreciated by organisations. Such employees who continuously spend additional hours at work cumulatively operate at overcapacity, reaching a point at which the excessive working hours begin to entail escalating risks or harms beyond those associated with standard, agreed-upon hours, constituting what is referred to as overwork (Golden, 2009). Thus, the concept of overwork is often associated with long work hours and workaholism.

Workaholism

The Concept of Workaholism

Workaholism is a phenomenon that has gained increasing attention in recent years in light of the changing nature of work, where workers are expected to handle an intensified workload and yet continuously learn new skills to be flexible (Balducci et al., 2018). While the lay public may think of workaholism as simply the act of working excessively hard, it is actually a rather complex issue; in fact, scholars have proposed a variety of elaborated definitions during the past 50 years (Schaufeli, Taris, & Bakker, 2008), and the conceptual debate is still ongoing. However, in their comprehensive meta-analysis, Clark et al. (2016, p.1840) established a foundational definition based on the commonalities shared amongst existing conceptualisations of workaholism: "an addiction to work that involves feeling compelled or driven to work because of internal pressures, having persistent and frequent thoughts about work when not working, and working beyond what is reasonably expected (as established by the requirements of the job or basic economic needs) despite potential negative consequences."

In the present study, we have chosen to adopt the two-dimensional scale of workaholism put forth by Schaufeli, Taris, and Bakker (2008). According to their definition, workaholism involves 1) working excessively hard (i.e., allocating an exceptional amount of time to work and going beyond what is required to meet organisational or economic needs), and 2) working compulsively (i.e., being compelled by an irresistible inner drive to work). In the following sections, we will explore some of the key aspects of workaholism and explain why we have decided to employ this particular definition.

Workaholics are known for their tendency to work extremely hard and long hours. They tend to spend a great deal of time involved in work activities when given the discretion

to do so, even at the expense of non-work related activities such as time for their hobbies or family (Scott et al., 1997). Ng et al. (2007) suggest that workaholics have a blurred border between work and leisure, with the tendency to choose recreational activities that somehow complement or relate to their work. For example, employees in some countries may take up golf as soon as they start their corporate careers, in order to better prepare for sessions with prospective clients. This extreme dedication to work often goes beyond what is required by the job or the organisation, leading to work habits that exceed expectations (Machlowitz, 1980). While this behavioural pattern of working excessively is viewed as a defining feature of workaholism (Clark et al., 2016; Schaufeli, Taris, & Bakker, 2008; Scott et al., 1997), it alone does not fully capture the nature of work addiction (Schaufeli, Taris, & Bakker, 2008). Indeed, the true core feature of workaholism is its cognitive component, with workaholics being constantly preoccupied with their work (Clark et al., 2016). Not only do they work longer than others, but they also persistently think about their work, even when at home, involved in a hobby, or away on a vacation (Scott et al., 1997). Hence, workaholics stay mentally engaged with work even outside of their working hours, leading to feelings of distress, anxiety, or even guilt when not at work (Ng et al., 2007; Spence & Robbins, 1992). This work compulsion is akin to an obsession, stemming from an uncontrollable internal pressure that one "should" or "ought" to be working (Clark et al., 2016). In fact, the three most commonly used workaholism measures (WorkBAT, Spence & Robbins, 1992; WART, Robinson, 1999; DUWAS, Schaufeli et al., 2009), are all founded on the idea that workaholics are addicted to work. This perspective is in line with that of the founding father of the concept, who described workaholism as an addiction to work that comes with an uncontrollable need to work incessantly (Oates, 1971), and many other scholars (e.g., Ng et al., 2007; Sussman, 2012). Porter (1996, p.70-71) compared workaholism to alcoholism,

stating that "whereas an alcoholic neglects other aspect of life for the indulgence in alcohol, the workaholic behaves the same for excessive indulgence in work." According to Smith and Seymour (2004), addiction of any kind involves the loss of self-control and continued engagement in the behaviour despite negative consequences, which agrees with the idea that workaholics are obsessed with work, devoting long hours at the expense of their personal time (Ng et al., 2007).

Do Workaholics Enjoy Work?

Above, we have described the general agreement amongst scholars regarding the negative emotions that workaholics feel while not working, such as guilt and anxiety. However, the emotional experience of workaholics while "at work" is an area of debate (Clark et al., 2016).

Some researchers suggest that workaholics enjoy the act of working (e.g., Bonebright et al., 2000; Ng et al., 2007), while others disagree (e.g., Aziz & Zickar, 2006; Kanai et al., 1996). The frequently cited "workaholic triad" (Spence & Robbins, 1992) proposes that *true workaholics* are heavily involved in work, possess a high inner drive to work, and have low levels of work enjoyment. Based on these elements, two other subtypes of workaholics were identified: work enthusiasts (high work involvement and enjoyment, low inner drive), and enthusiastic workaholics (high on all measures). Buelen and Poelans (2004, p.454) describe work enthusiasts as "the happy hard workers," who "love their jobs, and avoid conflict at home and in the workplace." It has been argued, however, that work enthusiasts should not be regarded as workaholics, but instead as engaged employees (Schaufeli, Taris, & Van Rhenen, 2008). In fact, the authors believe that work enjoyment should not be included in the definition at all, and propose allocating this "good" form of workaholism under the construct

of work engagement. This idea is supported by various scholars such as Mudrack (2006, p.109), who stated that "work enjoyment, whether high or low, should not be a defining characteristic of workaholism."

Long Working Hours, Workaholism, and Health

Recent research has shown that excessive working hours are related to impaired health because they impede full recovery, causing physiological issues such as increased heart rates and high cortisol levels (Ten Brummelhuis et al., 2017), or psychological problems (Cartwright et al., 2002; Nagai et al., 2007). For example, a systematic review found that long working hours are associated with depressive state, anxiety, sleep condition, and coronary heart disease (Bannai & Tamakoshi, 2014). Another study found that employees with chronic work stress are over twice as likely to develop metabolic syndrome than those without work stress (Chandola et al., 2006). Thus, it seems that prolonged work hours can lead to health problems in general and indeed, long working hours is often cited as the main antecedent of karoshi (Iwasaki et al., 2006; Kanai, 2009; Kanai et al., 2022). However, some researchers have stated that findings are inconsistent, and that there is still not enough evidence to draw firm conclusions regarding the relationship between long working hours and adverse health (e.g., Van der Hulst, 2003). Hence, rather than solely taking into account the number of work hours, scholars have recently focused on the relationship between workaholism and health. The findings provide us with an improved understanding of the current state of affairs. Balducci et al. (2018) found that workaholism is positively related to systolic blood pressure and mental distress, presumably caused by insufficient recovery and the subsequent depletion of resources (Shirom, 2003). Furthermore, Ten Brummelhuis et al. (2017) found that workaholism is related to impaired health,

regardless of how many hours employees work, and that instead, the compulsive work mentality better explains the increased health risks of workaholics, primarily when work engagement is low. Thus, we concur with Kanai's2006, 2009) perspective and believe that research on karoshi should also shift its focus onto workaholism to determine whether these findings are applicable to the Japanese workforce. As Kanai (2006) states: "To understand workaholism in Japan better, more studies are needed to demonstrate the relation between karoshi and workaholism".

Perceived Exploitation

Global Attention on Exploitation

Organisational exploitation has gained much public attention in recent years, largely due to the global media coverage of some of the most brutal forms of worker exploitation. One such well-known scandal is the "Foxconn suicides" that occurred in China. This was a series of worker suicides that occurred in 2010 at Foxconn Technology, a major manufacturer of electronic devices with 1.3 million on its payroll at its peak (Merchant, 2018). According to news reports, 18 employees in the assembly factory attempted suicide in one year alone, with 14 confirmed deaths and 20 others who were talked down by Foxconn officials (Heffernan, 2013; Merchant, 2018). These suicides sparked widespread concern regarding the working conditions in these so-called "sweatshops," where workers are made to work long hours in inadequate conditions for little pay. In fact, an interview with a former employee at Foxconn revealed overly strict working conditions, with every movement of the employees being scrutinised and monitored for errors, and public humiliation and self-criticism used as punishment for mistakes (Heffernan, 2013). As employees were all committing suicide by jumping off the dormitory windows, Foxconn decided to install body-catching nets all around

the buildings in their premises (Johnson, 2011), which provoked further criticism regarding its company policies.

The reality of these poor working conditions in sweatshops have been highlighted by non-governmental organisations such as Green America, who conducted a campaign in 2015 to call out Hasbro and Disney for sweatshop-toys made in Chinese factories, revealing the occurrence of major safety and labour-rights abuses (Green America, 2015). Human rights groups have also published detailed investigation reports regarding these sweatshops, disclosing the low wages and tight work shifts that toy workers had to endure (China Labor Watch, 2015).

As mentioned in the previous chapter, recent cases of karoshi and karo-jisatsu have also drawn global attention to worker exploitation, particularly highlighting the toxic work culture in Japan. For example, the suicide of a young employee of Dentsu Inc. after working over 100 hours of overtime a month, as well as the death of a journalist from public broadcaster NHK who suffered heart failure after clocking up to 159 hours of overtime a month, and are amongst the most well-known karoshi cases in Japan (BBC News, 2017). These incidents played a significant role in the recent labour law reforms. Moreover, not only have these cases been covered by major news channels, but they have also been investigated on global news YouTube channels, featuring interviews with family members of karoshi victims (e.g., Financial Times, 2019).

Definition of Perceived Exploitation

In the present research, we have decided to employ the definition of perceived exploitative relationships proposed by Livne-Ofer et al. (2019, p.1992), which defines exploitation as the "employees' perceptions that they have been purposefully taken advantage

of in their relationship with the organisation, to the benefit of the organisation itself." This definition distinguishes perceived exploitation from other related constructs, such that it combines the perceived intentionality of the organisation's actions and the negative appraisal of the overall employee-organisation relationship, instead of focusing on a single negative event.

The concept of exploitation lays its historical roots in political economy, sociology, and philosophy, especially in the writings of Marx, Weber, and Durkheim who regarded exploitation as arising from power asymmetries in relationships (Livne-Ofer et al., 2019). Although one may be tempted to define exploitation in terms of lack of rewards or payment relative to the productivity (Sakamoto & Kim, 2010), recent scholars have returned to the original theories and suggested that exploitation should be seen as a social phenomenon that captures unequal social relations between agents (Yoshihara & Veneziani, 2013).

According to Livne-Ofer and colleagues' (2019) literature review, most research on workplace exploitation in organisational behaviour has focused on interpersonal exploitation, such as abusive supervision (Tepper, 2000). Nevertheless, there are a number of constructs that refer to the organisational exploitation of employees, such as psychological contract breach (Conway & Briner, 2005) and distributive injustice (Colquitt et al., 2005), which are conceptually similar to perceived exploitation. Psychological contract breach refers to the "the cognition that one's organisation has failed to meet one or more obligations within one's psychological contract in a manner commensurate with one's contributions" (Morrison & Robinson, 1997, p.230), while distributive injustice occurs whenever an employee's "profits fall short of investments" (Colquitt et al., 2005, p.14). However, both of these concepts refer to the employee's appraisal of a negative event rather than an appraisal of the overall relationship with their organisation, thus making perceived exploitation a distinct construct

(Livne-Ofer et al., 2019). Indeed, constructs in the employee-organisation relationship literature have generally focused on positive or neutral relationships, regarding negative events as occurring within those overall positive relationships (Dulac et al., 2008). Furthermore, these concepts do not explicitly define the exploitative actions of the organisations as intentional, which is also one of the main points that Livne-Ofer et al. (2019) highlight in their definition of perceived exploitation.

Despite the recent increase in the research of exploitation, there is still a lack of knowledge regarding the consequential behaviours exhibited by exploited employees (Cheng et al. 2023). Some studies have found that exploitation is positively related to depressive moods (Cheng et al. 2023) and turnover intentions (Livne-Ofer et al., 2019), but research is still very scarce. However, because of its associations with such negative organisational outcomes, we believe that perceived exploitation can potentially shed light on some of the psychological mechanisms underlying karoshi. Thus, we have decided to integrate this newly conceptualised construct into our model to explore its relationships with overwork-related constructs.

Turnover Intention

One theoretical explanation for Japan's economic success is the unique management style of Japanese organisations that maximises employees' willingness to stay in the organisation, through factors such as security of employment, welfare programs, and strong company ideology, in addition to the strong duty they feel to live to the expectations of family and the society (Abrams et al., 1998). However, we argue that karoshi and karo-jisatsu cases occur due to the workers not being able to escape the harsh work environment that puts them under excessive physical and mental strain. Thus, we believe it is important to

investigate turnover behaviour in karoshi research, in order to understand why these victims do not leave their jobs before they work themselves to death. Lacity et al. (2008, p.228) defined turnover intention as "the extent to which an employee plans to leave the organisation." The reason why we focus on turnover intention is because it is believed to be the best predictor of actual turnover behaviour (Mobley, 1977). In fact, many scholars have referred to turnover intention as the immediate antecedent of actual turnover, and it has frequently been used as a useful proxy measure for turnover behaviour (Takase, 2010). This is based on Locke's (1968) task motivation theory, which postulates that the individual's goal or intention is the most significant determinant of their choice (Mobley et al., 1978). Moreover, it has been suggested that the inclusion of perceived alternatives enhances the prediction of withdrawal intentions (Schneider, 1976). That is, job dissatisfaction stimulates thoughts about quitting, which in turn elicits the intention to search and evaluate alternative choices, consequently leading to the decision of either quitting or staying in the current job (Mobley, 1977). In 2022, more than 50 million people quit their jobs in light of the ample job opportunities, higher wages and remote work, which came to be known as the Great Resignation (Iacurci, 2023). Therefore, because of the various available alternatives, the rate of turnover has soared, highlighting the importance of incorporating the aspect of alternative choices when we investigate turnover intention and behaviour.

Constructs related to overwork are closely related to turnover intentions. Studies based on the job demands-resources (JD-R) model have found that high job demands, such as work overload and time pressure, are associated with exhaustion and burnout, which in turn is positively related to turnover intentions (Demerouti et al., 2001; Schaufeli & Bakker, 2004). In addition, Bakker et al. (2003) found that high job demands lead to health problems, while low job resources (i.e., different aspects of the job that help reduce job demands and achieve

work goals, such as job control and supervisor support) are related to low organisational commitment, leading to higher intentions of leaving the organisation. In other words, in a work environment where job demands are high and resources to cope with those demands are low, employees are likely to think about quitting their job and search for alternative choices.

However, this seems not to be the case for karoshi victims; they do not leave the organisation even in these stressful work situations. In fact, an employee working under such conditions should be depleted in energy, since high job demands may exhaust their mental and physical resources needed to carry out their work adequately (Bakker et al., 2003). It may even be the case that these workers are extremely exhausted, to the point that they have no cognitive resources left to think about quitting or searching for other options. Hence, it is not surprising that these extremely diligent workers develop physical and psychological issues as they continue to endure harsh working situations with insufficient resources, proving fatal at times. In order to answer the fundamental question of why these individuals are reluctant to resign, it is therefore vital to comprehend the role of turnover intentions in the psychosocial mechanisms of karoshi.

Collectivism

Individualism-Collectivism in Psychology

Individuals vary in the extent to which they are independent from and interdependent to their social environment (Hamamura, 2012). In psychology, this dimension is often referred to as *individualism* and *collectivism*. These concepts, also known as "cultural syndromes", have been extensively studied in cross-cultural psychology, acting as central themes around which various social and psychological processes are organised (Triandis, 2018). According to Triandis (2018), collectivism is defined as a social pattern that consists

of closely linked individuals who see themselves as part of larger collective groups, such as family, company, tribe or nation. Their motivation is primarily based on the norms and duties imposed by these groups, prioritising collective goals over personal ones and emphasising connectedness with other in-group members. On the other hand, individualism is considered as a social pattern of loosely linked individuals, independent from larger collective groups. They are primarily motivated by their own needs, rights, and preferences, prioritising personal goals over collective ones.

Hui and Triandis (1986) identified several aspects of collectivism through surveying psychologists and anthropologists from various parts of the world: consideration of implication of one's own actions for others, sharing material and non-material resources, susceptibility to social influence, self-presentation and saving face, sharing of outcomes, and feeling of involvement in others' lives. They concluded that these aspects can be summed up as "concern for others" (p.232), not in the sense of altruism or worry, but rather a feeling of oneness and a perception of complex relationships with others; the recognition of group as a basic unit of survival.

Hofstede's study (1984) examined the value preferences of IBM employees worldwide, and identified four main cultural factors: power distance, uncertainty avoidance, individualism-collectivism, and masculinity-femininity. While all of these dimensions are significant, the results related to individualism-collectivism are the most frequently cited in the literature (Hamamura, 2012). According to Hofstede (1991), individualism is commonly observed in societies where individuals have loose ties and are responsible for taking care of themselves, while collectivism is found in societies where people belong to tight-knit in-groups that offer protection in exchange for unquestioned loyalty. The dimension of individualism-collectivism has been repeatedly used to compare East Asians and North

Americans and has greatly contributed to understanding the interaction between culture and the mind (Triandis, 2018). From these comparisons, Markus and Kitayama (1991) posited the prominent theory of independent and interdependent self-construal, which corresponds to how individuals view the self in individualistic and collectivistic cultures, respectively. According to the authors, in collectivistic cultures, the self is viewed as interdependent with the surrounding context, and the "self-in-relation-to-other" (p.225) is put into focus, affecting how psychological processes like cognition, emotion, and motivation are experienced and expressed. This differs from the general western understanding of the self as an individual entity with distinct personality traits, disconnected from the surrounding context. In short, it is important to recognise cultural differences in the perception of the self and its relationship with others, as this greatly influences individual experience.

Collectivism in Japan

In GLOBE, a global research project concerned with leadership and organisational practices of various cultures, the investigators distinguished between societal collectivism and in-group collectivism (House et al., 2001). Societal collectivism "reflects the degree to which organisational, societal and institutional practices encourage and reward collective distribution of resources and collective action", while in-group collectivism "reflects the degree to which individuals express pride, loyalty, and cohesiveness in their organisations or families" (p.495). Notably, this categorisation closely resembles the dimensions of H-C and V-C, respectively. While societal collectivism is still deeply ingrained in Japanese society, in-group collectivism has been gradually declining in recent years.

One example is given by Hamamura (2012) regarding the changing norms of marriage. According to him, arranged marriages by parents or senior colleagues at work

accounted for more than half of all marriages in Japan in the 1950s, while love-based marriages have become the norm of the society today. Another example is the rise in the number of job changes in Japan. In recent years, it has become commonplace to quit a job in search for better working conditions, more pay, and better job satisfaction (MHLW, 2021), and the so-called *shū-shin-ko-yō* (lifetime employment) tradition has begun to fade. Therefore, it seems that the feelings of pride and loyalty towards families and organisations have undoubtedly decreased in Japan during the last few decades.

Nonetheless, as aforementioned, vertical hierarchy is still an undeniable reality in Japanese society. For instance, gaining admission to prestigious universities has been a long-standing aspiration of the Japanese people to this day, with the University of Tokyo and Kyoto University occupying the topmost positions in the university hierarchy (Lie, 2009). Moreover, the acronym MARCH stands for Meiji, Aoyama Gakuin, Rikkyo, Chuo, and Hosei, all prominent universities in Tokyo with high brand power that many Japanese students aspire to enter. As a matter of fact, Nakane (1967) explains how the notion of vertical society is embedded in the everyday life of Japanese people, ranging from seating etiquette in meetings to the various forms of language. Indeed, the *kamiza* (seat of honour) is always given to the chief, even at drinking parties, whereas the other employees sit in the *shimoza* (lower seats). Regarding speech, Gudykunst (1993) notes how Japanese people use different words to refer to the self, depending on the social situation and the listener's social attributes. This is especially pronounced in professional situations, where employees are expected to use various forms of formal language such as *kenjōgo* (humble speech used when speaking to a person of higher status) and *sonkeigo* (honorific speech used when speaking about superiors or clients). All in all, although in-group collectivism seems to be diminishing in some aspects, the vertical hierarchy is so deeply rooted in the culture that Japanese people

unconsciously exhibit these behaviours without questioning. Consequently, both aspects of H-C and V-C are present in the Japanese working society, and they greatly influence the manner in which Japanese employees think and act in the workplace.

Career Calling

Multidimensionality of Career Calling

In recent years, individuals are progressively seeking more humane and meaningful ways to understand their work lives (Weiss et al., 2003). Work occupies a substantial portion of our lives in the modern society, constituting more than a third of the waking hours for the majority of adults (Wrzesniewski et al., 1997). Given that human beings are intrinsically motivated to find purpose in their lives (Baumeister, 1991), individuals are now more inclined to engage in personally or socially meaningful work (Dobrow et al., 2023). Indeed, the study of work as a source of meaning has long been a topic of interest amongst organisational scholars and practitioners (Pratt & Ashforth, 2003), which resulted in a surge of interest in the research of career calling - a deep meaning that individuals can feel towards their work.

In her theoretical review, Wrzesniewski (2010) examined in detail the concept of *calling* by referring to its philosophical, religious, and social science roots. According to the author, while Christian theology focused on the belief that people were "called" by God to engage in meaningful work, the Protestant Reformation brought a shift that suggested any activity done to serve God was inherently valuable and part of one's calling. She explains that this shift that the latter view of calling is similar to older conceptions of work found in Greek philosophy, where self-fulfilment was believed to be found through personally meaningful and motivating pursuits. Indeed, modern secular perspectives of calling emphasise the

individual's fulfilment and motivation in their work, without necessarily invoking a religious aspect (Dobrow & Tosti-Kharas, 2011). Wrzesniewski (2010) thus concludes that there is no universally accepted definition of calling, due to its dynamic, evolving nature and complex historical roots.

Duffy and Dik (2013) organised the various definitions of calling into two distinct categories: the *neoclassical* approach and the *modern* approach. The religious origins of calling anchor the former approach, suggesting that each individual has a destined type of work for which they have a duty to discover and use as a means of fulfilling their obligation to God and others (Thompson & Bunderson, 2019). Dik and Duffy (2009, p.427) defined this component of calling as "a transcendent summons, experienced as originating beyond the self," which may either derive from God or from the needs of society. In line with this idea, some scholars argue that calling should not only have personal importance, but also contribute to society as a whole (Wrzesniewski, 2010). On the other hand, the modern approach puts emphasis on personal passions and interests which individuals pursue for their enjoyment, focusing on self-realisation and fulfilment through work (Dobrow et al., 2023; Thompson & Bunderson, 2019). For example, Dobrow and Tosti-Kharas (2011, p.1005) define calling as "a consuming, meaningful passion people experience toward a domain." Thus, whereas the traditional view is based on the idea of destiny and personal duty, contemporary interpretations of calling focus more on achieving personal fulfilment and pursuing personal interests (Bunderson & Thompson, 2009).

Researchers generally agree that calling is multidimensional, but there is currently no consensus on the various components that formulate calling (Vianello et al., 2018). A plausible explanation for this disagreement is the differences in culture and religion backgrounds. Dik and Duffy (2009) explain how the perception of calling may differ across

cultures, suggesting that collectivists may be more oriented towards the prosocial elements of the construct than individualists, since their career satisfaction may be closely linked with meeting needs of the group rather than their own. In collectivism, having a sense of calling may be closely tied to socially valued behaviour, as these cultures emphasise duties to the in-group and maintaining harmony (Oyserman et al., 2002). In fact, the "sense of duty" was found to be a unique and salient aspect of calling amongst Chinese people (Zhang et al., 2015). Furthermore, religious and spiritual commitments may significantly affect an individual's perception of calling, making it a normative ideal in some societies (Dik & Duffy, 2009). As the religious roots of calling derive from Christianity, it seems intuitive that cultures with different religious backgrounds will have a distinct conception of calling. Nevertheless, although research on calling has been conducted in various countries, there has been a lack of cross-cultural comparisons in the conceptualisation of calling (Lysova et al., 2019). Additionally, very few studies have focused on the sense of calling in Eastern cultures, despite extensive research being conducted amongst working adults in Western cultures (Park et al., 2016).

To tackle the issue of dissensus in the definition of calling, Vianello at al. (2018) have proposed an integrative conceptualisation of calling by identifying seven core elements that were frequently present in the literature, which has been observed to be invariant across time and various study domains: passion, purpose, pervasiveness, identity, transcendent summons, prosociality, and sacrifice. In line with this comprehensive framework, we conceptualise calling as a passionate and transcendent summons to pursue a career that motivates people to sacrifice other areas of life for the common good, which pervades all the dimensions of life, is part of an individual's identity, gives meaning and purpose to life, and makes them feel they are useful to the society or the greater good (Vianello et al., 2020, 2022).

The Two Sides of Calling

As Bunderson and Thompson (2009, p.50) suggest, having a sense of calling can be perceived as a double-edged sword that has "a source of transcendent meaning, identity, and significance as well as of unbending duty, sacrifice, and vigilance." Numerous studies have shown that individuals who view their work as a calling experience increased meaningfulness and satisfaction in both job and life, greater attachment to their organisation and occupation, and higher efficacy in their work (Thompson & Bunderson, 2019). On the other hand, many scholars have recently focused on the so-called "dark side" of calling (e.g., Duffy et al., 2016). For example, Bunderson and Thompson (2009) found that zookeepers who had a sense of calling were more likely to see their work as a moral duty, thus willing to make sacrifices for the job even at the expense of other personal aspects of life. Meanwhile, Duffy et al. (2019) distinguish between perceiving and living out a calling, suggesting that the former does not necessarily guarantee the latter. In fact, unanswered callings are often accompanied by feelings of regret for not following one's passions, or stress over pursuing callings outside of paid work (Berg et al., 2010). Thus, having a sense of calling can lead to lower levels of life satisfaction if an individual does not have the opportunity to pursue their calling (Duffy et al, 2016).

We have decided to integrate the concept of calling in our research for two reasons. Firstly, given that research on calling in Japan is currently limited, we aim to delve deeper into the understanding of calling within the Japanese cultural context. Secondly, we seek to contribute to the literature on the potential negative aspects of calling. Thus far, workaholism has been the sole empirical evidence of adverse consequences associated with calling (Dalla Rosa & Vianello, 2020). Most importantly, if the "sense of duty" is a salient aspect of calling not only amongst the Chinese but also within collectivistic societies at large (Zhang et al.,

2015), then called collectivistic workers may be susceptible to perceiving work as a moral obligation, and willing to make great sacrifices for the job.

Calling in Japan

Calling is still an understudied domain in Japan, and the term is yet to be diffused to the lay public. The concept has often been referred to as *ten-shoku* in the Japanese academic literature (Arai et al., 2015), which literally translates to "sky job" - a job gifted from the heavens. In Japan, the word *ten* is often used to refer to God, heaven, or a presence greater than oneself. Indeed, the word "heaven" in Japanese is *ten-goku*, the latter word referring to "country". However, we believe that this translation of calling is not sufficient to cover the various facets of the concept, as it only has strong connotations on the dimension of transcendent summons. Hence, we propose a new translation of calling in Japanese: *shi-mei-kan*. Written as "使命感," the word is made up of three kanjis (Chinese characters used in the Japanese language). The first kanji *shi* or "使" means to "use," and the character derives from the symbol of a bureaucrat that serves the country. This refers to the dimension of prosocial orientation in calling, pointing to the aspect of "duty" that is emphasised in Confucian teachings (Triandis, 2018). It also aligns with the moral code of precepts outlined in the Seventeen-Article Constitution, which emphasises the importance of diligence in work while recognizing the interconnectedness of individual and collective duties (Nagasaki, 2021). Secondly, *mei* or "命" means "life," and the character symbolises a man kneeling down, listening to God's wills. This refers to the component of transcendent summons in calling. Indeed, some Japanese traditions are closely tied with the idea of transcendence, such as the first visit to a temple or shrine at the beginning of the year (*hatsumōde*), or visiting religious

institutions to worship or pray to Gods and the dead (*omairi*). Finally, *kan* or "感" means

"sense of," and it symbolises the emotions evoked when one is deeply moved by something,

thereby indicating the origin of one's actions. This makes reference to the dimension of

purposefulness in calling. Thus, the word *shi-mei-kan* can be literally translated as a "sense of

purpose in life," with nuances of transcendent meaning and prosociality in *mei* and *shi*,

respectively.

CHAPTER 3

THE PRESENT STUDY

The aim of the present study is to give an account of the social and psychological processes that lead to karoshi in Japan. In the first part, we will present a theoretical model that links karoshi-related factors, namely overwork climate, workaholism, perceived exploitation, and turnover intention. In the second part, we will argue how these relationships could be moderated by collectivism and career calling. The full theoretical model is presented in Figure 3.

How Overwork Climate Can Push Workers to Quit

Previous research has found that employees who perform involuntary overtime with low rewards have an increased risk of burnout and other adverse mental health symptoms as compared to those who receive adequate compensation (Beckers et al., 2008; Van Der Hulst & Geurts, 2010). When workers are pressured to work overtime without having a sense of control over their work schedule, overtime work can lead to distress and impaired health (Fenwick & Tausig, 2001; Tucker & Rutherford, 2005). Employees are more likely to feel exploited in this type of workplace, perceiving overwork as a mandatory requirement rather than a choice. This situation is further aggravated when workers are not given sufficient rewards for their extra work, because employees usually expect fair compensation for their efforts (Beckers et al., 2008). Lack of overwork rewards can be perceived in various ways such as unpaid overtime, absence of compensatory time off or other perks that reward employees for their extra efforts. *Sābisu zangyō* (unpaid overtime work) – a prevalent culture in Japan which refers to activities such as entertaining customers and bosses through karaoke nights, drinking and golf sessions – is also an example of extra-role activities that are

implicitly expected from conscientious employees. These activities add considerably to the official work hours (Herbig & Palumbo, 1994), creating adverse working conditions that are often associated with negative consequences such as poor recovery and negative work-home interference (Van Der Hulst & Geurts, 2010). It seems reasonable to assume that the extent to which overwork climate is present in an organisation is related to employees' perception of being exploited, because employees perceive an organisational climate that encourages them to work overtime without remunerating them with adequate rewards for their effort. This goes in line with the definition of perceived exploitation proposed by Livne-Ofer et al. (2019, p.1992), who describe it as the "employees' perceptions that they have been purposefully taken advantage of in their relationship with the organisation, to the benefit of the organisation itself." Thus, we expect that:

H1.   The perception of an *overwork climate* is positively associated with *perceived exploitation.*

The combination of overtime work and insufficient rewards is associated with adverse psychological symptoms (Beckers et al., 2008). The presence or absence of adequate rewards plays a crucial role in the relationship, because employees who perform overwork but receive sufficient rewards do not report more negative outcomes than those who do not work overtime (Van Der Hulst & Geurts, 2010). On the other hand, not receiving adequate rewards for the extra work effort would lead to the perception of being treated unfairly by the organisation. Hence, we expect the lack of rewards to fuel the employee's perception that his or her workplace is exploitative in nature, especially when overwork is valued and promoted. We therefore hypothesise that:

H2.   There is an interaction effect between *overwork endorsement* and *lacking overwork*

rewards, such that the relation between *overwork climate* and *perceived exploitation*

is stronger when the levels of *overwork endorsement* and *lacking overwork rewards*

are high.

Working excessively refers to the behavioural dimension of workaholism, which

implies that workaholics dedicate an exceptional amount of time and energy to work beyond

what is needed to fulfil organisational or economic needs (Schaufeli et al., 2008). Mazzetti et

al. (2016) found a positive relationship between overwork endorsement and excessive

working levels of employees. In a similar vein, Kanai et al. (2022) found that the perception

of overtime work being commonplace was associated with longer work hours. One possible

explanation for these findings is that organisations promoting excessive working habits tend

to perceive employees who work long hours as highly dedicated and committed (Burke,

2001; Mazzetti et al., 2014). Employers may rank the commitment and productivity of his or

her subordinates in terms of working hours when their performance cannot be easily

monitored (Golden, 2009), thereby pushing the employees to work more hours in order to

succeed within that work environment. Meanwhile, working compulsively refers to the

cognitive component of workaholism, which suggests that workaholics have an obsessive

drive that makes them persistently think about work even when they are not working

(Schaufeli et al., 2008). As with excessive working, overwork endorsement was found to be

associated with compulsive working behaviours (Mazzetti et al., 2016). In addition,

Johnstone and Johnston (2005) observed that "individuals who perceived their work

environments as highly pressured were more likely to feel driven to work hard", supporting

the idea that a strong pressure for performing overwork fuels the employees' inner drive to work incessantly. Consequently, we expect that:

H3.   The perception of an *overwork endorsement* is positively associated with *working excessively* (H3a) and *working compulsively* (H3b).

Workaholics tend to work beyond what is reasonably expected from them to meet organisational or financial requirements, at the expense of family time and other outside obligations (Scott et al., 1997) even when they do not enjoy working (Aziz & Zickar, 2006; Spence & Robbins, 1992). In such unfavourable situations, coupled with the perception of a work climate which pushes them to overwork, employees are likely to feel used by their organisations. Although research is still scarce on the relationship between exploitation and workaholism, related studies have found a positive correlation between the two constructs (Duffy et al., 2016). Thus, we hypothesise that:

H4a.   *Working excessively* is positively associated with *perceived exploitation*.
H4b.   *Working compulsively* is positively associated with *perceived exploitation*.

Some organisations have cultures that induce or sustain workaholism to a certain extent, with a widespread belief amongst its employees that long work hours and sacrifice are required for career success (Ng et al., 2007; Porter, 1996). Indeed, overwork endorsement has been found to be associated with workaholism (Mazzetti et al., 2014). These organisations are inclined to build structural characteristics that are compatible with workaholic tendencies (Harpaz & Snir, 2003), such as reward systems that praise hard working employees by means

of verbal recognition, or more tangible rewards such as salary increases, thereby conveying the message that working overtime is the desired behaviour (Van Wijhe et al., 2010). In such conditions, working long hours becomes the norm of the organisation and thus employees are almost obliged to overwork, creating a perfect environment to foster workaholism, which in turn fosters exploitation. Importantly, we argue that the effect of overwork endorsement on exploitation is low when workaholism is low, as we predict that constant feelings of "ought" and "should" be working will lead workers to feel used by the organisation.

H5.   *Working excessively* (H5a) and *working compulsively* (H5b) mediate the relationship between *overwork endorsement* and *perceived exploitation*.

Turnover intention is the tendency of individual employees to leave organisations in which they are exercising functions (Lyons, 1971). Livne-Ofer and colleagues (2019) found a positive relationship between perceived exploitation and turnover intentions. They argue that when employees feel exploited, they are more likely to withdraw from commitments and from the organisation. Turnover can be seen as "the last sequence of withdrawal cognitions" (Tett & Mayer, 2006, p.262), a coping strategy that enables employees to escape from the current situation (Petriglieri, 2011). Therefore, it is natural to assume that exploited workers will think about leaving their organisation to put a stop to the exploitative relationship. This idea is supported by the literature, which posits that low work engagement can lead to turnover intentions (Schaufeli & Bakker, 2004).

Furthermore, workers feeling exploited may experience increased job demands such as work overload, which can lead to a decrease in job satisfaction (e.g., Cortese et al., 2010). In fact, studies based on the job demands-resources (JD-R) model have found that high job

demands can lead to exhaustion and burnout, both of which are positively related to turnover intentions (Demerouti et al., 2001; Schaufeli & Bakker, 2004). Thus, we expect that:

H6.   *Perceived exploitation* is positively associated with *turnover intentions*.

Collectivism and Career Calling as Moderators

In collectivistic cultures, conformity to group norms is a fundamental cultural objective, as it serves to validate the self as worthy (Kim & Markus, 1999). Fulfilment of duties and responsibilities is vital to the welfare of collectivists (Brewer & Chen, 2007). When organisations encourage overwork and excessive working habits become an implicit norm in the workplace, collectivistic individuals may strive to adjust to these standards. Meanwhile, workaholics are primarily driven to work by a controlled motivation, and seek to meet external standards of self-worth and social approval without fully identifying with them (Van Beek et al., 2011). Controlled motivation is characterised by both external regulation, in which one's behaviour is a function of external contingencies of reward and punishment, and introjected regulation, in which one's action is energised by factors such as the desire for approval, avoidance of shame, and contingent self-esteem (Deci & Ryan, 2008). Therefore, when workaholics are exposed to a work environment with high pressure to work hard, they are likely to try and meet those standards to gain approval and experience self-esteem, and a failure to do so may lead to experiencing negative emotions (Ryan & Deci, 2002). Hence, collectivism increases the effect of high work pressure on workaholism, creating an even stronger inner drive to work hard in workaholics, ultimately leading to extremely longer work hours.

On the behavioural level, collectivism promotes practices such as remaining at work to stay with colleagues who have yet to complete their work even if one has finished their own work, and leaving before others would often lead to feelings of guilt and shame (Kanai et al. 2022). As discussed in previous chapters, this behaviour can be regarded as both a product of horizontal-collectivism and vertical-collectivism; the collectivist employee is likely to stay and help out a colleague to share their remaining resources (i.e., time and energy), even more so when a senior employee implicitly or explicitly demands them to do so. Therefore, employees high in collectivism are more likely to work obsessively and incessantly when they perceive an overwork climate, compared to those who are low in collectivism.

H7a. *Collectivism* moderates the relationship between the perception of an *overwork endorsement* and *working excessively*, such that the relation between them would be stronger when *collectivism* is high.

H7b. *Collectivism* moderates the relationship between the perception of an *overwork endorsement* and *working compulsively*, such that the relation between them would be stronger when *collectivism* is high.

It is expected that workaholic employees who work obsessively and incessantly in a pro-overwork climate are bound to feel exploited. However, as group norms and conformity are highly valued in collectivistic cultures (Kim & Markus, 1999), employees high in collectivism can justify the fact of being exploited because everyone else in the group is doing the same. A phrase that is frequently heard in Japan is "because everyone is doing so." If the other employees are being treated the same way (i.e., pushed to work overtime), this

working condition becomes the norm that should be followed in the workplace, even if it leads to damaging consequences for the individual. As House et al. (2001) stated, collective action and distribution of resources is highly encouraged in collective working societies. Thus, if the employee perceives that the most of their colleagues are frequently taking work home, working on weekends or working overtime, they are likely to not recognise that as exploitative. Collectivism therefore blurs the perception of being exploited by the organisation, because it neglects individual needs in favour of organisational needs.

H8a.   *Collectivism* moderates the relationship between *working excessively* and *perceived exploitation*, such that the relation between them will be weaker when *collectivism* is high.

H8b.   *Collectivism* moderates the relationship between *working compulsively* and *perceived exploitation*, such that the relation between them will be weaker when *collectivism* is high.

Collectivistic employees who feel exploited may be less likely to leave their job because of feelings of guilt about leaving the burden of hard work among colleagues. Collectivism emphasises cohesiveness in the group and distributing resources equally (House et al., 2001). Leaving the organisation would not only be disrupting the harmony of the group, but it would also mean leaving all of his or her work to the other employees, which would make the individual feel guilty of causing more trouble for the already overloaded colleagues.

Another reason why collectivistic employees may feel less inclined to quit their job despite being exploited is the fear of losing their sense of occupational belongingness. In

collectivistic cultures, being a part of a group is crucial as interpersonal relationships are emphasised (Kim et al., 1994). Gambrel and Cianci (2003) suggest that the hierarchy of human needs based on a collectivist culture differs from Maslow's original hierarchy, positing that belonging is the basic need for collectivists. In a systematic study conducted by MOW International Research Team (1987), which investigated the meaning of work in 8 different countries around the world, Japan had the highest work centrality, defined as "the degree of general importance that working has in the life of an individual at any given point in time" (p.81). Misumi and Yamori (1991) attribute this result to the traditional Japanese work ethic that highly values the *vita activa*, as well as the fact that work in Japan can also extend to other extra activities such as entertaining customers and bosses outside of work hours (Herbig & Palumbo, 1994). Hence, the loss of occupational belongingness in a society with high work centrality, such as Japan, may result in significant reductions in an individual's overall sense of belongingness, thereby adversely affecting their self-esteem (Gailliot & Baumeister, 2007). In turn, this may contribute to their decision to remain with the organisation.

H9.   *Collectivism* moderates the relationship between *perceived exploitation* and *turnover intentions*, such that the relation between them would be weaker when *collectivism* is high.

Calling has been found to foster workaholism (Hirschi et al., 2019; Keller et al., 2016; Wilson, 2018), due to the obsessive passion that sometimes is present in called workers (Dalla Rosa & Vianello, 2020). In fact, called people see their job as central to their identity, and they are willing to sacrifice themselves to keep their source of purpose and meaning in

life (Vianello et al., 2018). As a result, workaholism may be more detrimental for called people. Therefore, called workers who are exposed to a pro-overtime environment should be more prone to workaholic behaviours than those who are not called to their jobs. In other words, we expect that:

H10a. *Career calling* moderates the relationship between the perception of an *overwork endorsement* and *working excessively*, such that the relation between them would be stronger when *calling* is high.

H10b. *Career calling* moderates the relationship between the perception of an *overwork endorsement* and *working compulsively*, such that the relation between them would be stronger when *calling* is high.

Individuals who perceive a calling report higher levels of meaning in life (Duffy & Dik, 2013; Duffy et al., 2012), because work for them represents a central source of purpose and meaning their lives (Duffy et al., 2016). Moreover, work is indispensable to their identity for called workers (Vianello et al., 2018). Thus, called workers identify themselves with their occupation, and they work to feel a sense of fulfilment in their lives. Drawing from these ideas, we hypothesise that called workaholics are less likely to feel exploited. Bunderson and Thompson (2009) suggest that called workers may be at risk of being taken advantage of by their employers, because they may view inadequate compensation, benefits, or working conditions as just another part of the sacrifices they need to make to follow their passions. Even if the individual is working incessantly, the work benefits them too, not just their organisation. In addition, studies have found that employees with a higher sense of calling are less likely to turn over (Cardador et al., 2011). Therefore, we expect that:

H11a. *Career calling* moderates the relationship between *working excessively* and *perceived exploitation*, such that the relation between them would be weaker when *calling* is high.

H11b. *Career calling* moderates the relationship between *working compulsively* and *perceived exploitation*, such that the relation between them would be weaker when *calling* is high.

We expect that workers who feel exploited are likely to build intentions to quit their jobs, but this may be different for called workers. Previous studies have found that called people are less likely to quit their jobs (Esteves & Lopes, 2017). Even when the job entails many sacrifices and high exhaustion, workers are likely to show resilience towards these challenging job demands despite being aware of the exploitative relationship. Indeed, the harsh working conditions may be construed as a sacrifice they need to make in order to keep their dream jobs (Bunderson & Thompson, 2009). As called workers see their job as a source of passion, meaning, purpose and personal identity (Vianello et al., 2018), they are likely to go to great lengths in order to keep their occupation, even at the expense of being exploited. Hence, we expect that:

H12. *Career calling* moderates the relationship between *perceived exploitation* and *turnover intentions*, such that the relation between them would be weaker when *calling* is high.

Figure 3

Theoretical Model and Hypotheses
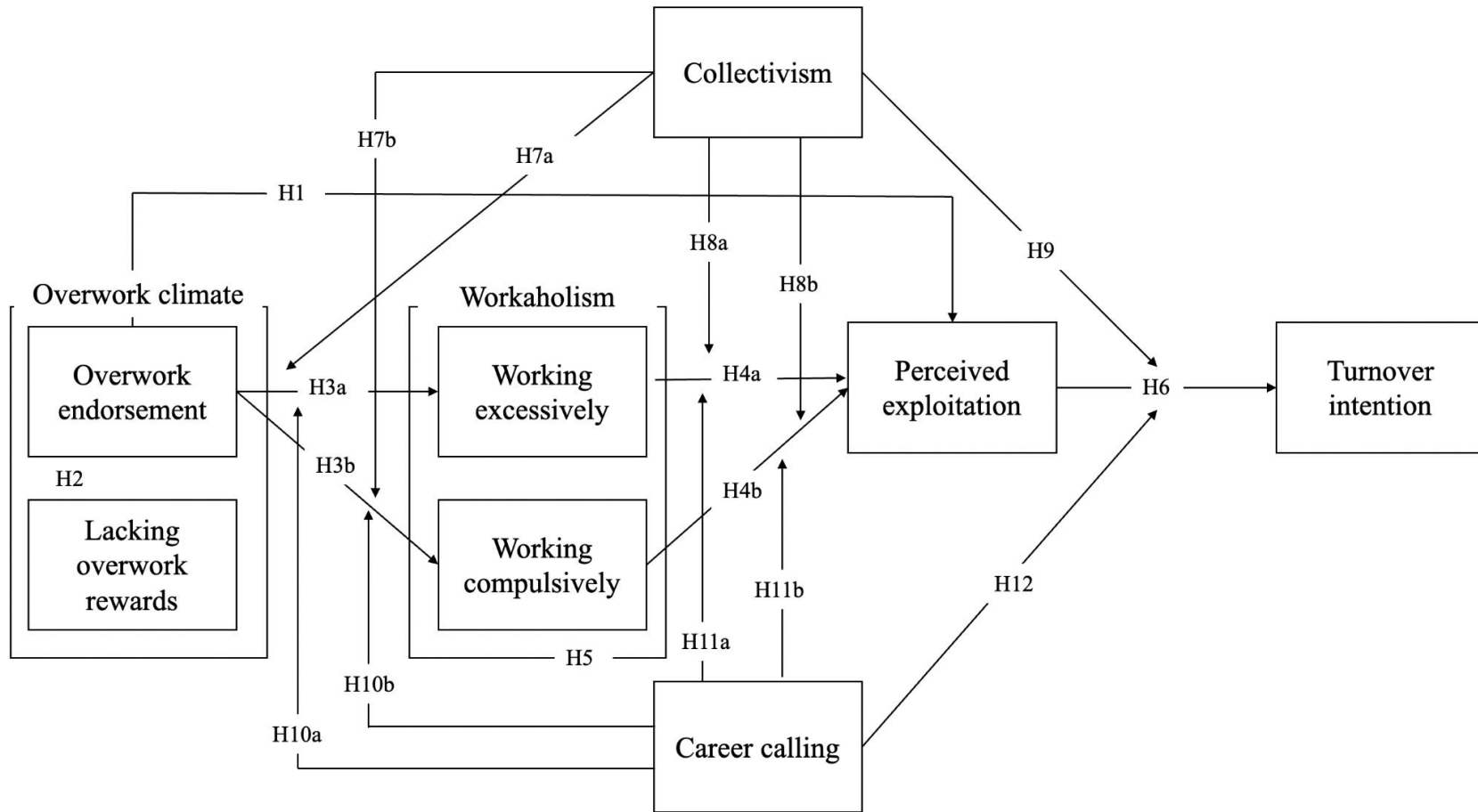
CHAPTER 4

METHODS

Open Science Framework

Following the guidelines outlined for the Collaborative Replication and Educational Project (CREP), we created an OSF page for the present research: https://osf.io/nfwgq/. The Open Science Framework (OSF) is a free and open-source tool developed by the Centre for Open Science (COS), which helps researchers structure and manage their projects throughout its entire lifecycle, centralising all files, data and codes into one location and acting as a long-term data repository (Centre for Open Science, n.d.).

Our publicly available project includes all data and materials, in addition to the ethical committee approval for conducting this study. Moreover, all hypotheses and the proposed theoretical model were pre-registered before data collection to ensure transparency and the purely confirmatory design of the study: https://doi.org/10.17605/OSF.IO/V6SNR.

Sample and Procedure

All data were collected in a cross-sectional manner using online surveys. No compensation was provided to the participants, and respondents were presented with an informed consent prior to taking the survey that briefly summarised the general aims of the study, in addition to emphasising the anonymity and confidentiality of the collected data. The online survey was hosted via the Qualtrics survey platform, which was made accessible through an anonymous link. Regarding ethical approval, it was granted by the Psychological Research Ethics Committee at the University of Padova prior to commencing data collection.

The survey was administered through a snowball sampling method (Goodman, 1961). In this sampling technique, researchers use their social networks to establish initial links, who

will then recommend other contacts in their network who fit the research criteria and are willing to participate in the same study, capturing an increasing chain of participants over time (Parker et al., 2019). For the current study, the first author of the research team directly contacted Japanese employees in his contacts, who were then asked to share the questionnaire with people in their own network who met the sample criteria and were willing to participate in the study. The inclusion criteria for the survey was: 1) to be 18 years or older, 2) to be currently residing in Japan, and 3) to be employed in some manner, such as full-time, part-time, or freelance. Additionally, the questionnaire link was shared publicly on the first author's personal LikedIn, Instagram, Twitter, and Facebook pages. Although snowball sampling often faces criticism regarding its selection bias, it is a useful technique for studies in which respondents are hard to reach or involve. Such is the case for the present study, as gathering information about one's work life and affiliated organisation is a challenging task in Japan.

We conducted an a-priori power analysis to determine the minimum required sample size, and results showed that at least 100 participants were needed to have 80% statistical power to detect the mediation effect of workaholism in the relationship between overwork endorsement and perceived exploitation. However, data collection was closed before achieving the required sample size because of time constraints, and no more participants were willing to participate after three months of data collection. Ultimately, the final sample consisted of 80 participants, of which the majority were men (57.7%), with a mean age of 30.13 years (SD = 8.13), ranging from 19 to 55 years. Japanese employees currently residing in Japan were recruited for the survey, with a wide range of occupational positions such as regular employees (62.8%), part-time employees (11.5%), senior staff (7.7%), section managers (5%), and freelancers (3.8%). The mean organisational tenure was 5.26 years (SD

= 6.79). Additionally, we asked the respondents to report the number of contractual work hours per week, the number of actual work hours per week, and their one-way commute time. The current sample noted that on average, they were scheduled to work 33.72 hours per week (SD = 13.21), and actually worked 40.24 hours per week (SD = 17.52), with a mean one-way commute time of 37.7 minutes (SD = 28.94).

Measures

The questionnaire was fully administered in Japanese, using validated scales measuring the following six constructs: overwork climate, workaholism, perceived exploitation, turnover intention, collectivism and career calling. When a Japanese translation of the scale had not yet been validated, the Japanese version was developed according to the back-translation method (Hambleton, 2001; Hambleton et al., 2004). Any inconsistencies in the translation were discussed thoroughly and resolved by the research team and bilingual translators.

Overwork climate was assessed using the Overwork Climate Scale (OWCS) developed by Mazzetti et al. (2016). This measure includes two subscales: overwork endorsement that consist of seven items (e.g., "Almost everybody expects that employees perform overtime work"), and lacking overwork rewards composed of four items (e.g., "Working overtime is fairly compensated financially" - reversed). All items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In their original study, Mazzetti et al. (2016) found a good internal consistency for overwork endorsement (α = .80) but a questionable reliability for lacking overwork rewards (α = .66). However, in a subsequent study with a sample of international employees, Mazzetti et al. (2020) reported acceptable internal consistency coefficients of α = .78 and α = .71, respectively. In the current

study, Cronbach's alpha was .79 for overwork endorsement and .57 for lacking overwork rewards.

Workaholism was measured using the Japanese version of the Dutch Workaholism Scale (DUWAS), which comprises two dimensions of workaholism: working excessively (WE) and working compulsively (WC) (Schaufeli et al., 2009). The scale is composed of ten items, such as "I seem to be in a hurry and racing against the clock" for WE and "I feel obliged to work hard, even when it is not enjoyable" for WC. Items were scored on a 4-point rating scale ranging from 1 (totally disagree) to 4 (totally agree). According to Schaufeli et al. (2009), in which the Japanese version of DUWAS was first validated, the internal consistency for WE was $\alpha = .73$, and $\alpha = .68$ for WC. Similar reliability scores were found by Shimazu and Schaufeli (2009), with Cronbach's alpha of $\alpha = .70$ for both subscales. In the present study, the reliability of the WC subscale was found to be acceptable ($\alpha = .72$), but the internal consistency of the WE subscale was poor ($\alpha = .54$). The results of the confirmatory factor analysis showed that the third and fifth items of the subscale loaded poorly onto the factor of working compulsively (0.14 and 0.13), and thus were removed and not used in the path analysis. After the two items were trimmed from the subscale, the reliability of the WE subscale increased to $\alpha = .67$.

Perceived exploitation was assessed through four items taken from the Perceived Exploitative Employee-Organisation Relationships Scale (PERS) developed by Livne-Ofer et al. (2019). We selected the four items that showed the highest standardised factor loadings in the confirmatory factor analysis conducted by Moody (2022). An example item is "My organisation doesn't care if it harms me, as long as it benefits from my work." Items were scored on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). In the validation study, the scale was found to be highly reliable ($\alpha = .96$), and an excellent internal

consistency (α = .94) was also found in a recent study (Moody, 2022). The reliability of the scale for this study was α = .65.

      Turnover intention, or the intention to leave the organisation, was measured through a 3-item scale conceptually developed by Mobley et al. (1979). The three items were:

1. I think a lot about leaving the organisation.

2. I am actively searching for an alternative to the organisation.

3. As soon as it is possible, I will leave the organisation.

The respondents were asked to rate their answers on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). This scale has shown strong reliability in previous studies (e.g., Carmeli & Gefen, 2005: α = .90), and it showed a good internal consistency coefficient of α = .81 for the present study.

      Collectivism was assessed through a measure of individual cultural values that assesses Hofstede's cultural dimensions at the individual level, namely the Cultural Values Scale (CVSCALE, Yoo et al., 2011). Only the collectivism section of the CVSCALE was used for the current study, which comprises 6 items. An example item is "Group success is more important than individual success." In the validation study (Yoo et al., 2011), the reliability coefficients of the scale were found to be sufficient both in the American (α = .85) and the Korean adult samples (α = .89). Cronbach's alpha of the scale was .78 for this study.

      Career calling was measured through the shortened 7-item version of the Unified Multidimensional Calling Scale (UMCS-7) (Gerdel et al., 2022), an unidimensional scale for measuring calling that is based on the 22-item version of UMCS developed by Vianello et al. (2018). Each item represents a dimension of calling: passion, prosociality, purpose, pervasiveness, sacrifice, transcendent summons, and identity. All items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The UMCS has

repeatedly shown excellent internal consistency, reporting Cronbach's alpha coefficients of .93 with Italian college students and adult workers (Vianello et al., 2018), and .96 with Italian salesmen (Vianello et al., 2022). Similarly, the UMCS-7 has shown a high scale reliability of $\alpha = .87$ in the validation study (Gerdel et al., 2022). In the current study, Cronbach's alpha was .74.

Strategy of Analysis

The research hypotheses were tested simultaneously with structural equation modelling (SEM) using the lavaan package (version 0.6-15) on RStudio. Composite z-scores of each variable were included as single indicators in the model. Several correlations were also included in the model based on the theoretical rationale and the shared common ground amongst these variables (Byrne, 2010), namely between the components of overwork climate (i.e. overwork endorsement and lacking overwork rewards) and workaholism (i.e. working excessively and working compulsively).

In order to assess model fit, the following indices were examined: the chi-square goodness-of-fit statistic, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the root mean squared error of approximation (RMSEA), and the standardised root mean squared residual (SRMR). The chi-square test compares the observed and the reproduced variance-covariance matrices, hence it provides a test of whether they differ significantly from zero difference. Smaller chi-square values are desirable as they indicate that the proposed model adequately fits the data (Hu & Bentler, 1999). Goodness-of-fit indices (GoF) are effect size estimates of the (mis)fit of the model. Current practices suggest to inspect GoF before rejecting a model in case the chi-square test is significant. A model fit reporting values higher

than .90 for CFI and TLI, and values .08 or lower for RMSEA and SRMR are considered

acceptable (Byrne, 2010; Hu & Bentler, 1999).

CHAPTER 5

RESULTS

Descriptive Statistics

We computed the means, standard deviations, internal consistencies (Cronbach's alpha), and correlations for all the measures in our hypotheses (see Table 1). All the significant relationships between the variables were in the expected direction, except for the positive association between collectivism and perceived exploitation ($r = .25$, $p = .025$). In particular, overwork endorsement was significantly correlated with the two dimensions of workaholism, namely working excessively ($r = .32$, $p = .004$) and working compulsively ($r = .40$, $p < .001$), while lacking overwork rewards was only significantly associated with perceived exploitation ($r = .23$, $p = .038$). Regarding the relationship between workaholism and perceived exploitation, only working compulsively showed a significant relationship ($r = .35$, $p = .001$). In fact, working compulsively seems to be the primary component of workaholism in this model, as it also shows a higher correlation with turnover intention ($r = .30$, $p = .008$) compared to working excessively ($r = .25$, $p = .026$).

Internal consistency of scores met the Cronbach's alpha criterion of .70 (Nunnally & Bernstein, 1994), except for the lacking overwork rewards, working excessively, and perceived exploitation scales, which exhibited slightly lower values.

Table 1

Mean, Standard Deviation, Internal Consistency (Cronbach's Alpha on the Diagonal), and Correlations of all Study Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1.Overwork endorsement	2.47	0.86	(.79)	-	-	-	-	-	-	-	-	-
2. Lacking overwork rewards	2.57	0.95	.17	(.57)	-	-	-	-	-	-	-	-
3. Overwork climate	2.52	0.69	.74***	.79***	(.73)	-	-	-	-	-	-	-
4. Working excessively	2.19	0.57	.32**	.05	.23*	(.54)	-	-	-	-	-	-
5. Working compulsively	2.07	0.73	.40***	.02	.26*	.70***	(.72)	-	-	-	-	-
6. Workaholism	2.13	0.60	.40***	.04	.27*	.90***	.94***	(.79)	-	-	-	-
7. Perceived exploitation	2.88	1.02	.44***	.23*	.44***	.12	.35**	.27*	(.65)	-	-	-
8. Turnover intention	2.50	1.02	.13	.11	.15	.25*	.30**	.30**	.37***	(.81)	-	-
9. Collectivism	2.33	0.70	.14	-.02	.07	.04	.18	.13	.25*	.14	(.78)	-
10. Career calling	3.32	0.69	-.11	.16	.05	.11	.15	.14	.09	-.18	-.08	(.74)

Note. * p < .05, ** p < .01, *** p < .001. Working excessively subscale had a Cronbach's alpha of .67 after trimming items with low loadings.

Confirmatory Factor Analysis

Prior to testing the hypotheses, the model fit of all measures were assessed using confirmatory factor analysis. This allowed us to determine how well the observed data fit the factor structure of each scale. Table 2 summarises the model fit for all original scales.

Table 2

Results of Confirmatory Factor Analysis for Original Scales

Variable	χ^2	df	p-value	CFI	TLI	RMSEA	SRMR
Overwork endorsement	15.24	14	.362	1.00	1.00	.03	.07
Lacking overwork rewards	1.44	2	.486	1.00	1.00	.00	.04
Working excessively	10.39	5	.065	.95	.90	.12	.10
Working compulsively	6.79	5	.237	.99	.99	.07	.08
Perceived exploitation	4.33	2	.115	.99	.97	.12	.05
Turnover intentions	0.00	0	-	1.00	1.00	.00	.00
Collectivism	36.52	9	< .001	.96	.93	.20	.12
Career calling	13.00	14	.527	1.00	1.00	.00	.07

According to the results of the confirmatory factor analysis, a poor fit was observed for the scales measuring working excessively, perceived exploitation, and collectivism. As for the working excessively subscale, items 3 and 5 had substantially low standardised factor loadings and thus were removed from the measure prior to testing the hypotheses. Table 3 shows the factor loadings of the subscale.

Table 3

Factor Loadings of the Working Excessively Subscale

				95 % Confidence Interval	
Item	Estimate	SE	p-value	Lower	Upper
WE1	0.469	-	-	0.324	0.705
WE2	0.612	0.398	.001	0.411	0.882
WE3	0.118	0.257	.356	-0.056	0.335
WE4	0.862	0.657	.004	0.578	1.233
WE5	0.104	0.273	.416	-0.057	0.307

Note. Items WE3 and WE5 were removed from the analysis as they had non-significant, low factor loadings.

Regarding the measures of collectivism, the modification indices indicated that the residuals of items 1 and 2 should be correlated in order to gain a better fit. However, adding this correlation was not theoretically justifiable as the wording of the items were quite different (see Table 4 for details). It was also suggested that the residuals of items 3 and 5 should be correlated to improve the model fit. Given the similarity in wording between these items, we deemed it appropriate to incorporate this correlation. However, adding this correlation did not sufficiently improve the model fit of the CFA: χ^2 (df = 8) = 27.83, p = .001; CFI = .86; TLI = .74; RMSEA = .18; SRMR = .11. Taking into account that all items loaded significantly on the latent factor with standardised loadings of above .30, we decided to proceed with the analysis using the original scale, without adding any residual covariances or trimming any items. Limitations regarding this decision will be discussed in chapter six.

Table 4

English and Japanese Items of the Collectivism subscale in Cultural Values Scale

(CVSCALE, Yoo et al., 2011)

| Item	English (original)	Japanese
1	Individuals should sacrifice self-interest for the group.	個人は、グループのために私利私欲を犠牲にすべきである。
2	Individuals should stick with the group even through difficulties.	困難があっても、個人はグループに留まるべきである。
3	Group welfare is more important than individual rewards.	個人の利益よりもグループが健全であることが重要である。
4	Group success is more important than individual success.	個人の成功よりもグループの成功が重要である。
5	Individuals should only pursue their goals after considering the welfare of the group.	個人の目標よりグループを健全に保つことを優先すべきである。
6	Group loyalty should be encouraged even if individual goals suffer.	個人の目標達成に支障が出ても、グループへの忠誠心が奨励されるべきである。

Model Testing

Model Without Moderation Effects

First, we examined hypotheses H1 to H6 by evaluating our proposed model without

incorporating the moderation effects of collectivism and career calling. To achieve this, we

employed the model trimming approach. Starting with the saturated model that included all

potential regression paths, we gradually removed parameters whose estimates were not

different from zero. The final model demonstrated a good fit to the data, χ^2 (df = 5) = 1.79, p

= .877; CFI = 1.00; TLI = 1.00; RMSEA = .00; SRMR = .02. This approach led to the

rejection of H2, which was not supported. The full path diagram with regression estimates is

reported in Figure 4.

We observed that the two components of overwork climate positively predicted

perceived exploitation. Specifically, overwork endorsement reported a path coefficient of β

= .44 (p < .001), while for lacking overwork rewards it was β = .19 (p = .039), highlighting

the importance of overwork endorsement in predicting feelings of being exploited. Hence, H1

was supported.

Figure 4

Path Diagram of the Best Fitting Model Without Moderation Effects
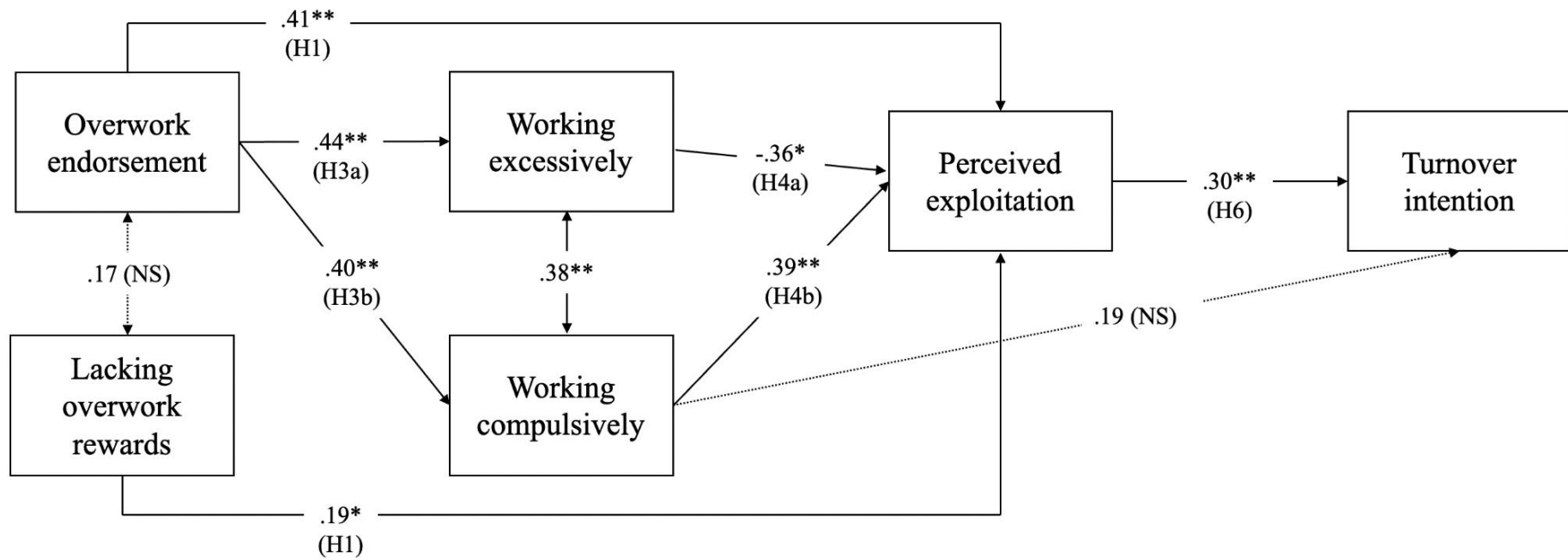
Note. * p < .05, ** p < .01. Solid lines show significant paths, while dotted lines show non-significant paths. All estimates are standardised.

Next, we tested H3 to investigate the relationship between overwork endorsement and workaholism. As predicted, the path coefficients from overwork endorsement to working excessively and working compulsively were $\beta = .44$ ($p < .001$) and $\beta = .40$ ($p < .001$), respectively, confirming both of our hypotheses.

Moving onto H4, working excessively reported a negative effect on perceived exploitation ($\beta = -.36$, $p = .002$), which was the opposite of what we had predicted (H4a). On the other hand, working compulsively was significantly associated with perceived exploitation ($\beta = .39$, $p = .001$), supporting H4b.

In regard to the mediation hypotheses (H5), we found a partial mediating effect of workaholism in the relationship between overwork endorsement and perceived exploitation. We compared the following four models to test the mediation effect: both WE and WC as mediators (M1), only WC as a mediator (M2), 3) only WE as a mediator (M3), and 4) no mediators (M4). As Table 5 shows, fit of M2 to M4 models is poor, with chi-square values being significantly different to that of M1. Consequently, both WE and WC should be included in the model as a mediator, supporting both H5a and H5b.

Table 5

Mediation Effect of Workaholism in the Relationship Between Overwork Endorsement and Perceived Exploitation: Comparison of Model Fit Indices between Mediated vs. Non-Mediated Models

Model	χ^2	df	$\Delta\chi^2$	Δdf	$p(\Delta\chi^2)$	CFI	TLI	RMSEA
M1	1.79	5	-	-	-	1.00	1.00	.00
M2	18.35**	6	16.56	1	2.49E-05	.86	.64	.16
M3	15.53*	6	13.74	1	1.12E-04	.89	.73	.14
M4	21.89**	7	20.10	2	2.16E-05	.83	.63	.16

Note. * p < .05, ** p < .01. M1 includes both WE and WC as mediators, M2 includes only WC as a mediator, M3 includes only WE as a mediator, and M4 does not include WE or WC as a mediator in the relationship between overwork endorsement and perceived exploitation.

Finally, perceived exploitation was significantly associated with turnover intention (β = .30, p = .005), confirming H6.

Model With Collectivism As a Moderator

After we identified the best fitting model without the moderating effects (see Figure 4), we tested H7 to H9 by including collectivism as a moderator. The model that included all hypothesised moderation paths (Figure 5) demonstrated a good fit: χ^2 (df = 26) = 21.96, p = .691; CFI = 1.00; TLI = 1.00; RMSEA = .00; SRMR = .05. In this model, H7 to H9 were not supported as none of the moderation effects of collectivism were significant. However, it is interesting to point out that the moderation effect of collectivism on the relationship between working excessively and perceived exploitation is not null, albeit non-significant (β = .14, p = .165). In other words, working excessively might have a stronger negative effect on perceived exploitation when collectivism is high. Indeed, we found small direct effects of collectivism on perceived exploitation (β = .11, p = .253), that may have been significant if we had a larger sample size.

Figure 5

Path Diagram of Model With Collectivism As a Moderator
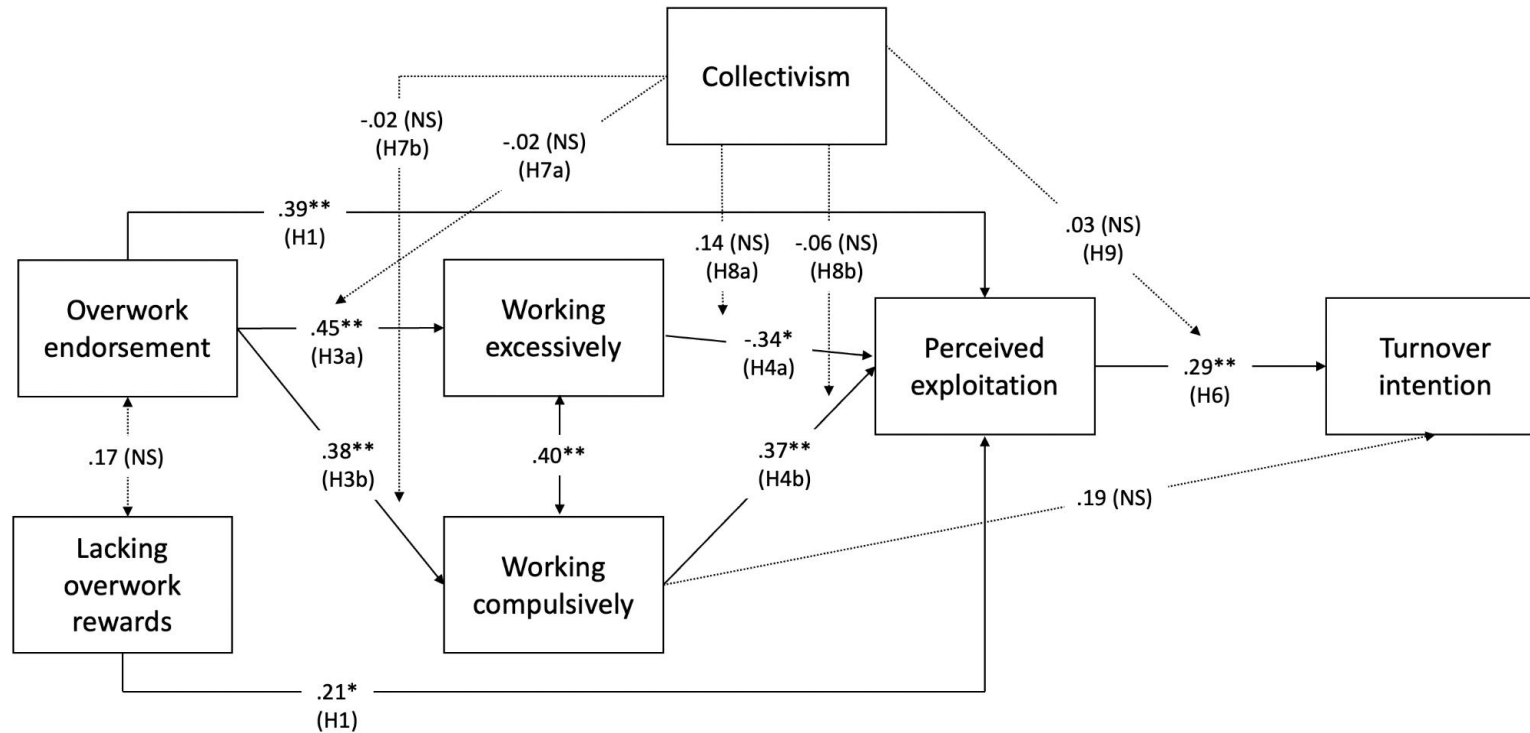
Note. * p < .05, ** p < .01. Solid lines show significant paths, while dotted lines show non-significant paths. For ease of readability, we do not present the path coefficients of the direct effects of collectivism on each variable. Collectivism had a non-significant effect on working excessively (β = -.01, p = .340), working compulsively (β = .13, p = .215), perceived exploitation (β = .11, p = .253), and turnover intention (β = .03, p = .803.

Model With Career Calling As a Moderator

Finally, we tested H10 to H12 by including career calling as a moderator. The model

with all hypothesised moderation paths (M1ca) showed a sufficient fit to the data: χ^2 (df = 26)

= 34.79, p = .116; CFI = .95; TLI = .89; RMSEA = .07; SRMR = .08.

According to this model, none of the hypothesised moderating effects were significant in our

data, thus not providing support for H10 to H12. Nonetheless, similarly to collectivism, we

found a small moderation effect of calling on the relationship between working excessively

and perceived exploitation (β = .18, p = .104), such that working excessively has a stronger

negative effect on perceived exploitation when calling is high. The path diagram of the final

model is reported in Figure 6.

Figure 6

Path Diagram of Model With Career Calling As a Moderator
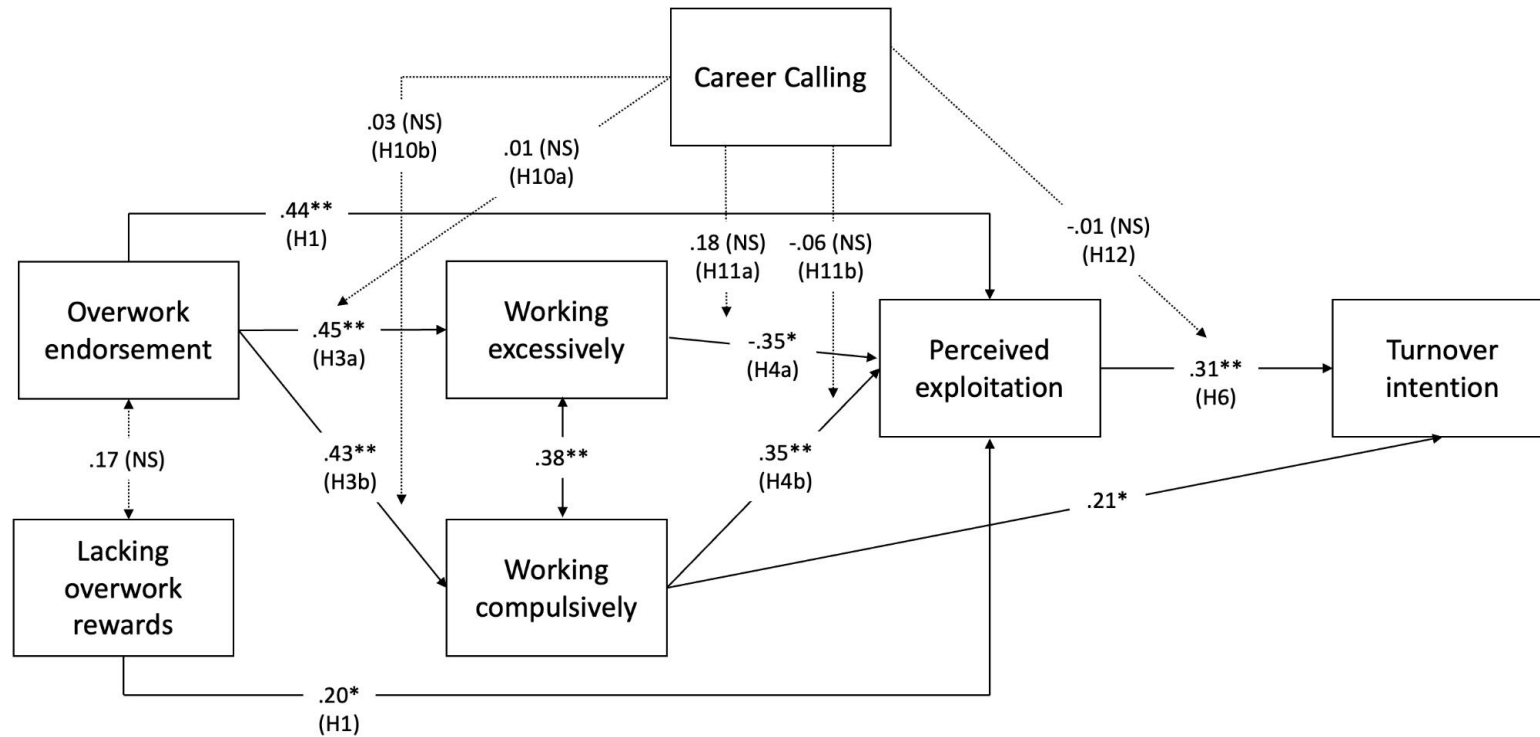
Note. * p < .05, ** p < .01. Solid lines show significant paths, while dotted lines show non-significant paths. For ease of readability, we do not present the path coefficients of the direct effects of calling on each variable. Calling had a non-significant effect on working excessively (β = .01, p = .933), working compulsively (β = .18, p = .091), and perceived exploitation (β = .06, p = .496), while the path coefficient to turnover intention was significant (β = -.24, p = .022).

CHAPTER 6

DISCUSSION

The current study aimed at investigating the social and psychological mechanisms that underlie the phenomenon of karoshi in Japan. In order to test our model, we first tested the general theory of how an overwork climate can lead workers to quit their jobs. Then, based on that model, we tested the moderating effect of collectivism and career calling.

First, our results demonstrated that overwork endorsement was positively associated with both working excessively and working compulsively, but not lacking overwork rewards. These findings align with the results of the original study conducted by Mazzetti et al. (2016), which observed a similar positive effect of overwork endorsement on workaholism, but not on lacking overwork rewards. Additionally, we observed that overwork endorsement is positively associated with perceived exploitation, which compliments previous literature indicating that pressure to work overtime without control over one's work schedule can lead to distress (Fenwick & Tausig, 2001). A positive association was also found between lacking overwork rewards and perceived exploitation, but the effect size was smaller than that of overwork endorsement. It appears that in our sample, the perception of exploitation primarily stems from the pressure and expectations associated with overtime work rather than insufficient rewards. As for workaholism, working compulsively was found to be associated with perceived exploitation. Although limited research exists on the relationship between workaholism and exploitation, our findings are consistent with previous studies that have observed a positive correlation between these constructs (e.g., Duffy et al., 2016). Interestingly, contrary to our expectations, the behavioural component of workaholism (i.e. working excessively) exhibited a negative association with feelings of exploitation. One possible explanation for this outcome is that excessive work is being viewed as a personal

choice rather than an imposed obligation from the organisation. In Japanese culture, the concept of *ganbaru* emphasises the importance of persistent effort and not giving up in difficult situations (Kawagishi, 2015). As a result, working long hours and sacrificing leisure time have historically been regarded as positive attributes. This cultural virtue might contribute to individuals perceiving less exploitation when they display workaholic behaviours, as it enhances their personal worth when their extra effort is seen as a voluntary commitment. If it were perceived as externally imposed, the excessive work may not hold the same value or significance for the employees. Finally, as anticipated, perceived exploitation was positively associated with turnover intention. This aligns with the original findings of Livne-Ofer et al. (2019), who found a significant positive relationship between the two variables in two different samples of construction workers ($\beta = .22$, $p < .05$) and medical residents ($\beta = .42$, $p < .001$).

Secondly, all moderating effects of collectivism in our model were close to null, except for the moderation effect observed in the relationship between working excessively and perceived exploitation. Notably, the effect of working excessively on feelings of exploitation changed from positive to negative when accounting for the positive effect of working compulsively on perceived exploitation, and even more so when collectivism was high. One potential interpretation for this result is that when workers believe in the value of sacrificing themselves for the group or the society, and working hard is under their control, they will not feel exploited by their organisation. In fact, collectivists are primarily motivated to conform with norms and duties imposed by their groups, which helps them validate themselves as worthy (Kim & Markus, 1999). Consequently, Japanese employees may be less inclined to quit their jobs even when experiencing overwork, as their levels of collectivism can potentially blur their perception of being exploited by the organisation. It is worth noting

that we also identified a small positive effect of collectivism on working compulsively (β=.13, p=.2). It is possible that collectivistic workers are more likely to be constantly concerned with work-related thoughts, potentially due to the sense of duty that they might feel towards work (Triandis, 2018).

 Thirdly, similar to collectivism, we observed that the moderating effects of career calling in our model were largely negligible, except for the moderation effect observed in the relationship between working excessively and perceived exploitation. In other words, working excessively might have a stronger negative effect on perceived exploitation when career calling is high. This finding is consistent with prior literature on calling, which highlights work as a central source of purpose and meaning in the lives of individuals who experience a strong calling (Duffy et al., 2016) and an essential component of their identity (Vianello et al., 2018). Moreover, Bunderson and Thompson (2009) suggested that individuals with a strong sense of calling may be vulnerable to being taken advantage of by their employers, as they may perceive challenging working conditions as part of the sacrifices necessary to pursue their passions. In simpler terms, even if the individual is working incessantly for the organisation, they perceive personal benefits derived from their work. Hence, it is understandable that individuals with a strong sense of calling may experience a reduced sense of exploitation when working excessively. Regarding the direct effect of career calling on working compulsively, our findings align with previous research indicating that calling can contribute to the development of workaholism (Hirschi et al., 2019; Keller et al., 2016; Wilson, 2018), given the presence of obsessive passion that may be present in called individuals (Dalla Rosa & Vianello, 2020). Finally, we found a significant, direct, negative effect of career calling on turnover intention, which is in line with prior studies demonstrating

that called workers are less likely to leave their jobs (Cardador et al., 2011; Chen et al., 2016; Esteves & Lopes, 2017).

Implications for Research and Practice

This study provides a baseline framework for developing theories regarding the underlying psychosocial processes of karoshi. In particular, our findings have shown the process in which overwork endorsement can lead workers to consider quitting their jobs through workaholic behaviours and feelings of being exploited. As past research has demonstrated that working overtime without a sense of control over one's work schedule can lead to distress and impaired health (Fenwick & Tausig, 2001; Tucker & Rutherford, 2005), we suggest researchers to further investigate how job strain, that is caused by a combination of high job demands and low job control (Karasek, 1979), is related to karoshi. Moreover, burnout is another construct that is often associated with adverse consequences such as depression and anxiety (Koutsimani et al., 2019), and it would be interesting to investigate how it fits in our theoretical framework of karoshi.

In relation to the two-dimensional concept of overwork climate, our findings indicate a low correlation between overwork endorsement and the absence of overwork rewards. This suggests that these two components represent distinct constructs. We thus argue that overwork climate should be focused on the expectations of the organisation regarding overtime, and that it should be distinguished from whether there is sufficient compensation or not for the overtime work performed. In fact, our model suggests that overwork endorsement is more relevant in predicting karoshi. For future research, it may be wise to validate and employ the one-dimensional scale of overwork climate initially proposed by Mazzetti et al. (2014) which solely focuses on the component of overwork endorsement.

One of the novel findings of our study is the complete mediating effect of perceived exploitation in the relationship between workaholism and turnover intention. We suggest future studies to further investigate the relationship between these variables, especially since we found that the two components of workaholism had opposite relations with perceived exploitation. It is also worth noting that Clark et al. (2020) have developed a new comprehensive measure of workaholism (Multidimensional Workaholism Scale), which takes into account four different dimensions of the construct (i.e., motivational, cognitive, emotional, and behavioural) that are present in the current literature. Future studies can potentially develop a Japanese version of this scale in order to see its internal and external validity in the Japanese context.

A second novel finding regards the negative relation that we observed between working excessively and perceived exploitation. This effect was only present when both dimensions of workaholism were added to the model. In other words, when the effect of working compulsively is accounted for, the more employees work excessively, the less they feel exploited. We interpreted this effect in the context of Japanese culture, yet we urge future researchers to test this effect on other samples. It is possible that employees only feel exploited when they lack control over their own efforts.

Based on our findings on collectivism, we suggest researchers to further examine its impact on individual components of workaholism. In particular, it is worth exploring the discrepancy between the behavioural and cognitive dimensions of workaholism, as it appears that collectivism influences these two aspects differently. Additionally, it is crucial to assess the validity of different measures of collectivism within the Japanese context to ensure that they accurately capture the unique facets of collectivism prevalent in Japan. We will elaborate on this idea further in the following section.

As for career calling, the concept needs to be further investigated specifically in the Japanese context in order to draw any firm conclusions regarding its relations to karoshi. Given that calling showed a moderating effect on the relationship between working excessively and perceived exploitation in our study, it is possible that called workers are more vulnerable to overwork death than those with a weaker sense of calling, since they may feel less exploited by their organisations even if they are working excessively. As stated earlier, calling is an understudied concept in Japan with no specific research on its salient elements (Arai et al., 2015). Hence, identifying idiosyncratic components will advance our theoretical understanding of how work is approached by Japanese workers, and likely increase our capacity to inform evidence-based practice to tackle karoshi.

Finally, our findings support the suggestions of Kanai et al. (2022) that interventions to prevent employees from working excessive long work hours should be aimed at the organisational level, and not at the personal level. The organisational factor in our study, overwork endorsement, was strongly associated with both workaholism and perceived exploitation, implying that interventions should target reducing the encouragement of overtime work at the organisational level. For instance, organisations should strive to change any reward systems that may give the impression that working excessively is the desired behaviour, such as promoting or increasing salaries of those who work longer hours. This intervention would already help in decreasing the workaholic behaviours of employees, preventing adverse impact on employee well-being and ultimately decreasing the chances of karoshi.

Limitations and Future Directions

First, our study had low statistical power as we did not reach the sample size that we had determined a-priori. Although we used several social media platforms to disseminate our survey, we were not able to gather enough responses, possibly due to the fact that gathering information about one's work life and affiliated organisation is a challenging task in Japan. In fact, researchers in Japan usually struggle in collecting such data through HR departments of organisations, thus leading them to obtain information through more expensive procedures such as online survey research companies (e.g. Kanai et al., 2022). The low sample size could be one of the reasons why we were not able to detect significant moderation effects of collectivism and career calling. However, due to time and budget constraints, we were not able to go further with the data collection.

Secondly, since participants were recruited through a snowball sampling method via personal networks, there may have been a sampling bias that led to an insufficiently diverse sample. In fact, the average level of workaholism in our sample (M = 2.13, SD = 0.60) was lower than the scores reported in similar studies (e.g. Mazzetti et al., 2016; Mazzetti et al., 2020), and levels of perceived exploitation (M = 2.88, SD = 1.02) and turnover intention (M = 2.50, SD = 1.02) were substantially lower compared to recent studies on exploitation (e.g. Livne-Ofer et al., 2019). Thus, we can assume that the participants in our sample were those who are currently not experiencing many issues with their jobs, and hence not the individuals who are at risk of overwork death. In fact, workers who have responded to our questionnaire are likely to be those who have extra time and resources outside of work, while those who are at risk of karoshi would not have room for such commitments. Hence, future research should first focus on how to reach high-risk individuals to conduct research on the pertinent sample. One solution is to collaborate with non-governmental organisations such as POSSE (NPO

Corporation POSSE, n.d.), who are in regular contact with individuals that are confronted with occupational issues such as overwork or karoshi.

Thirdly, the Cultural Values Scale (CVSCALE, Yoo et al., 2011), a measure of Hofstede's (1980) cultural dimensions at the individual level that we employed to measure collectivism, did not demonstrate a good model fit in our study. Specifically, the collectivism subscale displayed the poorest fit amongst all the cultural dimension subscales in the original validation study conducted with a sample of Americans and Koreans (Yoo et al., 2011). Additionally, our study mirrored the findings of Kwok and Uncles (2003) in which items 1 (" Individuals should sacrifice self-interest for the group") and 2 ("Individuals should stick with the group even through difficulties") of the collectivism subscale in the CVSCALE exhibited relatively low factor loadings in a sample of Anglo-Australians and Chinese-Australians. This could be linked to the fact that they are both reversed items and negatively worded, thus conveying a negative image of collectivism that may be blocking participants from giving an answer that corresponds to their actual collectivism level. The combining of regular and reversed items in the same scale is a strategy recommended by some researchers to reduce response biases that can occur when items are all in the same direction (Weijters et al., 2013). However, this practice is controversial as recent findings suggest that psychometric properties of measures can be substantially worse when regular and reversed items are combined in the same test, diminishing the precision of the test (Suárez-Álvarez et al., 2018). We thus believe that a revision of the scale might be necessary, especially in regard to the way in which reversed items are worded. Furthermore, we believe that the scale did not accurately capture collectivism in our study sample.

Integrating cultural values into empirical research is methodologically challenging (Kanai et al., 2022), especially because of the multifaceted nature of collectivism. Whilst

Hofstede refers to the concept of "in-groups" to differentiate collectivist nations from individualist ones, the nature of the group may vary amongst cultures, with one's collective being and interests being expressed differently in each culture (Signorini et al., 2009). Thus, we believe that the scale was not able to assess the collectivism present in the Japanese context. Indeed, while the average score of collectivism in the present study was rather low (M = 2.33, SD = 0.70), other studies have found similar results in other collectivistic countries using the same scale. For example, Yoo et al. (2011) reported an average collectivism score of 3.05 (SD = 0.75) and 2.71 (SD = 0.72) in a sample of American and Korean adults, respectively. In another cross-cultural study, Schumann et al. (2010) reported a lower collectivism score in collectivistic countries compared to individualistic countries. Specifically, they found a mean collectivism score of 2.49 (SD = 0.09) for China and 2.47 (SD = 0.06) for Hong Kong, while Australia and Netherlands reported a score of 2.99 (SD = 0.08) and 2.76 (SD = 0.07), respectively. Therefore, it seems that countries which are perceived to be individualistic (Hofstede Insight, 2023) report higher levels of collectivism with the CVSCALE. This may be due to the fact that this scale was devised to assess Hofsetede's cultural dimensions, which is a Westernised view of collectivism that may not be capable of fully capturing the collectivism present in Eastern countries. For instance, drawing from the self-construal theory of Markus and Kitayama (1991), Triandis (2018) distinguished between horizontal collectivism (H-C), vertical collectivism (V-C), horizontal individualism (H-I), and vertical individualism (V-I). According to the author, the vertical dimension accepts inequality and recognises rank privileges, reflecting the self as different from others. Conversely, the horizontal dimension emphasises the importance of similarity among individuals, particularly in terms of status, reflecting the self as equal to others and the desire to not stand out. Singelis et al. (1995, p. 244-245) defined the four categories as follows:

Horizontal collectivism (H-C) is a cultural pattern in which the individual sees the self as an aspect of an in-group. That is, the self is merged with the members of the in-group, all of whom are extremely similar to each other. In this pattern, the self is interdependent and the same as the self of others. Equality is the essence of this pattern.

Vertical collectivism (V-C) is a cultural pattern in which the individual sees the self as an aspect of an in-group, but the members of the in-group are different from each other, some having more status than others. The self is interdependent and different from the self of others. Inequality is accepted in this pattern, and people do not see each other as the same. Serving and sacrificing for the in-group is an important aspect of this pattern.

Horizontal individualism (H-I) is a cultural pattern where an autonomous self is postulated, but the individual is more or less equal in status with others. The self is independent and the same as the self of others.

Vertical individualism (V-I) is a cultural pattern in which an autonomous self is postulated, but individuals see each other as different, and inequality is expected. The self is independent and different from the self of others. Competition is an important aspect of this pattern.

Singelis et al. (1995) conclude that including the vertical-horizontal dimension of culture allows researchers to gain information about the way in which individuals in certain societies perceive and accept inequality. However, for our specific research study, we decided to employ a measure of the general level of collectivism without specifying vertical or

horizontal dimensions, because H-C and V-C seem to be both present in Japan, although to a different extent. For example, Kanai et al. (2022) mentioned that collectivism promotes certain workplace practices such as remaining at work if other colleagues are still working, even if one has finished their own work for the day. On the one hand, this can be seen as a result of H-C because employees see themselves as equal to their colleagues, and since they believe in collective action and equal distribution of resources (House et al., 2001), they decide to stay at work as to share their remaining time and energy to help out the others. In fact, relationships are of great importance for collectivists, especially with their in-group members, and they would go to great lengths to keep them even if the costs exceed the benefits (Kim et al., 1994). If the collectivist employee who finished their work early were to leave without at least considering helping out the others, they may think that it could jeopardise the relationship with their colleagues. On the other hand, the same behaviour can also be perceived as a product of V-C. In a society high in V-C, individuals are willing to sacrifice their personal goals for the sake of in-group goals, and are susceptible to the will of authorities (Triandis & Gelfand, 1998). The collectivist employee may thus feel ashamed about leaving work before their senior employees, and if upper management requires them to stay at work for longer, they would feel the need to oblige to those demands. Triandis (2018) suggests that Japan's profile may be represented as 50% V-C, 25% H-C, 20% H-I, and 5% V-I. Singelis et al. (1995) suggest an alternative pattern of 40% V-C, 20% H-C, 25% V-I, and 15% H-I by taking into account the growth of individualism after World War II, but this does not change the fact that H-C and V-C are both highly emphasised in Japanese culture. Indeed, despite a significant decline in status hierarchy during the postwar period, vertical society remains a prevalent feature of Japanese society, particularly in the realms of occupation and corporate culture (Lie, 2009; Nakane, 1967). Taking into account our results, it would be

interesting to explore our current model using vertical and horizontal measures of collectivism (Sivadas et al. 2008). This would shed light on which aspect of collectivism modern Japanese people are high in, as well as understanding which component of collectivism is associated with karoshi-related constructs.

Conclusion

This study provides an initial exploration of the relationships between karoshi-related constructs to unveil some of the mechanisms underlying the phenomenon of overwork death. To our knowledge, this is the first empirical study in the literature which seeked to understand karoshi from a psychosocial perspective by integrating constructs that are often studied in organisational psychology. We believe that this research will help raise interests and advance knowledge on karoshi amongst scholars around the world, as it utilises concepts that are familiar in the literature to explain this occupational threat that has been ambiguous to many researchers in the field of organisational behaviour.

In conclusion, we believe that this study presents as an invaluable opportunity to start a new line of research in exploring how work is conceptualised in Japan. Not only will we gain a better understanding of the factors contributing to the excessive work culture, but also enhance our insights into why certain individuals may devote a significant part of their lives to their work, to the extent that it becomes self-destructive. The findings may serve as preventive measures against future occurrences of karoshi or similar phenomena worldwide.

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APPENDICES

Appendix A - Japanese Translations of Scales Used in the Present Study

Table 6

English and Japanese Items of Overwork Climate Scale (OWCS, Mazzetti et al., 2016)

Item	English	Japanese
OE1	Almost everybody expects that employees perform overtime work.	企業のほとんどの人が、従業員が残業することを期待している。
OE2	Management encourages overtime work.	上司は残業を奨励している。
OE3	It is considered normal for employees to take work home.	従業員が仕事を家に持ち帰るのは普通だと考えられている。
OE4	Most employees work beyond their official work hours.	ほとんどの従業員は、正規の勤務時間を超えて働いている。
OE5	Performing overwork is important for being promoted.	昇進のためには残業が重要である。
OE6	It is considered normal to work on weekends.	週末に出勤するのは普通だと考えられている。
OE7	It is difficult to take a day off or paid holidays.	休みや有給休暇が取得しにくい。
LOR1	Overtime work is fairly compensated by extra time off work or by other perks.	時間外労働は、振替休日その他のインセンティブによって補償されている。
LOR2	Working overtime is fairly compensated financially.	時間外労働は、残業代によって補償されている。
LOR3	(Almost) nobody needs to do unpaid overtime work.	（ほとんど）誰もサービス残業をする必要がない。
LOR4	A policy exists to restrict overtime work.	時間外労働を制限する経営方針がある。

Table 7

English and Japanese Items of Dutch Workaholism Scale (DUWAS, Schaufeli et al., 2009)

Item	English	Japanese
WE1	I seem to be in a hurry and racing against the clock.	急いでいて、時間と競争しているようだと感じる。
WE2	I find myself continuing to work after my co-workers have called it quits.	同僚が仕事を切り上げた後にも自分が働き続けているのに気づく。
WE3	I stay busy and keep many irons in the fire.	常に忙しく、一度に多くの仕事に手を出している。
WE4	I spend more time working than on socialising with friends, on hobbies, or on leisure activities.	友人と会ったり趣味や余暇活動に費やす時間よりも、仕事に費やす時間の方が多い。
WE5	I find myself doing two or three things at one time such as eating lunch and writing a memo, while talking on the telephone.	電話で話しながら、昼食をとり、メモをするというように、同時に 2 つや 3 つのことをしていることに気づく。
WC1	It's important to me to work hard even when I don't enjoy what I'm doing.	私にとって重要なのは、やっていることが面白くないときでも一生懸命に働くことだ。
WC2	I feel that there's something inside me that drives me to work hard.	一生懸命働くように自分を駆り立てている何かを、自分の中に感じることがある。
WC3	I feel obliged to work hard, even when it's not enjoyable.	楽しくないときでさえ、一生懸命働くことが義務だと感じる。
WC4	I feel guilty when I take time off work.	何か仕事をしていないと罪悪感を覚える。
WC5	It is hard for me to relax when I'm not working.	仕事をしていないときはリラックスするのが難しい 。

Note. The Japanese version of this scale was translated and validated by Schaufeli et al. (2009).

Table 8

English and Japanese Items of Perceived Exploitative Employee-Organisation Relationships

Scale (PERS, Livne-Ofer et al., 2019)

Item	English	Japanese
PER1	My organisation takes advantage of the fact that I need this job.	私がこの仕事を必要としていることを企業はうまく利用している。
PER2	My organisation mistreats me because I am dependent on it.	私が企業に依存しているから、企業は私を不当に扱っている。
PER3	My organisation uses the fact that I need this job to avoid compensating me adequately.	企業は、私がこの仕事を必要としていることを利用して十分な報酬を与えないようにしている。
PER4	My organisation doesn't care if it harms me, as long as it benefits from my work.	私の労働によって利益を得られるのであれば、企業は私に被害を及ぼしても気にしない。

Note. The four items that showed the highest standardised factor loadings in the confirmatory factor analysis conducted by Moody (2022) were selected for our study (see Appendix C).

Table 9

English and Japanese Items of Turnover Intention scale (Mobley et al., 1979)

Item	English	Japanese
TI1	I think a lot about leaving the organisation.	この企業を辞めたいと頻繁に考える。
TI2	I am actively searching for an alternative to the organisation.	この企業に代わる選択肢を積極的に探している。
TI3	As soon as it is possible, I will leave the organisation.	可能な限り早く、この企業を去るつもりである。

Table 10

English and Japanese Items of the Short Form of Unified Multidimensional Calling Scale

(UMCS-7, Gerdel et al., 2022, Vianello et al., 2018)

Item	English	Japanese
CAL1	I am passionate about my work.	仕事に対して熱意をもって取り組んでいる。
CAL2	My work is always on my mind.	仕事のことを常に考えている。
CAL3	It is important to me that my work contributes to making the world a better place.	自分の仕事がより良い世界を作ることに貢献していることが大切である。
CAL4	My work gives meaning to my life.	仕事は私の人生に意味を与えてくれる。
CAL5	I am willing to make great sacrifices to keep doing my work.	仕事を続けるためなら、大きな犠牲を払っても構わない。
CAL6	I am pursuing my current line of work because I believe I have been called to do so.	使命感を抱いているから、今の仕事に就いている。
CAL7	My work will always be part of my life.	仕事は常にこれからも、私の人生の一部である。

Appendix B - All Item Loadings of Original CFAs

Table 11

Confirmatory Factor Analysis Details of Overwork Endorsement

Item	Mean	SD	Standardised factor loadings	p-value
OE1	2.61	1.30	0.701	< .001
OE2	2.11	1.24	0.854	< .001
OE3	2.11	1.22	0.440	< .001
OE4	3.77	1.22	0.444	< .001
OE5	2.49	1.38	0.536	< .001
OE6	2.06	1.34	0.572	< .001
OE7	2.10	1.36	0.597	< .001

Table 12

Confirmatory Factor Analysis Details of Lacking Overwork Rewards

Item	Mean	SD	Standardised factor loadings	p-value
LOR1	2.94	1.50	0.353	.010
LOR2	2.39	1.51	1.109	< .001
LOR3	2.47	1.41	0.355	.009
LOR4	2.48	1.29	0.299	.020

Table 13

Confirmatory Factor Analysis Details of Working Excessively

Item	Mean	SD	Standardised factor loadings	p-value
WE1	2.53	0.97	0.469	< .001
WE2	2.01	1.00	0.612	< .001
WE3	1.83	0.91	0.118	.347
WE4	2.39	0.99	0.862	< .001
WE5	2.20	0.97	0.104	.408

Table 14

Confirmatory Factor Analysis Details of Working Compulsively

Item	Mean	SD	Standardised factor loadings	p-value
WC1	2.36	1.15	0.637	< .001
WC2	2.28	1.07	0.808	< .001
WC3	2.08	1.13	0.413	< .001
WC4	2.15	1.09	0.449	< .001
WC5	1.49	0.83	0.653	< .001

Table 15

Confirmatory Factor Analysis Details of Perceived Exploitation

Item	Mean	SD	Standardised factor loadings	p-value
EXP1	4.24	1.52	0.346	< .001
EXP2	2.49	1.45	0.660	< .001
EXP3	2.65	1.47	0.565	< .001
EXP4	2.15	1.38	0.700	< .001

Table 16

Confirmatory Factor Analysis Details of Turnover Intention

Item	Mean	SD	Standardised factor loadings	p-value
TI1	2.51	1.25	0.747	< .001
TI2	2.72	1.19	0.592	< .001
TI3	2.28	1.18	0.980	< .001

Table 17

Confirmatory Factor Analysis Details of Collectivism

Item	Mean	SD	Standardised factor loadings	p-value
COL1	1.81	0.91	0.364	.002
COL2	2.24	0.99	0.352	.003
COL3	2.38	1.07	0.676	< .001
COL4	2.62	1.09	0.806	< .001
COL5	2.71	0.99	0.770	< .001
COL6	2.24	0.99	0.590	< .001

Table 18

Confirmatory Factor Analysis Details of Career Calling

Item	Mean	SD	Standardised factor loadings	p-value
CAL1	4.00	0.93	0.611	< .001
CAL2	3.19	1.15	0.417	.001
CAL3	3.75	1.10	0.574	< .001
CAL4	3.78	1.13	0.627	< .001
CAL5	1.91	1.02	0.672	< .001
CAL6	2.91	1.32	0.551	< .001
CAL7	3.73	1.09	0.348	.005

Appendix C - Confirmatory Factor Analysis conducted by Moody (2022)

Table 19

Confirmatory Factor Analysis Details of Perceived Exploitation (Moody, 2022)

Item	Mean	SD	Standardised factor loadings	p-value
PER1	4.17	4.13	0.78	< .001
PER2	4.08	4.14	0.76	< .001
PER3	4.30	4.20	0.77	< .001
PER4	3.28	3.74	0.81	< .001
PER5	2.45	2.73	0.68	< .001
PER6	2.09	2.26	0.69	< .001
PER7	2.14	2.05	0.82	< .001
PER8	2.24	2.77	0.74	< .001
PER9	2.20	2.39	0.80	< .001
PER10	1.97	2.01	0.75	< .001
PER11	2.85	4.33	0.53	< .001
PER12	2.11	2.50	0.58	< .001
PER13	2.52	3.05	0.69	< .001
PER14	2.91	3.99	0.82	< .001

Note. Items with standardised factor loadings of > 0.80 were selected for our study (PER4, PER7, PER9, PER14.