

A Study of Relationship among Security Guard' Presenteeism, Physical and Mental Health and Turnover Intention

Ya-Chin Kang^{1*} Yun-Fu Liao²

1,2 Graduate Institute of Labor and Human Resources, College of Social Sciences, Chinese Culture University

*Corresponding Author: kyj@ulive.pccu.edu.tw

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ABSTRACT

In Taiwanese society, where universal values emphasize hard work, overtime has become a common phenomenon. In the security industry, security guards are responsible for maintaining social order and providing emergency assistance 24 hours a day. Excessively high work hours lead to high fatigue levels, increased error rates, and poor service attitudes, resulting in low productivity. Cooper first proposed the concept of "presenteeism" in 1996, which suggests that workers will continue to attend work despite physical and mental discomfort or fatigue from excessive hours, even if their productivity is reduced. This phenomenon has resulted in a high turnover rate among security personnel, a long-term manpower shortage, and increased operating costs for enterprises. This study focuses on security personnel employed by domestically listed security companies, examining the impact of their reluctant attendance on their physical and mental health and turnover intentions. A questionnaire survey was conducted using subjective sampling, yielding 1,058 valid responses with a 70.5% response rate. The instrument, developed through related studies, comprised 24 items across four factors: presenteeism (2 items), mental health (12 items), physical health (6 items), and turnover intention (4 items). All items passed reliability and validity tests. Data analysis was performed using linear regression with SPSS version 23. Results indicated that physical and mental health partially mediated turnover intention, with a total variance of 34.5%. The findings showed that higher frequencies of reluctant attendance correlated with poorer physical and mental health and higher turnover intentions. Therefore, improving the physical and mental health of security personnel can reduce turnover intentions caused by frequent reluctant attendance.

Keywords: Security guard, presenteeism, physical and mental health, turnover intention

1. Introduction

In recent years, news media have reported an increasing number of cases where workers have died due to overwork, gradually drawing public attention to the issue of workplace overexertion. The term "workplace overwork" commonly refers to a worker experiencing chronic fatigue or high stress for an extended period while performing their duties, which can lead to death or injury from

cerebrovascular or cardiovascular disease [1]. According to data on occupational disease compensation claims released by the Bureau of Labor Insurance under the Ministry of Labor, in 2016 a total of 32 people died and 106 people suffered injury, illness, or disability due to cerebrovascular and cardiovascular diseases caused by occupational factors. This data suggests the problem of workplace overwork in China is becoming more severe and shows signs of continuous deterioration.

According to the IMD World Competitiveness Yearbook 2015 [2] published by the International Institute for Management Development (IMD) in Lausanne, Switzerland, the average annual working hours for Taiwanese workers is 2,116 hours, which is 197 hours more than the global average of 1,919 hours. This data indicates that Taiwan is among the countries with the longest working hours. Due to the high unemployment rate in Taiwan resulting from economic downturn, the emergence of a long hours work culture, and the prevalence of layoffs in enterprises, the behaviors and attitudes of workers in the workplace have been affected. Prolonged overtime work can have unpredictable consequences on the physical and mental health of workers, and may severely impact the overall national labor force.

According to Article 30, Paragraph 1 of the current Labor Standards Act, the normal working hours for an employee shall not exceed 8 hours per day or 40 hours per week. However, Article 84-1 exempts certain workers from the restrictions outlined in Article 30. As a result, workers in specialized industries such as technology, healthcare, aviation, and security often work unstable and extended hours, with no end to the phenomenon of overtime. While the Taiwanese authorities have attempted to coordinate actions between employers and labor, it has been difficult to reach a consensus on supporting measures for working hours, overtime, and related wage calculation provisions. This is the case whether amending the law to mandate one day off per case, or introducing the new Article 32-1 to the current Labor Standards Law [3].

In Taiwanese society, where a strong work ethic is widely emphasized, overtime work has become the norm. In the security industry, for example, employees engaged in security services must be responsible for maintaining social order and providing emergency assistance around the clock. These security personnel must take turns being on duty 24 hours a day according to a set schedule, precluding them from a typical 9-to-5 work style [4]. Security personnel often find themselves in an environment characterized by excessively long working hours, heavy workloads, high levels of work-related stress, and a low sense of achievement. These factors have contributed to high turnover rates and long-term staffing shortages in the security industry.

The concept of "presenteeism" stems from the notion of "absenteeism," resulting in reduced or eliminated productivity. This concept emerged from Western scholars' observations and studies of corporate work environments, noting instances where workers lacked attendance, speculating that this phenomenon could affect not only individual physical and mental health, but also the overall productivity of the enterprise organization [5]. In the worst cases, the human and economic impacts on society as a whole could be significant [6]. Taking the security industry as an example, the pursuit of cost control and small profits has led to low salaries, long working hours, poor welfare benefits, insufficient education and training, and high turnover rates among security personnel. This has

resulted in recruitment difficulties and chronic staffing shortages, forcing security personnel to bear heavier workloads than in the past. Furthermore, due to the economic downturn, security personnel may choose to work reluctantly even when fatigued or unwell, fearing termination or salary reductions.

Physical and mental health is a multifaceted phenomenon, encompassing more than just the absence of disease or pain. It refers to an individual's ability to maintain well-being at the physical, mental, and social levels [7]. Excessive working hours may not only affect the physical and mental health of workers, but also restrict their interpersonal and social interactions [8]. In addition to the direct impact of long working hours on the physical and mental health of workers, it can also result in significant losses to the country's overall labor force [9].

"Resignation" refers literally to an employee's departure from the organization or enterprise to which they belong, terminating the employment relationship between the worker and employer [10]. This tendency to leave is a phenomenon of "labor mobility" [11], describing the psychological inclination of employees who have not yet left their original organization but are considering other job opportunities. After evaluating their current position against alternative options, the employee will choose the best opportunity and act on their intention to depart. If an organization can identify the factors driving turnover intention and effectively evaluate and predict the occurrence of employee resignation, it can work to reduce the overall turnover rate [12]. Factors such as long working hours, poor benefits, ineffective management systems, and low sense of accomplishment at work often contribute to an increased tendency among employees to leave their current positions.

In summary, this study will focus on security personnel as the primary research subjects, exploring whether "reluctant attendance" affects the physical and mental health of security personnel, as well as their turnover intentions. The goal is to investigate the theoretical and managerial implications of this practical and novel topic, in order to address the needs of management practice. The specific research objectives are as follows:

Objective 1: To analyze the effects of "reluctant attendance" and "physical and mental health" on the "turnover intention" of security personnel.

Objective 2: To examine the mediating effect of security personnel's "physical and mental health" in the relationship between "reluctant attendance" and "turnover intention".

2. Literature Review

2.1 The Current Situation of Taiwan's Security Industry

The definition of security services is the protection of life and property for clients through the provision of personal services [7]. This service industry has emerged in response to the rapid development of the industrial and commercial economy, with the purpose and operational goal of providing customers with safety protection. The responsibility of security industry practitioners is to maintain social order and tranquility, ensure the safety of individuals and the public, and protect them from physical and psychological harm [4].

The first security company in Taiwan was "Taiwan Security Co., Ltd.", established in 1977 as a joint venture between a domestic industrial group and the Japanese security company "Japan Security Co., Ltd." And later renamed SECOM Co., Ltd. in 1983. Now known as "Zhongxing Security Co., Ltd." As Taiwan experienced rapid economic development and gradual social change, the public's demand for security services to protect personal property and safety increased, leading to an influx of investors into the industry. Taiwan's security industry has now been in operation for over 40 years.

According to the registration information from the Department of Commerce of the Ministry of Economic Affairs, there are currently 565 approved and continuously operating security companies in Taiwan. Under the current "Private Security Service Act", security personnel are broadly categorized into four types: garrison, cash delivery, personal, and system security personnel, as summarized in Table 1.

Table 1. The classification of security guard in Taiwan based on "Private Security Service Act".

Garrison security personnel	Stationed at customer sites, we carry out safety protection work such as access control of site personnel, vehicle entry and exit registration management, patrol buildings and surrounding environment, monitor screen monitoring, disaster prevention and notification, etc.
Cash security personnel	Carry out the safety maintenance of professional cash or other valuables transportation by cash trucks, ATM cash transportation/replenishment operation services, etc.
Personal security personnel	Personal security personnel are trained security personnel sent by the security company to maintain personal safety, such as the work of personal security services.
System security guards	Drive the security service vehicle to the customer's premises to conduct safety patrols, simple maintenance of security equipment, and handling abnormal signal conditions of the security system.

Source: By authors.

2.2 Presenteeism

2.2.1. Definition

The term "presenteeism" was first coined by the British scholar Cooper [13]. Derived from the concept of "absenteeism", presenteeism is the antonym of absenteeism, describing the phenomenon where workers choose to continue working even when they are physically or mentally unwell, or fatigued due to excessive working hours. While this concept was proposed quite early, there remains a lack of consensus within the academic community on the precise terminology and definitions. Terms such as "sickness presence", "sickness attendance", "impaired presenteeism", and "reduced presenteeism" have all been used by scholars to describe this low attendance behavior [14]. This inconsistency is related to the fact that the definition of reluctant attendance remains unclear.

Presenteeism describes the phenomenon where workers choose to continue working despite

discomfort caused by physical illness or fatigue from long working hours, resulting in low or unproductive productivity [11]. John [15] reviewed the development of research on presenteeism, classifying it into two schools of thought. The first is the perspective of American scholars, who evaluate the impact of presenteeism on individual or organizational productivity from an economic standpoint. The second is the perspective of European scholars, who assess the impact of presenteeism on workers' physical and mental health in the workplace. This research is based on the insights of the European school of thought and conducts further investigation.

2.2.2. *Dynamic model of present decision-making*

Johns [15] proposed a dynamic model of attendance decision-making to illustrate the process by which workers determine whether to attend work or be absent, as shown in Figure 1. He posits that attendance and absenteeism exist on a continuum, with reluctant attendance falling in between. Workers make decisions about attendance or absence based on their health status, situational factors, and personal factors, with the consequences of this process differing for both individuals and organizations. In terms of health status, it can be categorized as acute, intermittent, or chronic based on frequency and intensity. The impact of urgent health events on employees' decision-making inevitably differs from that of intermittent physical discomfort, so workers will refer to the intensity of health events to decide whether to "attend" or "be absent" [9]. Regarding personal factors, a worker's decision to "attend" or "be absent" is related to their personality traits, work attitude, perceptions of fairness, and stress levels. Recent qualitative interviews with New Zealand healthcare workers found that behavioral reasons for reluctant attendance included the social evaluation of supervisors and peers who prioritize work, as well as the fear that absenteeism will affect interpersonal relationships in the workplace or increase the workload of their peers [14].

However, self-awareness is a state in which an individual's attention is focused inward, on their own mental state, intentions, values, emotions, and how they are evaluated by others [16], as described in the theory of objective self-awareness [17]. It is posited that when people focus on themselves, they engage in a process of self-evaluation, comparing their own behavior to appropriate standards. If the self and the standard are misaligned, people will work towards the standard in an effort to reduce the inconsistency. Workers generally know that when they are unwell, they should seek medical treatment and adequate rest to facilitate recovery. However, some workers still choose to attend work reluctantly. The theory of "presenteeism" originated from Western experts and scholars, and when directly applied to the Chinese social context, it may yield different degrees of influence or results due to cultural differences. For example, the culture of working long hours, the emphasis on interpersonal relationships among Chinese people, and the impact of Confucian values. Therefore, in the subsequent hypothesis testing, this study will attempt to examine the influence of the inner thoughts and beliefs of Chinese workers, in order to pursue research findings that are more aligned with the realities of the Chinese context.

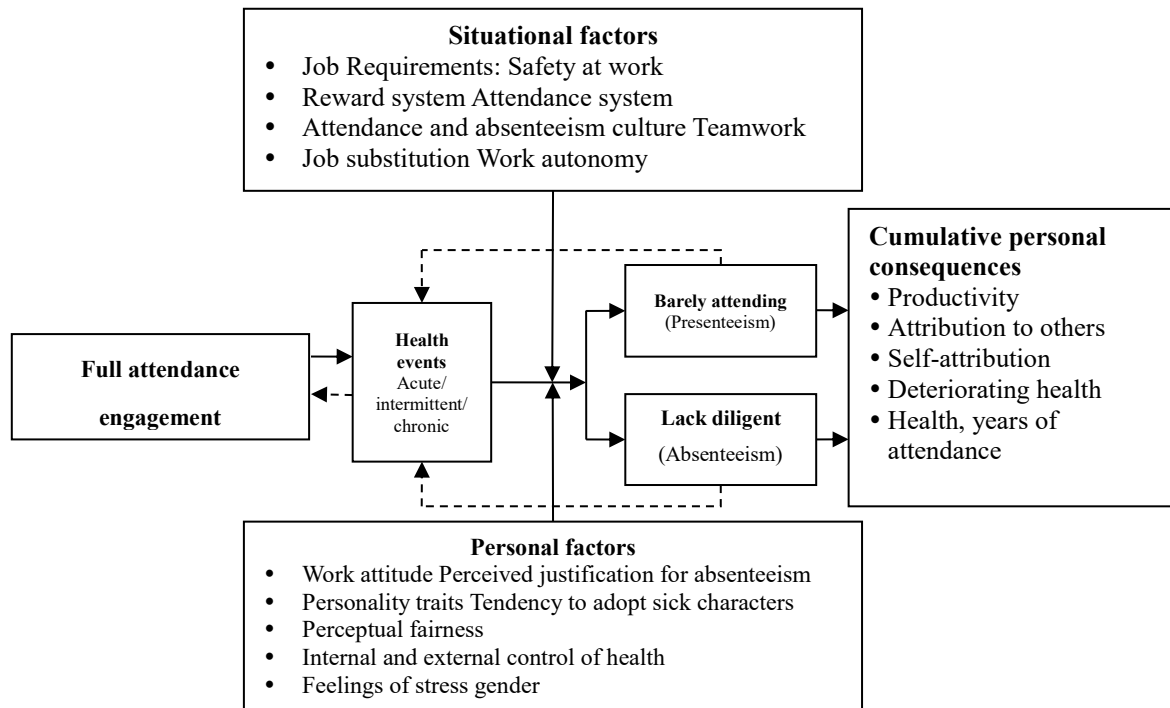


Figure 1. Johns' Dynamic model of present decision-making.

Source: Retrieved from Johns [15].

2.3 Physical and Mental Health

According to the World Health Organization (WHO) [18], the definition of "health" encompasses more than just the absence of disease or pain. Health refers to a comprehensive state of physical, mental, and social well-being for the individual, maintained in a stable and comfortable manner under the influence of various factors. In addition to maintaining a good physiological state, an individual's emotional regulation, interpersonal relationships, and social interactions must also be taken into account and maintained in a positive state in order to achieve true physical and mental health. This holistic view of health goes beyond just the physical aspect, recognizing the importance of mental and social dimensions as well.

Maslow and Mittelmann [19] put forward ten standards of mental health in their work, which are: (1) A sufficient sense of self-security; (2) A complete understanding of oneself and the ability to make appropriate self-evaluations; (3) Realistic ideals and life goals; (4) Maintaining good contact with reality; (5) Maintaining integrity and harmony of personality; (6) Ability to learn from past experiences; (7) Maintaining healthy interpersonal relationships; (8) Ability to appropriately express and regulate emotions; (9). Ability to develop one's potential and personality traits while conforming to the spirit of teamwork; (10). Ability to meet one's basic needs before conforming to social norms. These comprehensive standards encompass various aspects of psychological well-being, including self-awareness, self-regulation, environmental adaptation, and social functioning. They provide a holistic framework for assessing and promoting mental health.

There are many factors that can affect physical and mental health, with work stress being one of them. Both excessively high or low work pressure can reduce its positive effects. In particular,

excessive work pressure can adversely impact the physiology, psychology, and behaviors of employees, resulting in phenomena such as tension, restlessness, anxiety, and job dissatisfaction. This can ultimately affect the physical and mental health as well as work satisfaction of individuals, leading to negative consequences for both the individual and the organization [20]. The formation of work stress is the result of an interaction between an individual's personality traits and their work environment. The subjective perception of each individual differs, leading to varying degrees of work stress that affect their physical or psychological health to differing extents. While some studies have shown that appropriate work stress can help improve work performance and efficiency, in reality, workers are often overwhelmed by excessive work stress, which can lead to serious health problems.

The physical and mental health of workers is invaluable. When an individual's physical and mental health declines, it not only affects their quality of life and that of their family, but also impacts their work performance and evaluations. Past empirical studies have shown that workers who engage in shift work and long hours tend to have relatively poorer physical and mental health. Additionally, reluctant attendance has been identified as a risk factor for workplace health, potentially harming the physical and mental well-being of workers. Therefore, this study will attempt to understand the relationship between the reluctant attendance behavior of security personnel and its impact on their physical and mental health.

According to Lin and Lu [14], their research found a significant negative association between presenteeism (low attendance) and both physical health and mental health. Similarly, Zhang, Wang, and Li [21] reported a significant negative association between presenteeism and emotional exhaustion. Building upon the findings from these prior researchers, it is evident that reluctant attendance, or presenteeism, has a detrimental impact on the physical and mental health of workers. Therefore, this study hypothesizes is:

H1: Reluctant attendance has a negative and significant impact on physical health.

H2: Reluctant attendance had a negative and significant effect on mental health.

2.4 Turnover Intention

In order to effectively manage human resources and retain excellent, suitable talent, enterprises must recognize employees' turnover intentions in advance to predict and address their turnover behaviors. This allows enterprises to achieve the purpose of effective management and sustainable organizational operations. Before discussing the meaning of turnover intention, it is necessary to first clarify the concept of turnover. Turnover refers to an employee leaving their organization or business, specifically the termination of the employment relationship between the employee and employer [10]. Turnover intention then refers to the comprehensive psychological state or attitudinal tendency of employees who have become dissatisfied with their work due to personal and organizational factors after a period of employment. After careful reflection and evaluation, the individual develops an intention to voluntarily leave their current job and seek other employment opportunities. This psychological state or attitudinal tendency is the precursor to the actual turnover behavior [22].

Employee turnover can have a significant impact on organizations, with the cost of each

departure representing a substantial loss for the enterprise. If the departing employee happens to be a core member of the organization, the potential costs extend beyond just the tangible factors, such as replacement and training, to include significant intangible costs related to the loss of technology, creativity, and knowledge [23]. The phenomenon of high turnover rates can lead to direct cost losses for the enterprise and negatively impact the morale of current employees. Generally speaking, there are three stages during employment when employees are most likely to consider resigning: (1) Within the first one to two months of joining the company, when the employee is still in the process of adapting to the new work environment, culture, and supervisors. If they are unable to adapt, they may be more inclined to submit a resignation request. (2) Between one to one-and-a-half years of employment, when the employee has entered a period of adaptation. In addition to increasing productivity, they may have greater expectations for growth opportunities. If these expectations are not met, they may be more prone to resigning. (3) After three or more years of service, employees may become more likely to leave if their career plans have changed and they seek better opportunities elsewhere.

Traditionally, scholars have categorized employee turnover into two main types based on the employee's own volition: voluntary turnover and involuntary turnover. The factors contributing to voluntary separation are typically influenced by organizational or personal factors, such as compensation, promotion opportunities, health concerns, or the pursuit of further education. If the voluntary separation is defined by organizational factors, it can be further subdivided into functional and dysfunctional voluntary turnover [24]. Involuntary resignation, on the other hand, refers to departures that are not the employee's own choice, but rather initiated by the employer, such as through termination or layoffs. Based on the above explanation, resignation can be understood as either a voluntary or involuntary departure from the organization. If the relationship between the employee and employer does not meet expectations or there is a sense of distrust between the two parties, it can more easily lead to the termination of the employment relationship. In the research on employee turnover, many scholars have proposed that the relevant factors can be roughly classified into three categories: personal factors (e.g., age, tenure), organizational factors (e.g., compensation, promotion system), and work-related factors (e.g., job satisfaction, burnout). This suggests that employee resignation is a multifaceted phenomenon with various contributing elements.

After clarifying the meaning of resignation, we can further elucidate the concept of turnover intention. Turnover intention refers to an employee's psychological tendency to seek alternative job opportunities before leaving their current organization. After generating this intention to leave and evaluating their current job against other options, the employee will ultimately choose the best opportunity and engage in the actual departure behavior. If an organization can effectively identify and evaluate the factors contributing to turnover intention, it can work to reduce the overall turnover rate within the enterprise. According to the research findings from relevant literature, there are numerous factors that influence the turnover intention of security personnel, including upward political behavior, job characteristics, job satisfaction, job stress, organizational commitment, supervisor leadership behavior, and others. This study focuses specifically on the relationship

between the reluctant attendance behavior and physical and mental health of security personnel. The aim is to identify the key variables and degree of influence that affect the turnover intention of security personnel, and to construct a theoretical model explaining the factors that shape their turnover intentions.

According to Lerman et al. [25], the association between presenteeism (reluctant attendance) and turnover intention indicated that presenteeism had a significant impact on turnover intention, and was also a risk factor for employee fatigue and sick leave. Additionally, Romi, Alsubki, Almadhi, and Propheto [26] found a significant negative relationship between perceived organizational support and turnover intention. Furthermore, their research suggests that presenteeism has a moderating effect on the relationship between perceived organizational support and turnover intention. Building upon these prior findings, the hypothesis of the current study is:

H3: Reluctant attendance has a positive and significant effect on turnover intention.

According to Vickovic and Morrow [22], the degree of mental calmness exhibits a negative relationship with turnover intention - in other words, the higher the level of mental calm, the lower the positive association with turnover intention. Similarly, their research found that a higher degree of physical relaxation corresponds with a lower positive relationship between the variables. Additionally, Junaidi, Sasono, Wanuri, and Emiyati [7] reported that an individual's physical and mental health can impact their turnover intention. Their findings indicate that physical and psychological symptoms have varying degrees of influence on turnover intention, such that the more physically uncomfortable an individual feels, the higher their propensity to leave their job. Building upon these prior research findings, the hypothesis of the current study is:

H4: Mental health has a positive predictive effect on turnover intention.

H5: Physical health has a positive predictive effect on turnover intention.

H6: Mental health plays a mediation role between reluctant attendance and turnover intention.

H7: Physical health plays a mediation role between reluctant attendance and turnover intention.

In summary, this study composed a “The Presenteeism-Health-Turnover Theory” that integrated relevant literatures. The core proposition of the Presenteeism-Health-Turnover Theory is that presenteeism behavior among security personnel can negatively impact their physical and mental health, which in turn increases their turnover intention. This integrated theoretical framework provides a comprehensive explanation of the relationships between these three key factors. By empirically testing and validating this theory, organizations can gain important insights to better manage presenteeism, promote employee health, and reduce unwanted turnover among security personnel.

3. Research Design

3.1 The Framework and CMV Strategy

This study aimed to examine the impact of low attendance on the physical and mental health and turnover intention of security workers, and refer to relevant studies to establish a research framework. The relationship between the variables in this study is shown in Figure 2. It represents a conceptual framework for a quantitative research study examining the relationships between presenteeism, physical and mental health, and turnover intention. First, the “Presenteeism” is the independent variable. It refers to the phenomenon where employees are physically present at work but are not fully functioning due to illness or other health issues. Second, the “Physical and Mental Health” is a mediating variable that influences the relationship between presenteeism and turnover intention. It is further divided into “Physical Health”, and “Mental Health” based on theoretical bases. Third, the “Turnover Intention” is the dependent variable. It represents the likelihood that employees will leave their current job. Both physical and mental health are shown to directly influence turnover intention. Presenteeism impacts both physical and mental health. The arrows indicate the direction of influence as physical and mental health, in turn, impact turnover intention. There is also a direct relationship between presenteeism and turnover intention.

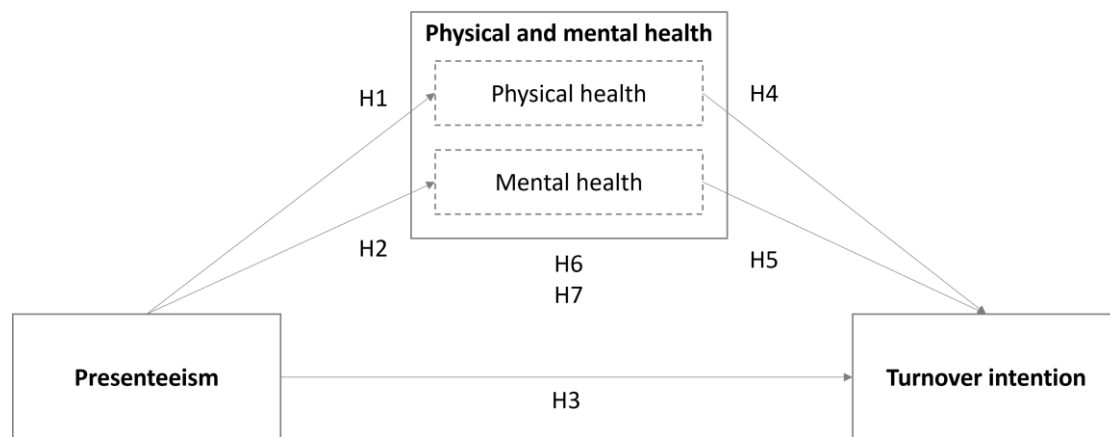


Figure 2. The hypothesis framework of this study.

Source: By authors.

In order to reduce the occurrence of Common Method Variance (CMV), this study is based on Peng, Gao, and Lin [27]. It is suggested that precautionary measures should be taken, and the method of concealing the meaning of the question item and the reverse item design method should be adopted in the questionnaire arrangement design, so as to reduce the variation of the common method.

3.2 The Instrument

In this study, a structured scale was used, and appropriate scales were used for the main research variables. The main study variables included reluctant attendance, physical and mental health, and turnover intention. At the same time, relevant background variables of individuals are also collected, including the nature of the preservation work, age, education level, marital status, total years of experience in the preservation work, current salary, and the area where the service is located. This study adopts the standardized tools developed by scholars and experts, and has been used in domestic research, and has good reliability and validity. The sample items as show in Table 2.

Table 2. The sample items of this study

Factors	Items
Presenteeism (2 items)	Although you have uncomfortable symptoms, such as headache and back pain, you are still reluctant to go to work.
Physical and mental health	
Physical health (12 items)	If something goes wrong in the work you are responsible for, you will feel panicked and as if things are out of control.
Mental health (6 items)	Feeling strangely tired or exhausted.
Turnover intention (4 items)	Desire to leave the job.

Source: By authors.

These standardized tools are based on a single concept of multi-question measurement to reduce the bias of measurement results. The scales used for the main study variables are described below.

3.2.1 Presenteeism

Referring to the existing research literature on presenteeism (reluctant attendance) and the retrospective review by Johns [15], it is argued that the conceptualization of presenteeism should not be limited to the opposite of absenteeism. The measurement approach should also avoid conflating the distinct aspects of behavioral and productivity-related components. Instead, the measurement should directly assess the frequency of employees' sick attendance, in order to avoid the disconnect between the conceptual meaning and the measurement operationalization. In this study, the frequency of presenteeism behavior was measured, extending the variable nature to a continuous scale, thereby overcoming the limitations of categorical variable analyses [14]. Specifically, the Chinese scale developed by Xi et al. [28] was used to assess presenteeism in terms of behavioral frequency. The study participants subjectively recalled the frequency of their presenteeism behavior over the past six months. Responses were provided on a four-point scale, where 1 indicates "never", 2 indicates "once", 3 indicates "2 to 4 times", and 4 indicates "more than 5 times". The higher the score, the greater the frequency of presenteeism behavior.

3.2.2 Physical and mental health

In this study, the Occupational Stress Indicator-2 (OSI-2) was used as the research instrument. This scale is based on the Occupational Stress Indicator (OSI) theory, an evaluation tool proposed by Cary Cooper and colleagues in 1988. The OSI is primarily divided into six components, comprising a total of 167 items. Lu et al. [29] subsequently revised the Occupational Stress Index (OSI) and developed a Chinese version in 1994. They then extracted a simplified version, the Occupational Stress Indicator-2 (OSI-2), in 1999. For the purposes of this study, the mental health and physical health subscales from the OSI-2 were utilized to measure the participants' subjective psychological and physical conditions. A higher score on these subscales indicates better physical or mental health.

3.2.3 Turnover intention

The tool used to measure turnover intention in this study is based on the employee withdrawal behavior turnover model developed by Mobley [30] and the measurement scale proposed by Abouraia and Othman [31]. This scale was then refined by Wang et al. [12]. Mobley [30] defines turnover intention as an employee's deliberate plan to leave their current position within a particular organization after a period of time. In 1978, he further simplified the conceptualization to encompass the cumulative desire of organizational members to leave their jobs, their tendency to seek alternative employment, and the likelihood of finding other jobs. The turnover intention scale utilized in this study employs a 5-point Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree". The higher the overall score, the greater the employee's propensity to leave their current job.

3.3 Sampling and Samples

3.3.1 Sampling

While random sampling is an ideal method, it can be quite challenging to implement in practice. In order to efficiently obtain research data and more representative samples within the constraints of limited time and labor resources, this study utilized a purposive sampling approach. Specifically, 1,500 questionnaires were distributed by mail, including 800 for garrison security personnel, 250 for banknote preservation staff, and 450 for system security employees. The questionnaires were sent to the human resources departments of five participating companies. The department heads then distributed the surveys to the supervisors of each regional branch or office, based on the proportional representation of employees in each location. The supervisors were asked to assist the security personnel in their respective regions in completing the anonymous questionnaires. The data collection period spanned from April 2018 to May 2018. A total of 1,077 questionnaires were returned, yielding a recovery rate of 71.8%. After excluding 19 incomplete or incorrectly filled out surveys, 1,058 valid questionnaires were collected, representing an effective recovery rate of 70.5%. This included 525 responses from garrison security, 148 from banknote preservation, and 385 from system preservation personnel, as shown in Table 3.

Table 3. The samples and survey return rate

Branch office	Duty	Staffs	Survey quantity	Valid return quantity
A	Security for System	820	450	385
B	Security guard	2,060	300	213
C	Security guard	1,241	300	132
D	Security guard	1,390	200	180
And	Security for cash transport	482	250	148
Total	—	5,993	1,500	1,058

Source: By authors.

3.3.2 Samples

This study conducted a structured questionnaire survey of security personnel employed by S Security Company, one of the publicly listed security firms in China, as well as its subsidiary companies engaged in the security services business. According to the 2017 annual reports provided by the subsidiary companies, as of March 31, 2018, the five companies operating in the security services industry employed a total of 5,993 security personnel. This included 4,691 employees in garrison security, 482 in cash transportation, and 820 in system security.

4. Results and Discussion

4.1 Validity and Reliability Check

4.1.1 Validity

After conducting a thorough literature review, an initial draft of the pre-test questionnaire was prepared. The content and format of the overall questionnaire were then reviewed to assess their appropriateness. Experts in related fields were invited to provide feedback on the questionnaire content. In terms of the expert validity assessment, the experts were asked to evaluate the appropriateness of each question. The scoring method was based on the approach proposed by Waltz, Strickland, and Lenz [32]. However, the original four-point scale was modified to a three-point calculation in this study. The scoring criteria were as follows: a score of 3 represented an appropriate topic, a score of 2 indicated a suitable topic that required minor corrections, and a score of 1 denoted an inappropriate topic. The content validity index (CVI) was used as the indicator of expert validity. For each questionnaire item, the CVI was calculated by dividing the number of experts who selected a score of 3 by the total number of experts. The average CVI value across all questionnaire items was then computed, with a target standard of 0.8 to 1.0. The average CVI value obtained for this questionnaire was 0.89. Based on the recommendations provided by five experts, the questionnaire was revised, and the final version was completed.

4.1.2 Reliability

After incorporating the expert recommendations to adjust the questionnaire items, this study further analyzed the reliability of the revised items. The reliability and validity of the final questionnaire were verified by assessing the degree of internal consistency of the scale. The resulting questionnaire met the requirements for consistency and reliability, rendering it suitable for use as a formal research instrument in the subsequent study. Specifically, the original pre-test questions were adjusted based on the statistical results of the pre-test and the expert feedback. Three security personnel were then asked to complete the revised questions to confirm the appropriate understanding of the items, after which the final questionnaire was formulated. The researchers selected 30 security personnel from a Taipei City security company to complete the formal questionnaire. An internal consistency analysis was conducted, revealing a Cronbach's α value of 0.828 for the overall scale. The individual subscales ranged from 0.823 to 0.940, indicating that the reliability of this questionnaire was good.

4.2 Demographic Analysis

Among the 1,058 participants in this study, the largest proportion (36.4%) were employees of security company A, followed by company B (20.1%). In terms of job responsibilities, 49.6% of the security personnel were assigned to community building security, followed by 36.4% in system security. Regarding the age distribution, 38.5% of the security personnel were 30-39 years old, and the second largest group (31.7%) was 40-49 years old. In terms of educational attainment, 62.4% had a high school (vocational) level of education. For marital status, 53% were currently married. Examining the total years of security work experience, 31.3% had 3 months to less than 1 year of experience, followed by 24.7% with 1 to less than 5 years, and 24.5% with more than 5 years. For current salary, the largest proportion (40.7%) earned 30,000 to 34,999 yuan. Geographically, 53.6% were located in the north (Keelung-Hsinchu) region, and 30.3% were in the south (Chiayi-Pingtung) region.

4.3 Current Situation Analysis

The current situation was analyzed by survey items and the result presented in the Table 4. The mean score of “Presenteeism” ranged from 2.34 to 2.47. The mean score of “Physical health” ranged from 3.37 to 4.18. The mean score of “Mental health” ranged from 3.10 to 4.20. The mean score of “Turnover intention” ranged from 2.56 to 2.96. The result shows the “Presenteeism” and “Turnover intention” was low compared to “Mental health” and “Physical health”.

Table 4. The descriptive analysis of mean and standard deviation for each survey item (n=1,058)

Factors	Item number	Mean	Standard Deviation	Sequence
Presenteeism	P-1	2.34	1.09	2
	P-2	2.47	1.10	1
Physical health	PyH-1	3.37	1.47	6
	PyH-2	3.66	1.55	4
	PyH-3	4.18	1.39	1
	PyH-4	4.12	1.40	2
	PyH-5	3.99	1.47	3
	PyH-6	3.58	1.59	5
Mental health	PsH1-1	3.16	1.54	10
	PsH1-2	3.38	1.49	8
	PsH1-3	3.72	1.37	3
	PsH1-4	3.63	1.55	5
	PsH1-5	3.68	1.37	4
	PsH1-6	3.23	1.50	9
	PsH1-7	3.41	1.39	7
	PsH1-8	4.20	1.41	1
	PsH1-9	3.10	1.38	11
	PsH1-10	3.48	1.44	6
	PsH1-11	3.16	1.54	10
	PsH1-12	3.38	1.49	8
Turnover intention	TI-1	2.96	1.21	1
	TI-2	2.91	1.19	2
	TI-3	2.78	1.09	3
	TI-4	2.56	1.11	4

Source: By authors.

4.4 Correlation Between Variables

The Pearson Product-moment Correlation analysis showed that there was a significant positive correlation between reluctant attendance and turnover intention ($r=0.25, p<.001$) as shows in Table 5. In addition, both mental health, physical health, and overall physical and mental health were significantly negatively correlated with turnover intention.

Table 5. The correlation coefficient of the product difference parameters (n=1,058)

Variables	Presenteeism	Physical health	Mental health	Total health
Physical health	-0.35***	—		
Mental health	-0.23***	0.52***	—	
Total health	-0.34***	0.92***	0.81***	—
Turnover intention	0.25***	-0.55***	-0.38***	-0.55***

Note: *** $p<0.001$

Source: By authors.

4.5 The Hypothesis Test

4.5.1 Presenteeism can negative predict physical health significantly

The overall model $R^2=.123$ indicated that the Reluctant attendance profile had a 12.3% explanation for physiological health ($F=148.731, p<.001$). The β value of reluctant attendance on physiological health = $-.351$ ($p<.001$), indicating that the aspect of reluctant attendance had a negative and significant effect on physiological health, and the higher the reluctant attendance, the worse the physiological health.

4.5.2 Presenteeism can negative predict mental health significantly

The overall model $R^2=.51$ indicated that the reluctant attendance aspect had a 51% explanation for mental health ($F=56.578, p<.001$). The β value of reluctant attendance on mental health = $-.226$ ($p<.001$), indicating that the reluctant attendance aspect had a negative and significant effect on mental health, that is, the higher the reluctant attendance, the worse the mental health.

4.5.3 Presenteeism can predict turnover intention significantly

The overall pattern $R^2=.065$ indicates that the reluctant attendance aspect has a 6.5% explanation for turnover intention ($F=73.259, p<.001$). The β value of reluctant attendance on turnover intention = $.255$ ($p<.001$), indicating that the reluctant attendance profile had a positive and significant effect on turnover intention, and the higher the reluctant attendance, the higher the turnover intention.

4.5.4 Physical health and mental health can predict turnover intention significantly

The overall pattern $R^2=.170$ indicates that the physical health and mental health aspect has a 17.0% explanation for turnover intention ($F=111.38, p<.001$). The β value of physical health on turnover intention = $.442$ ($p<.001$); the β value of mental health on turnover intention = $.170$ ($p<.001$), indicating that the physical health and mental health had a negative and significant effect on turnover intention, and the higher the physical health and mental health, the lower the turnover intention. All

the results were presented in the Figure 3.

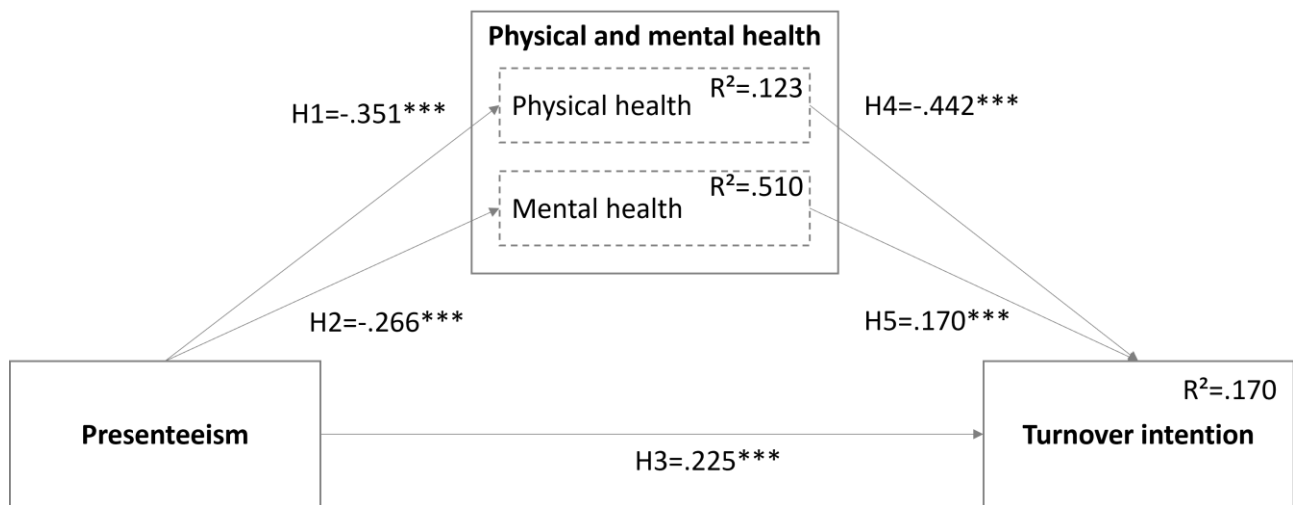


Figure 3. The standardized path coefficients of the research model.

4.6 The Mediation Effect Examination

4.6.1 The three-step check

This study mainly based on Baron & Kenny [34] was used to mediate the effect of physical and mental health mediating reluctant attendance and turnover intention (assuming that the self-variable was low attendance, the variable-dependent was turnover intention, and the mediating variable was physical and mental health). In the three-stage analysis of the mediated variable, the relationship between the self-variable and the mediated variable is confirmed, and then the self-variable is compared with the regression equation of the mediated variable added according to the variable, and when the result meets the following three conditions, the variable has a mediating effect. In the following, a three-stage regression analysis by Baron & Kenny [34] and a Bootstrap method by Efron [35] will be used to examine the mediating effect of physical and mental health on reluctant attendance and turnover intention.

Condition 1: Reluctant attendance and turnover intention were put into the regression model, and the data showed that reluctant attendance had a significant $\beta=.250$ ($p<.001$) on turnover intention, that is, there was a significant positive correlation between reluctant attendance and turnover intention. If condition 1 is satisfied, enter the test of condition 2.

Condition 2: Mental health was tested in the regression model, and the data showed that mental health had a significant $\beta=-.300$ ($p<.001$) on low attendance, indicating that mental health had a significant negative correlation with low attendance. If condition 2 is satisfied, enter the test of condition 3.

Condition 3: Mental health and reluctant attendance were put into the regression model to predict turnover intention, and the data showed that the β of mental health on turnover intention reached a significant level = $-.442$ ($p<.001$). That is, the relationship between mental health and turnover

intention is negatively correlated. The $\beta=.170$ ($p<.001$) of the turnover intention for reluctant attendance was still significantly positively correlated, but $\beta=.170 < \beta=.250$. Therefore, according to Baron & Kenny's argument, mental health has a partial mediating effect on reluctant attendance and job turnover intention.

4.6.2 The bootstrap test of mental health

According to the analysis of the Bootstrap method of Efron [35], if there are the following three conditions, that is, the variable has a mediating effect.

- (1) The indirect effect contains 0 within the 95% trust interval, which is not at a significant level, indicating that there is no mediation effect.
- (2) The indirect effect does not contain 0 within the 95% trust interval, which is a significant level, indicating that there is an intermediary effect. In this case, if the trust interval of the direct effect contains 0, it means that the direct effect is not significant and is a fully mediated effect.
- (3) Indirect effects and direct effects do not contain 0 in the 95% trust interval, which is a significant level. In this case, if the trust interval of the total effect does not contain 0 and reaches a significant level, it is called a partial mediation effect.

In this study, Hayes [36] Process 3.0 for SPSS was used to repeatedly sample 5,000 times across 95% of the trust area to test whether the mediation effect exists. The results are shown in the Table 6.

Table 6. Bootstrap test of mental health, presenteeism, and turnover intention (n=1,058)

1. The total effect of presenteeism on turnover intention					
Effect	HERSELF	<i>t</i>	<i>p</i>	LLCI	ULCI
0.247	0.029	8.559	.000	0.19	0.304
2. The direct effect of presenteeism on turnover intention					
0.173	0.028	6.203	.000	0.118	0.227
3. The indirect effect of presenteeism on turnover intention					
	Effect	BootSE	BootLLCI	BootULCI	
Mental health	0.074	0.013	0.051	0.101	

Source: By authors.

Result shows that with a significant inter-cohesive effect ($p<.05$) and the values of Boot LLCI=.051 and Boot ULCI=0.101 did not cross "0" in 95% of the trust zones, and the direct effect had a significant effect ($p<.05$) and the values of LLCI=.118 and ULCI=.227 did not cross "0". At this time, the total effect also reached a significant effect ($p<.05$), and the values of LLCI=.19 and ULCI=.304 did not cross "0" in the 95% trust zone, so it was called a partial mediating effect.

In summary, a three-stage regressive analysis by Baron & Kenny [34] and Efron [35] are used 'The Bootstrap Method', which examines the mediating effect of mental health on low attendance and job disorientation, yielded consistent results, and the results of the double test partially support the hypothesis of this study, 4: mental health has a mediating effect on low attendance on job leaving tendency.

4.6.3 The bootstrap test of physical health

Condition 1: Reluctant attendance and turnover intention were put into the regression model, and the data showed that reluctant attendance had a significant effect on turnover intention $\beta=0.25$ ($p<.001$), that is, there was a significant positive correlation between reluctant attendance and turnover intention. If condition 1 is satisfied, enter the test of condition 2.

Condition 2: Low attendance and physiological health were put into the regression mode for testing, and the data showed that physiological health had a significant effect on low attendance $\beta=-.31$ ($p<.001$), indicating that physiological health was significantly negatively correlated with low attendance. If condition 2 is satisfied, enter the test of condition 3.

Condition 3: Physiological health and reluctant attendance were put into the regression model to predict turnover intention, and the data showed that the β of physiological health to turnover intention reached a significant level $=-.441$ ($p<.001$). That is, the relationship between physical health and turnover intention is negatively correlated. The $\beta=.07$ ($p<.001$) of the turnover intention of reluctant attendance was significantly positively correlated, but $\beta=0.07 < \beta=.25$. Thus, according to Baron & Kenny [34], physical health has a partial mediating effect on reluctant attendance and propensity to leave work. The bootstrap test result as Table 7.

Table 7. Bootstrap test of physical health, presenteeism, and turnover intention (n=1,058)

1. The total effect of presenteeism on turnover intention					
Effect	HERSELF	<i>t</i>	<i>p</i>	LLCI	ULCI
0.247	0.029	8.559	.000	0.19	0.304
2. The direct effect of presenteeism on turnover intention					
0.068	0.027	2.570	.010	0.016	0.120
3. The indirect effect of presenteeism on turnover intention					
	Effect	BootSE	BootLLCI	BootULCI	
Physical health	0.179	0.019	0.143	0.217	

Source: By authors.

In summary, the results of the two-fold test using Baron & Kenny's [34] three-stage reflex analysis and Efron's [35] Bootstrap method to test the mediating effect of physiological health on low attendance and job disorientation partially support the hypothesis of this study, 5: Physiological health has a mediating effect on low attendance and job disorientation. And the hypotheses 6 and 7 were supported by the statistical analysis.

5. Conclusions and Suggestions

5.1 Conclusions

For security personnel, the more frequently they are compelled to attend work despite poor health, a phenomenon known as presenteeism, the more their physical and mental well-being will

deteriorate. Similarly, the higher the frequency of forced attendance, the greater the tendency for these personnel to leave their jobs.

Enhancing the physical and mental health of security personnel can effectively reduce turnover caused by frequent reluctant attendance. In terms of mental health, it is crucial to pay close attention to the problems faced by security personnel, whether they originate from work or personal life. Providing them with a supportive listening environment and helping to build their confidence in addressing future challenges collectively is essential, rather than exacerbating their frustration through harsh criticism.

Various factors influence the turnover intentions of security personnel to different extents. Reducing turnover is closely associated with improvements in physical health, mental health, salary, and age. Conversely, turnover is promoted by peer pressure and the necessity to work while ill.

Interestingly, this study found that the effect of improving the physical or mental health of security personnel on reducing turnover intentions was more substantial than the influence of salary. In other words, enhancing the well-being of security personnel has a greater impact on reducing their propensity to leave their jobs than increasing their compensation.

5.2 Management Insights

The security industry is a labor-intensive field with relatively low technical requirements and entry barriers. This, combined with fierce market competition where security companies resort to price-cutting tactics, makes it challenging to improve the compensation of security personnel. Moreover, the security industry operates on a 24/7, 365-day model, requiring security personnel to work in shifts and irregular schedules, making it difficult for them to maintain the same lifestyle as their family and friends. To earn higher salaries, security personnel often need to work longer hours and take fewer vacations. However, the low job satisfaction in the security field results in high rates of reluctant attendance, poor physical and mental health, and a strong desire to leave the company, leading to chronic staffing shortages and the need for continuous recruitment of new personnel.

Reluctant attendance is a double-edged sword. Security personnel may work long hours or attend work reluctantly due to a lack of replacement options, as they wish to avoid burdening their colleagues or management. However, in the long run, this can lead to performance errors and high turnover, resulting in significant costs associated with personnel processing and business compensation. This can create a vicious cycle of "workplace overwork," increasing the probability of occupational injuries among security personnel. Potential solutions may include reducing monthly work hours, implementing more humane scheduling, increasing staff leave, improving management practices, enhancing communication channels, and providing regular care and greetings for personnel.

The shift work system has been associated with higher rates of work-related injuries since the 1980s. As security personnel are not only shift workers but also long-term employees, the impact on their physical and mental health is even more pronounced. When security personnel's poor physical and mental health leads to frequent absences or the need for medical treatment, it can disrupt organizational operations, affect the morale of their colleagues, and impact customer satisfaction. In addition to the measures mentioned earlier, implementing the requirements of occupational safety and

health regulations, conducting pre-employment and periodic health examinations, and providing health-related benefits (e.g., travel allowances, sports facilities, massage services, and on-site psychological counseling) can help address these issues.

The departure of employees, especially those with unique skills, mature production abilities, and strong interpersonal relationships, can significantly impact an organization's human capital. This can result in direct costs (e.g., recruitment, hiring, training, overtime) and indirect costs (e.g., safety, health, employee morale), potentially reducing the organization's competitiveness. To break this vicious cycle, in addition to the measures described earlier, establishing an education and training system, providing more care and motivation for subordinates, adopting different management approaches for employees with varying personality traits, improving communication channels to reduce management system uncertainty, and offering clear promotion opportunities and career planning can be effective practices.

Assisting security personnel in addressing their physical and mental health issues in a systematic manner is a win-win approach for both employers and employees. Implementing employee assistance programs (EAPs) can help security personnel cope with work-related challenges, such as work adaptation, interpersonal relationships, family care, and legal issues, allowing them to perform their duties with peace of mind and good health.

5.3 Suggestions

5.3.1 Sample selection and sampling

Although the subjects of this study are "security personnel", they are actually divided into three categories: "garrison security", "transportation security" and "system security". It is suggested that follow-up researchers can choose one of "garrison security", "transportation security" and "system security", so that the research results can be more in-depth and effective.

The work sites of security personnel are very scattered, especially for security guards, and the work mode of shifts/shifts will be carried out by census or random sampling, which will require great challenges in terms of manpower, material, financial resources and time. It is suggested that follow-up researchers can adopt the method of convenience sampling, and can be combined with qualitative research methods such as in-depth interviews to increase the authenticity of research data.

5.3.2 Survey method and instrument

Sending paper-based research questionnaires can be time-consuming and costly, and the recovery rate may not meet expectations, requiring manual data entry after collection. It is recommended that future researchers consider using email or online electronic questionnaires, which can facilitate the distribution of a larger number of surveys to increase the sample recovery rate and reduce the number of invalid responses, while also saving costs and time.

This study attempted to examine the respondents' self-perceived peer pressure in the workplace environment. Two self-report questions were developed: (1) "If you are sick at work, do you feel peer pressure?" and (2) "If a colleague is sick at work, will you feel uncomfortable?" These questions aimed to understand the impact of the respondents' internal thoughts on the research topic. The results

of the study showed a significant correlation between the variables examined.

This topic may serve as a reference for subsequent researchers. It is recommended that future studies reconstruct the questionnaire design method and extend the variables to continuous measures to avoid the limitations of statistical analysis imposed by categorical variables. Additionally, qualitative research methods, such as in-depth interviews, can be employed to enhance the effectiveness of the research.

5.3.3 *The hypothesis model*

This study aimed to construct a regression model of turnover intention that could explain 34.5% of the total variation in job satisfaction. The goal was to provide a useful tool for security organizations to reduce the turnover rate of their personnel by enabling them to understand their employees' turnover intentions at any given time.

It is important to note that employee turnover intention is influenced by numerous factors. While this study examined several key variables, there are many additional factors that warrant further investigation by subsequent researchers. The ultimate objective is to establish a scientifically validated, practical tool that can effectively address the issue of employee turnover in the security industry.

By developing a comprehensive understanding of the various determinants of turnover intention, security organizations will be better equipped to implement targeted interventions and retain their valuable human capital. Continuous research and refinement of the predictive model can lead to the creation of a robust, evidence-based framework to manage employee turnover in the security sector.

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References

- [1] Hsin, B.L. and Yeh, W.Y. Analysis of factors related to workplace overwork in Taiwan: A case study of employees in technology, medical care, transportation and security industries. *State and Society*, 2013, 15, 1-35.
- [2] Bris, A. and Caballero, J. *The IMD World Competitiveness Yearbook 2015: New Criteria*. IMD Organization. 2015.
- [3] Ministry of Labor, Taiwan. *Labor Standards Law*. Ministry of Labor. 2020.
- [4] Passenier, D., Mols, C., Bím, J. and Sharpanskykh, A. Modeling safety culture as a socially emergent phenomenon: a case study in aircraft maintenance. *Computational and Mathematical Organization Theory*, 2016, 22, 487-520.
- [5] Burton, W.N., Chen, C.Y., Conti, D.J., Schultz, A.B. and Edington, D.W. The association between health risk change and presenteeism change. *Journal of Occupational and Environmental Medicine*, 2006, 48, 252-263.
- [6] Middaugh, D.J. Presenteeism: Sick and tired at work. *Measure Nursing*, 2006, 15, 103-105.
- [7] Junaidi, A., Sasono, E., Wanuri, W. and Emiyati, D. The effect of overtime, job stress, and workload on turnover intention. *Management Science Letters*, 2020, 10(16), 3873-3878.
- [8] Afonso, P., Fonseca, M. and Pires, J. Impact of working hours on sleep and mental health. *Occupational Medicine*, 2017, 67(5), 377-382.

- [9] Research and Development Assessment Committee, Executive Yuan. Commissioned report: Research on the prevention of workplace overwork and the promotion of industrial economic competitiveness. Taipei: Executive Yuan, Taiwan. 2013.
- [10] Sun, S., Burke, M., Chen, H., Tan, Y., Zhang, J. and Hou, L. Mitigating the psychologically detrimental effects of supervisor undermining: Joint effects of voice and political skill. *Human Relations*, 2022, 75(1), 87-112.
- [11] Feng, J., Li, L., Wang, C., Ke, P., Jiang, H., Yin, X. and Lu, Z. The prevalence of turnover intention and influencing factors among emergency physicians: A national observation. *Journal of global health*, 2022, 12, 04005.
- [12] Wang, C., Xu, J., Zhang, T.C. and Li, Q.M. Effects of professional identity on turnover intention in China's hotel employees: The mediating role of employee engagement and job satisfaction. *Journal of Hospitality and Tourism Management*, 2020, 45, 10-22.
- [13] Cooper, C. L. Hot under the collar. *Times Higher Education Supplement*, 21(June). 1996.
- [14] Lin, H. and Lu, L. The Construction of a Cross-Cultural Theoretical Model of Reluctant Attendance. *Journal of Human Resource Management*, 2013, 13(3), 29-55.
- [15] Johns, G. Presenteeism in the workplace: A review and research agenda. *Journal of Organizational Behavior*, 2010, 31, 519-542.
- [16] Creed, P.A., Fallon, T. and Hood, M. The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of vocational behavior*, 2009, 74(2), 219-229.
- [17] Duval, S. and Wicklund, R.A. A theory of objective self-awareness. New York: Academic Press. 1972.
- [18] World Health Organization (2024). Frequently asked questions. Retrieved from <https://www.who.int/about/frequently-asked-questions>
- [19] Maslow, A.H. and Mittelmann, B. *Principles of Abnormal Psychology*. Joanna Cotler Books. 1951.
- [20] Wang and Chen. The Effect of Work Stress on Physical and Mental Health: The Moderating Role of Social Support. *Soochow Journal of Economics and Business*, 2014, 86, 61-92.
- [21] Zhang, J., Wang, S. and Li, Y. Nurses' job insecurity and emotional exhaustion: the mediating effect of presenteeism and the moderating effect of supervisor support. *Frontiers in Psychology*, 2020, 11, 541156.
- [22] Vickovic, S.G. and Morrow, W.J. Examining the influence of work–family conflict on job stress, job satisfaction, and organizational commitment among correctional officers. *Criminal Justice Review*, 2020, 45(1), 5-25.
- [23] Piekkola, H. Intangibles and innovation-labor-biased technical change. *Journal of Intellectual Capital*, 2020, 21(5), 649-669.
- [24] Dalton, D.R., Todor, W.D. and Krackhardt. Turnover Overstated: The Functional Taxonomy. *Academy of Management Review*, 1982, 7, 117-123.
- [25] Doering, L. and Wry, T. The challenges of supporting necessity entrepreneurs: Understanding loan officer exit in microfinance. *Journal of Business Venturing*, 2022, 37(2), 106189.
- [26] Romi, M.V., Alsubki, N., Almadhi, H.M. and Propheto, A. The linkage between leadership styles, employee loyalty, and turnover intention in healthcare industry. *Frontiers in Psychology*, 2022, 13, 890366.
- [27] Piekkola, H. Intangibles and innovation-labor-biased technical change. *Journal of Intellectual Capital*, 2020, 21(5), 649-669.
- [28] Xi, X., Lu, Q., Wo, T., Pei, P., Lin, G., Hu, H., and Ung, C.O.L. Doctor's presenteeism and its relationship with anxiety and depression: a cross-sectional survey study in China. *BMJ open*, 2019, 9(7), e028844.
- [29] Lu, L., Tseng, H.J. and Cooper, C.L. Managerial stress, job satisfaction and health in Taiwan. *Stress Medicine*, 1999,

15, 53-64.

- [30] Mobley, W.H. Intermediate Linkages in the Relationship Between Job Satisfaction and Employee Turnover. *Journal of Applied Psychology*, 1977, 62(2), 237-240.
- [31] Abouraia, M.K. and Othman, S.M. Transformational leadership, job satisfaction, organizational commitment, and turnover intentions: The direct effects among bank representatives. *American Journal of Industrial and Business Management*, 2017, 7(4), 404-423.
- [32] Waltz, C.F., Strickland, O.L. and Lenz, E.R. *Measurement in Nursing Research* (2nd ed.). Philadelphia: A. Davis. 1991.
- [34] Baron, R.M. and Kenny, D.A. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology*, 1986, 51(6), 1173-1182.
- [35] Efron, B. Bootstrap methods: Another look at the Jackknife. *The Annals of Statistics*, 1979, 7(1), 1-26.
- [36] Hayes, A.F. An index and test of linear moderated mediation. *Multivariate behavioral research*, 2015, 50(1), 1-22.