



*Research article*

## **Training method and system for stress management and mental health care of managers based on deep learning**

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**Abstract:** In recent years, with the rapid development of the economy, in order to stabilize in the market and expand their own business, various companies in the form of various indicators, tangible or intangible to improve the management of the work of workers, speed up the pace of work, take up more work time. This article studies its relationship with stress management from the perspective of psychological capital, in order to achieve prior control of work stress from the perspective of individual positive psychological capital, and provide a new perspective for work stress management in the field of human resource management, and at the same time Enterprises and colleges and universities improve the psychological capital of employees and provide new management models. The unreasonable distribution of work even affects the daily life of management workers and aggravates the working pressure of company management workers. The training process of deep learning is actually the process of repeated forward and reverse calculations of the deep neural network based on the provided data. This process can actually be abstracted, and the deep learning framework is designed to accomplish this task. The existence of a deep learning framework allows users not to fully understand the principles and training process of deep neural networks, but can effectively train the models they want. A long time of high mental state tension leads to a variety of physical and psychological discomfort. If the pressure cannot be alleviated and released, this article extends the health collection equipment of the deep learning to households, continuously records the health status of residents through the mobile Internet, and uses the information resources of the regional residents' health file platform to provide residents with health status evaluation, management and guidance, health care consultation, education and education. A series of personal health management services such as health risk factor assessment. The positive emotion index of managers increased from 18 to 27, and the negative emotion index decreased from 29 to 13. The positive emotion was significantly more than the negative emotion, and the emotional situation was improved.

**Keywords:** management workers; stress management; mental health counseling; work pressure; work task

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## 1. Introduction

Deep learning is the second wave of machine learning. Commonly used deep learning classification methods include autoencoder, sparse coding, restricted Boltzmann machine, deep belief network and convolutional neural network. Under the trend of the continuous development of China's economy, in order to maintain a stable position in the market and expand their business, many enterprises have improved the work tasks of managers, accelerated the work pace and occupied more working time in the form of various indicators, both tangible and intangible [1,2]. The unreasonable distribution of work even affects the daily life of managers and aggravates the working pressure of managers in the company [3]. A long time of high mental state tension leads to a variety of physical and psychological discomfort [4,5]. If the pressure cannot be alleviated and released, it will cause mental disorder or mental illness, greatly affect the work enthusiasm and efficiency of management staff, and even cause job burnout [6]. Failure to provide high-quality services for customers, or even resignation, leads to brain drain [7]. An important way for people to pay more attention to their own health. Facing the chaotic physical examination data, this paper uses machine learning methods to process the medical examination data informatization, and uses the processed data to train the model, and finally get the classification result of the disease.

Although several studies have shown that core self-assessment (CSE)-how a person rates their own self-worth, abilities and ability evaluation is related to job outcomes, little is known about the mechanisms behind these relationships. In the study, Hofmans Joeri solved this problem by studying the role of interpersonal changes in CSE in work stress and task performance. Hofmans J hypothesizes that (a) working pressure is in a curve relationship with task performance, (b) working pressure is in a curve relationship with task performance regulated by state CSE, and (c) working pressure and state CSE is regulated by trait CSE. Hofmans J's hypothesis was verified by a 10-day daily diary study of 55 employees, in which trait cognition was measured at baseline and work stress, task performance, and status cognition were assessed on a daily basis. Bayesian multi-layer path analysis shows that work pressure influences task performance through state CSE, and state CSE will increase as long as employees feel they can deal with it [8]. Unsafe behavior is closely related to occupational accidents. Work stress is one of the main factors that affect employee behavior. Fakhradin Ghasemi's goal was to provide a path analysis model to explain how work stress affects safety behavior. Methods six variables that affect the behavior of safety employees were measured by self-designed questionnaire. The path analysis model is based on several assumptions. The goodness of fit of the model is evaluated by using absolute fit index and comparative fit index. Work stress has no direct effect on safety behavior. However, it has a negative effect on other variables. Group attitude and personal safety attitude are the mediating factors of work pressure on safety behavior. Among the variables in this study, group attitude, individual attitude and work pressure have the greatest influence on safety behaviors. Conclusion: managers should consider that, in order to improve employee safety behavior, work stress should be reduced to a reasonable level, while providing a supportive environment to ensure a positive group safety attitude. It is suggested to repeat this study [9]. Gaebel conducted a systematic literature search of emotional health interventions, retrieving 24 articles on psychiatric interventions and systematically evaluating their quality. Studies showed great heterogeneity in study type, sample size, intervention measures and

outcome measurement. In view of the feasibility of emotional health intervention, beneficial impact of psychological education, preliminary results of clinical efficacy, the need for peer support and the need to develop quality standards, five grading Suggestions were proposed [10]. Dami Jeong believes that understanding how a person feels is a very important process of emotional calculation. People express their emotions in various ways. Among them, facial expressions are the most effective way to express human emotional state. He proposed an effective deep joint spatiotemporal feature for facial expression recognition based on deep appearance and geometric neural network. He uses three-dimensional (3D) convolution to extract both spatial and temporal features. For the geometric network, by analyzing the energy distribution of the entire facial landmarks, 23 dominant facial landmarks are selected to express the movement of facial muscles. He combined these features through a joint fusion classifier designed to complement each other [11].

In this paper, the experimental plan through the management of a listed company workers questionnaires, personal interview the two main research methods, to learn the management workers work pressure generally larger, from work to work harder, coordinate business processing is very difficult, liquidity management workers due to the working pressure is very strong, it also lead to the risk of the company and increase operating costs, various departments in order to improve the evaluation indicators of profitability and improving employees to feel a lot of pressure. We use two kinds of mental health counseling-motivational counseling and experiential counseling. It helped the subjects to reduce their work pressure, making their positive emotions significantly more than negative ones.

## 2. Proposed method

### 2.1. Pressure management

#### 1) The concept of working pressure

Compared with the negative psychology orientation of traditional stress management research, this research will be a brand-new perspective. At the same time, it will make some meaningful explorations and innovations in this blank area of related research. At present, there are relatively many researches on work stress in the theoretical circles at home and abroad, but most of the researches mainly focus on the definition of the concept of work stress, the discussion of the sources of stress, and some research efforts mainly from the perspective of traditional negative psychology. To establish a work pressure model for empirical analysis. When conducting empirical analysis, the relevant variables that are often concerned are mainly job satisfaction, and the relevant formulas represent the stress model.

The concept of stress was initially applied in physics and other fields, but gradually extended to social sciences and other fields. In essence, it refers to the non-specific physiological awakening of human or animal due to the stimulation effect brought by the environment, with the purpose of ensuring the maintenance or restoration of homeostasis. The calculation formula is as follows:

$$M = D^{-\frac{1}{2}} R D^{-\frac{1}{2}} \quad (1)$$

Among them,  $D$  represents the adjacency matrix.  $M$  represents steady-state conditions, and  $R$  represents a certain parameter.

$$E = D^{-\frac{1}{2}} A D^{-\frac{1}{2}} X \omega \quad (2)$$

$E$  represents the characteristic information contained in each node in the input graph structure. Set the pressure change rate to  $\eta$ :

$$\Delta X = -\eta \frac{\partial T}{\partial W_N} - \eta \left( \frac{E^{O_k}}{\sum_{j=1}^2 E^{o_{kj}}} + \chi_{ky} \right) Q_N \quad (3)$$

$$\frac{\partial L}{\partial O_N} = \frac{\partial L}{\partial O_K} + \frac{\partial O_K}{\partial W_N} \quad (4)$$

According to the gradient descent method to update the weight  $W_N$ .

As for the definition of pressure, scholars have different research concepts and starting points. It is generally believed that pressure is the relationship between demand and how to effectively deal with demand.

Then calculate the derivation of  $O_k$  to  $W_N$ :

$$\frac{\partial O_k}{\partial W_N} = \frac{\partial}{\partial W_N} (W_N \cdot X_N + b) \quad (5)$$

$$\frac{\partial L}{\partial O_k} = \frac{\partial}{\partial O_k} \left( \log \left( \sum_{j=1}^2 e^{o_{kj}} \right) + o_{yk} \right) \quad (6)$$

$b$  here represents the parameter of the data.  $o_{yk}$  is the close value of the function here.

It is speculated that an individual's ability to withstand stress mainly depends on his attitude towards it.

$$O_k = r_N \cdot y_k + b \quad (7)$$

$O_K$  represents the Soft max Loss function.

For others, it may be within tolerance for stress, but for some, it may be beyond tolerance for stress.

Then the error between the network output and the label is:

$$k(x_k, y_k) = \log \left( \sum_{j=1}^2 e^{o_{kj}} \right) - o_{yk} \quad (8)$$

Thus, according to the source of stimulation, there are three types of work stress: psychological, physical and social.

$$V_f (1 + \beta \sqrt{V_f \cdot V_f}) = -K \frac{\partial H}{\partial X} \quad (9)$$

$V_f$  indicates the efficiency of learning.

Work stress, also known as occupational stress, is a term coined in this study. From the perspective of stress stimulation, it can be concluded that work stress is a work event that is perceived and caused by pressure in the work environment.

$N$  independent individual neural networks, the total error rate is:

$$p_{err} = \sum_{k>1/2} C_N^k p^k (1-p)^k \quad (10)$$

P is less than 0.5. Set the initial weight of the training sample:

$$w_i = 1/M \quad (11)$$

Calculate the overall error of the weak classifier  $h^{(t)}$ :

$$e^{(t)} = \sum_{i=1}^m w_i^{(t)} |y_i - h^{(t)}(x_i)| \quad (12)$$

$$\chi^{(t)} = \frac{e^t}{1 - e^t} \quad (13)$$

$$m_1 = \{(x_1, y_1), \dots, (x_M, y_M)\} \quad (14)$$

Among them,  $x_M \in X$ . Estimate the overall error of the weak classifier  $h^{(t)}$ :

$$r^{(t)} = \sum_{i=1}^i w_i^{(t)} |y_i - h_i^{(t)}(x_i)| \quad (15)$$

Then calculate the weight of the next round of samples.

$$M_i^{(t+1)} = M_i^{(t)} \exp\{-\beta^{(t)} y_i H_i^t(x_i)\} / Z_t \quad (16)$$

Among them, the activation function is:

$$T = 2/[1 - \exp(-2K)] - 1 \quad (17)$$

Get the weight of the next round of samples:

$$U_i^{(t+1)} = U_i^{(t)} (\beta^{(t)})^{1 - |y_i - h_i^{(t)} U|} \quad (18)$$

let  $T = t - 1$ , the loop ends. get:

$$L(x) = \text{sign}\left(\sum_{i=1}^t \beta^{(t)} H^{(t)}\right) \quad (19)$$

## 2) Theoretical basis of working pressure

It is also known as the social environment model and is one of the traditional stress theories. It is believed that work stress consists of several basic factors, such as individual characteristics, stress results, objective and subjective environment. The main research method of work stress is to measure individual factors from a wide range of social levels and explore the impact of individual factors on individuals and their organizations. Three factor model and four factor model are the most typical research models. The three-factor model divides the stress factors into three categories: individual characteristics, external and internal organizational factors. Internal factors include time pressure, role recognition conflict, low participation and control, and inter-organizational conflict. The four-factor model is divided into individual characteristics, organizational process characteristics, organizational structure characteristics and role characteristics.

High requirements are accompanied by higher work control, which can effectively stimulate employees' ability and create positive work pressure. In the end, this will not affect employees' work enthusiasm, but will improve their work enthusiasm and efficiency. High work requirements are matched with low work control and lack of social support, which will make employees unable to meet work expectations, difficult to finish tasks in an orderly manner, and lead to adverse pressure problems, making employees face mental health problems. In the JDCS model, the best combination is high job demand matching high job control and high social support. Higher level of work control and social support can offset and make up for the negative impact of required work, which can greatly stimulate the enthusiasm of employees [12]. Thus promote the performance of the individual and the organization progress together. The JDCS model has outstanding research value in the actual application. The organization managers need to carry out in-depth and detailed research at the organizational level, and effectively adjust employees' work control and social support to match high-demand work.

Cognitive interaction theory refers to the ability of individuals and work environments to recognize and change each other. It also emphasizes the dynamic relationship between the individual and the work environment. It is often the individual's perception of a potential threat to the stressor and his inability to cope with the stressor's presence that leads to an uncomfortable direct response. Human cognitive evaluation to pressure usually need to go through two specific stages: the first stage is the analysis of the external stimuli evaluation, figure out whether stimulus to give their life have a negative impact, such as the second stage is to stimulate self capability assessment, confirm whether have the ability to solve the problem, and is considering whether to get social support or enough social support [13].

Suppose the input of any neuron  $j$  in a certain layer is  $net_j$ . Its output is  $Y_i$ . Then there are:

$$N_j = \sum_i w_{ji} Y_i \quad (20)$$

$$Y_i = f(N_j) \quad (21)$$

$$f(N_j) = \frac{e}{1 + e^{-(N_j + h_j)/\theta_0}} \quad (22)$$

$w_{ij}$  is the connection weight between neuron  $j$  and neuron  $i$ . tree model, the base learner model:

$$P_i = \sum_{j=1}^J f_j(x_i) \quad (23)$$

$$L(D) = \sum_{i=1}^n K(Y_i, \hat{y}_i) - \sum_{j=1}^J F(Y_j) \quad (24)$$

$f_i$  is a base classifier in  $f$ .

$$G = \frac{1}{2} \frac{A_L^2}{B_L + \lambda} - \gamma \quad (25)$$

$B_L$  is the score of the left node after the node is split. The Hessian matrix is defined on the  $x$  scale as:

$$H(x, \sigma) = L_{xy}(x, \sigma) + K_{xy}(x, \beta) \quad (26)$$

where  $H(x, \sigma)$  is the second derivative.

### 2.2. Concept and theoretical basis of stressors

Stressors are usually divided into physiological stressors and psychological stressors. Among them, physiological stressors refer more to the changes in the body, which lead to the emergence of stress. The source of psychological pressure is a kind of pressure formed by individual psychological activities caused by factors such as things. In short, the source of psychological stress is the specific problem that people think about in the process of inner activities.

To a certain extent, on a broader level, the regret, frustration and inability to continue with what people have experienced is a source of psychological stress. It can be seen that the analysis of such psychological stressors can be carried out through analysis and conclusion. It mainly comes from the two parts of work and life, forming the sources of work stressors and life stressors. The results are shown in Table 1.

**Table 1.** Table of working pressure sources.

Job characteristics	Role issues in the organization	Development of career planning	Internal personnel relations	Internal management of the unit	Internal and external
Workload imbalance	The position is not integrated and clear	Promotion without preparation	Tension between superiors	Department coordination and communication is not smooth	There is a conflict between the needs of the company and the needs of the family
The working conditions are not ideal	Unclear duties	Promotion is too slow	There are conflicts among colleagues	Excessive restriction of movement	Work diverts from hobbies
Time is tight	Inability to participate in decision making	Lack of safety margin of work	Subordinates don't get along	The policy is unclear	other

### 2.3. Mental health counseling

Psychological counseling originated from psychology, which is a deep understanding of cognitive psychology and a further deepening on the basis of cognitive psychology theory. Psychological counseling can be divided into narrow sense and broad sense. The narrow sense refers to psychological counseling therapy in the field of psychotherapy [14]. Psychological counseling, as an occupational skill, can be applied to many positions such as management, education, medical treatment, community work and even improve personal and family life. From this perspective,

psychological counseling is a kind of personal social skills, which can alleviate and guide the individual's psychological problems or development confusion, enable the individual to self-regulate and develop, and promote the individual to improve self-regulation and coordinate interpersonal relations [15,16].

The concept of psychological counseling, as a kind of school education activity, first appeared in western countries. provides appropriate guidance and services to the trapped students to help them get rid of psychological and mental distress, so as to restore the normal state of psychology, spirit and behavior [17]. pay attention to students' inner change and the actual demand, completely around student services for students, attach importance to and tolerance personality, students unconsciously get inspired, unconsciously to mental adjustment, make its restore good state of mind, promote the healthy growth of their psychological [18].

Psychological counseling mentioned in this article refers to consult workers through verbal and nonverbal forms, through equal communication, conversation and guidance with visitors, the common ground of the two is that the subject maintains value neutrality, which is completely to solve the confusion or problems existing in consultants [19].

#### 2.4. Deep learning

Deep Learning is an important branch of machine learning. Deep learning is different from task-specific algorithms. It is a method based on the feature representation capability (representation learning) of data. Deep learning can be supervised, semi-supervised or unsupervised. Deep learning frameworks such as deep neural networks, deep belief networks, and cyclic convolutional networks have been widely used in fields including computer vision, speech recognition, natural language processing, audio recognition, natural language processing, social network filtering, machine translation, etc., produced better results than manual work in some cases. Deep learning simulates the neural network method of the human brain, using a cascade of multi-layer non-linear processing units for feature extraction and conversion. Each continuous layer uses the output of the previous layer as input, and the input of the first layer is the original data information. The output of the last layer is the feature information or other result information we want to get. The related introduction of deep learning is shown in Table 2.

### 3. Experiments

#### 3.1. Experimental data sources

**Table 2.** The related introduction of deep learning.

Serial number	Target level	Conceptual connotation
1	Value evaluation	Seeing the value of a certain phenomenon and showing firmness in related behaviors
2	organization	Conceptualize value and use it to judge the interrelationships between various concepts
3	Personalized value system	Organize values, beliefs, concepts and attitudes into an internally harmonious system

In this paper, management workers of a listed company are selected as experimental data. The company has nearly 1233 employees, with a higher proportion of workers between 30 and 40 than

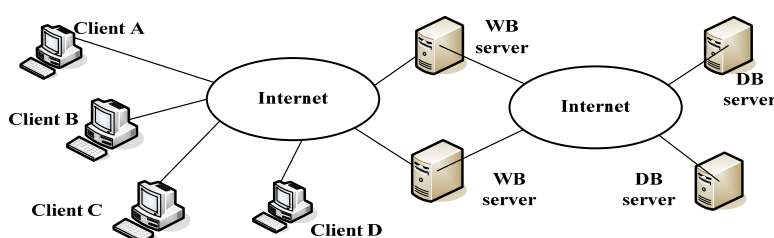


under 30. The proportion of women in gold business is higher than that of men. Companies have a higher proportion of men, most of whom are over 30. 50 workers in management positions were selected as experimental data. The demographic variables of the sample are shown in Table 3.

**Table 3.** The demographic variables of the sample.

Gender	Men and Women
Age	29 years old and below, 30–39 years old, 40–49 years old, 50 years old and above
Education Level	College, bachelor, master and above

The department of management mainly includes human resources, product design, audit and so on. Trainee users can access and display the information sent by any server only through the browser, thus greatly reducing the cost of network management and maintenance. This computing mode is called B/S (Browser/Server, browser/server) mode. The B/S model of the remote training system network architecture is shown in Figure 1.



**Figure 1.** The B/S model of the remote training system network architecture.

### 3.2. Experimental methods

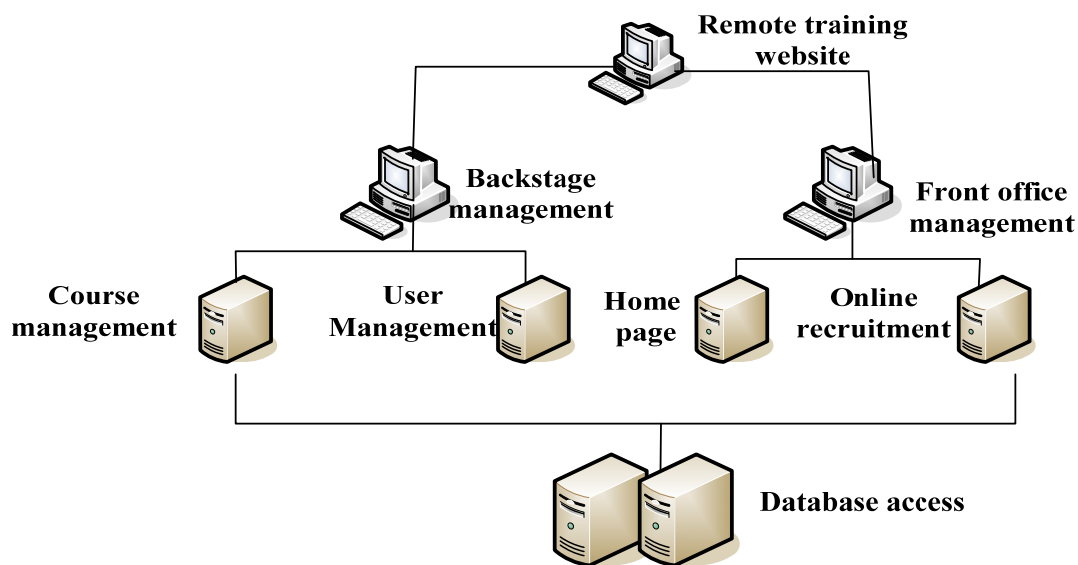
#### a) Questionnaire design

**Table 4.** Some test questions.

Numbers	Quiz Questions	Score
1	Feel that I have a heavy workload	[1–4]
2	The task is complex and difficult to complete	[1–4]
3	There are barriers to communication with colleagues in the team.	[1–4]
4	Feeling that I am not capable enough and often unable to complete tasks	[1–4]
5	Feel that it is difficult to develop in the department	[1–4]
6	I have a sense of frustration at work	[1–4]
7	My job makes me emotionally exhausted	[1–4]
8	And the feeling of being incapable of working	[1–4]
9	Want to take a break or switch to another job	[1–4]
10	Seldom get sympathy and help when encountering work difficulties	[1–4]
11	Decrease in work efficiency and lack of concentration	[1–4]
12	I feel that body often has problems	[1–4]

The factors leading to work stress in the actual working life may be various situations, and the rest of the content should be fully grasped as much as possible. The survey information should include but not be limited to the time and difficulty of the current work, the key sources of pressure in the current position, the ways to relieve pressure used by individuals, A total of 30 questions were given, and the answers were divided into four categories: full yes, relatively yes, not very yes, and no yes. The score for positive topics ranged from high to low, 4 to 1. Some test questions are shown in Table 4.

Part ii: The R&D environment is mainly built in combination with visual studio, using ASPNET under the Web data access layer architecture, the most critical of which is the program and art design, using html for art and asp.net to write programs. The system module is shown as in Figure 2.



**Figure 2.** The system module.

#### b) Questionnaire survey

1) Purpose, object and method of the investigation purpose: by issuing survey questions and collecting statistical questionnaires, the psychological health and working pressure of the client manager of the case bank can be evaluated.

2) Respondents: the bank has a total of 50 management workers. In this survey, 10 managers from 5 branch companies should be selected through convenient sampling to establish a survey group and complete the questionnaire through WeChat.

## 4. Discussion

### 4.1. Questionnaire survey results of stress management of management workers

#### I) Questionnaire survey results

The questionnaire consists of 25 single choice questions and 5 judgment questions. Multiple choice questions focus on two aspects of content: workload and work difficulty. Working environment and working relationship. The distribution of specific questionnaire samples is shown in Table 5.

Questionnaire to fill in the comprehensive analysis results: through the questionnaire analysis

and summary, two great content in the questionnaire, found in the amount of work and working relationship of fear that the results on the investigation and analysis of job prospects and life coordinate conclusion is not very optimistic, so the author of this article research content to make further clear, namely management workers to produce the bad feelings of psychological research. In order to conduct in-depth and accurate statistical analysis of the data, this article uses SPSS22.0 to perform descriptive statistics on the data. The statistical results are shown in Table 6.

**Table 5.** Distribution of questionnaire samples.

Survey data	Sample distribution	Number of samples	Percentage (%)	Sum
gender	Female	15	30.00	50
	male	35	70.00	
age	Under 25 years old	5	10.00	50
	26–30 years old	19	38.00	
	31–40 years old	21	42.00	
	40 years old or older	5	10.00	
marital status	married	33	66.00	50
	unmarried	17	34.00	
Management worker working time limit	Less than one year	6	12.00	50
	1 to 3 years	21	42.00	
	4 to 10 years	18	36.00	
	11 years or more	5	10.00	

**Table 6.** The statistical results.

Factor item	Sample	Mean
Unable to arrange working hours reasonably	50	4.06
The work ability and attitude of the subordinates need to be improved	50	3.47
Insufficient support from superior/subordinate	50	3.43
Organization and management system need to be optimized	50	3.24
Knowledge and skills are somewhat outdated	50	3.06

#### 1) Amount of work

As shown in Figure 3, only 8% of the 50 company management workers who participated in the questionnaire thought that the work task was very easy and 20% of them thought that the workload matching ability was easy, but they felt a little difficult to finish, 42%. Of the 50 people surveyed, 72% struggled to get work done.

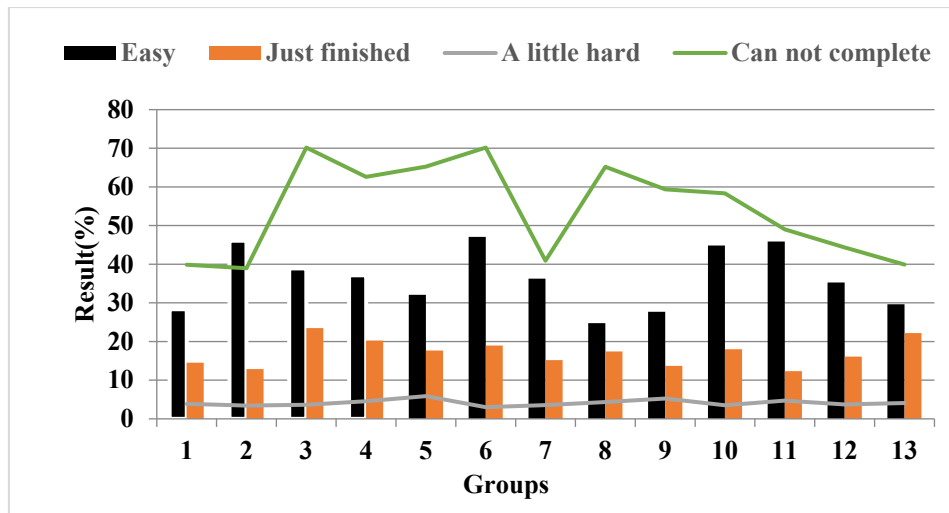


Figure 3. Workload reflection chart.

2) Co-workers

As shown in Figure 4 shows, 50 management workers in to participate in the questionnaire survey, 16% of people think that work at the same time daily relationship is very harmonious unity, think colleagues not indifferent accounted for 24%, relatively indifferent to feel the interpersonal relationship of accounted for 40%, feeling not only indifference between colleagues, and there is competition and have hit each other behavior (24%), combined with the above chart shows: 50 to participate in the survey respondents, 64% colleagues relationship is not harmonious, even exist on behavior, it is easy to bring

Customer manager work pressure.

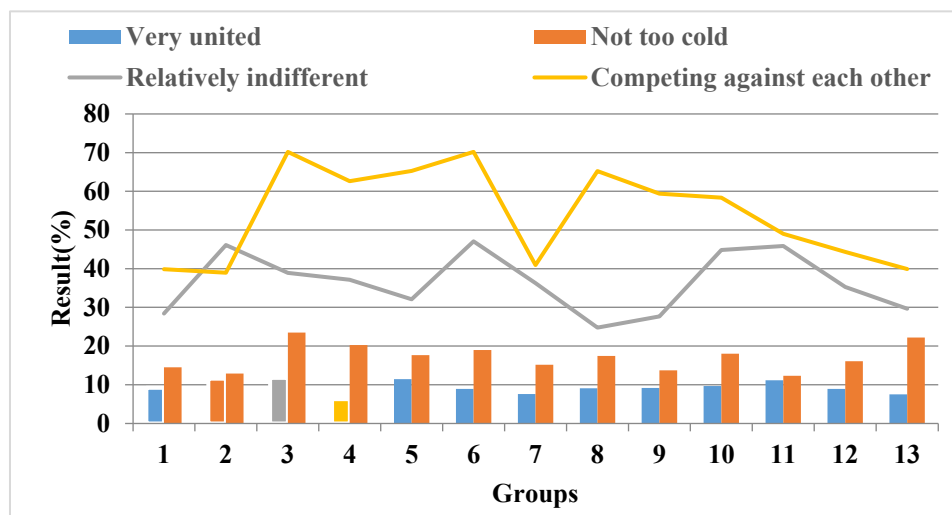


Figure 4. Reflection diagram of colleague relationship.

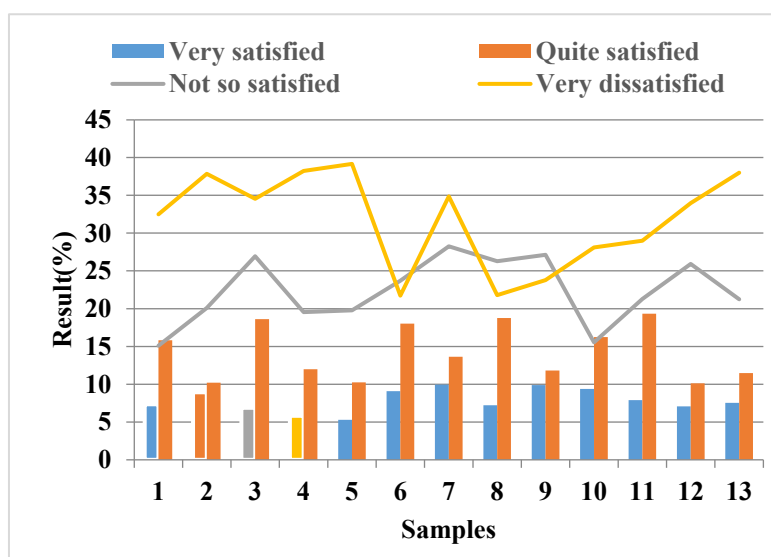
3) Salary satisfaction

Comparison of the differences in the sources of work stress among the demographic variables of the company’s middle managers is show in Table 7.

**Table 7.** Comparison of the differences in the sources of work stress among the demographic variables of the company's middle managers.

Dependent variable	Sample distribution	Standard error	Significance
Organization mechanism and atmosphere	Specialist	0.25284	0.011
	Undergraduate	0.26771	0.194
	Master degree and above	0.25284	0.011
Job responsibility	Specialist	0.21295	0.147
	Undergraduate	0.26771	0.194
	Master degree and above	0.21295	0.147

As shown in Figure 5, among the 50 managers who participated in the survey, those who thought their salaries were very satisfactory accounted for only 12%, those who thought their salaries were quite satisfactory accounted for 36%, those who thought their salaries were not very satisfactory accounted for 40%, and those who thought their salaries were not very satisfactory accounted for 12%. Combined with the above figure, it can be concluded that among the 50 people who participated in the survey, their attitudes towards salaries were relatively flat.



**Figure 5.** Salary satisfaction reflection chart.

#### 4) Promotion prospects

Table 8 shows the correlation between the work pressure of the company's middle managers and the work pressure source.

**Table 8.** The correlation between the work pressure of the company's middle managers.

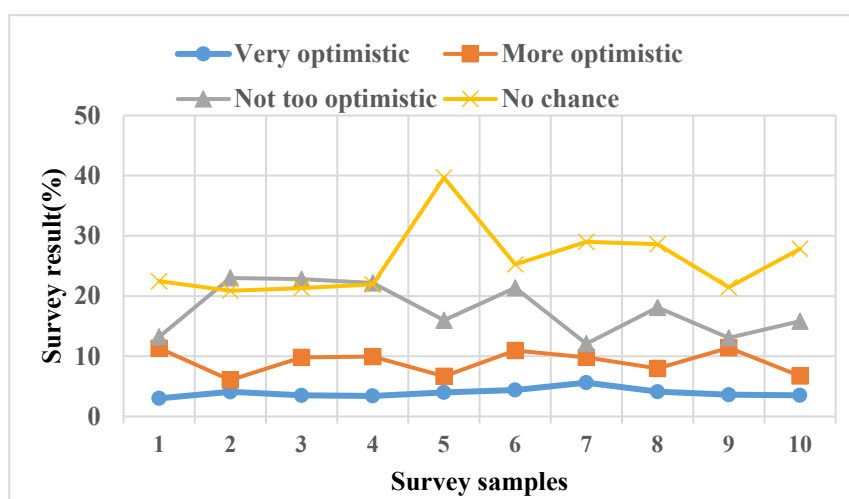
Task requirements	Social factors	Career Development
.300*	.380*	0.115
.032	0.005	0.420
51	51	0.51

Table 9 shows the descriptive statistics of each option of work stress source.

**Table 9.** The descriptive statistics of each option of work stress source.

Unit management system	Minimum	Max
The organization lacks teamwork and cohesion	3	4
Often feel that the organization support necessary to complete the task is not available	3	4
Organizational policies (such as salary performance appraisal and promotion qualifications, etc.) lack fairness	2	5
Strict organization and management, so that work behavior is restricted	1	5

As shown in Figure 6, among the 50 companies participating in the survey management workers, think their accounts for only 12% of career advancement prospects are optimistic, think as optimistic, 30–40% feel less optimistic, 18% think that there is no promotion opportunity, combined with the above chart shows: 50 to participate in the questionnaire respondents, most of people are feeling the future prospect of promotion is not optimistic, not conducive to personal career planning and development.

**Figure 6.** Promotion prospect reflection chart.

## II) Work pressure management strategy

**Table 10.** Basic information of the data set.

data set	Number of samples	Dimension
Digit1	1500	241
USPS	1500	241
BCI	4000	117
COIL	1500	241
g241c	1500	241
g241n	1500	241
Text	1500	11960
WDC	569	14

This paper investigates the working pressure of the management staff in a listed company through the questionnaire survey program, and confirms the status quo and causes of the working

pressure of the management staff in the company. Combined with the actual situation of the company analysis, combined with human resources in the management of pressure guidance theory, put forward suggestions and countermeasures. Basic information of the data set is show in Table 10.

### 1) Work stress management strategies at the environmental level

Work pressure response is divided into organizational response and individual response, with a total of 9 items. The statistical results are shown in Table 11.

**Table 11.** The statistical results are shown in.

Stress response project	Number of samples	No
The training organized by the company can help me relieve work pressure	51	32
The company often organizes cultural and sports activities	51	5
Ability to view work pressure from a positive perspective	51	4
Avoid problems or problems encountered at work	51	42
Talk to others about your feelings about work	51	21
vent	51	27
In the face of work pressure, your temper will get worse	51	33
Self-comfort	51	16

According to the study, the broad concepts contained in environmental factors are mainly from the perspective of national economic supervision, national policy formulation and unpredictable natural disasters, such as internal regulations and performance evaluation. The employee's personal ability cannot improve these factors. The basis is shown in Table 12 of the environmental factors working stress management strategy.

**Table 12.** Management measures of work pressure at the environmental level.

Build a scientific and effective communication platform	Enable trade union members to play their part	All departments and sub-branches should set up the post of trade union members, regularly organize effective activities to grasp the real thoughts of employees.
	Add chairman's mailbox	Provide a scientific and effective communication mechanism for all employees
Advocating scientific development and fair competition	Building a scientific and effective evaluation system	Ensure the scientific nature of the competition system, set up a talent resource pool, and train the reserve army
	Branch companies should update the times according to local development	Linking the development characteristics of the region, building scientific settings, successfully transforming, expanding the path of electronic development, rationally using e-banking, and alleviating employee pressure

### 2) Work stress management strategies at the organizational level

According to the breakdown of the pressure of organizational factors, the countermeasures for

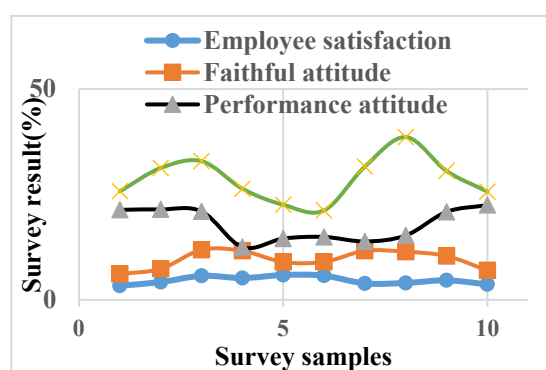
pressure management are also targeted. The specific measures are as follows: ensuring the reasonable workload of the account manager and minimizing overtime work. In order to improve work efficiency as the benchmark, all reasonable division of labor, effectively shorten the individual working time. Manage stress effectively by optimizing the work environment in relation to the actual factors of the organization. A sample of employee quality assessment is shown in Table 13.

**Table 13.** Sample data of employee quality evaluation.

Serial number	Appearance	Etiquette	Meter	Ability
001	66	77	88	87
002	90	80	79	78
003	88	89	83	90
004	80	73	79	80
005	79	80	90	89
006	89	77	78	86

#### 4.2. Mental health counseling for management workers

The innovation of encouragement and guidance method lies in the ability to mobilize people's enthusiasm and creativity, and achieve greater achievements. The results of the reliability analysis are shown in Figure 3.



**Figure 7.** The results of the reliability analysis.

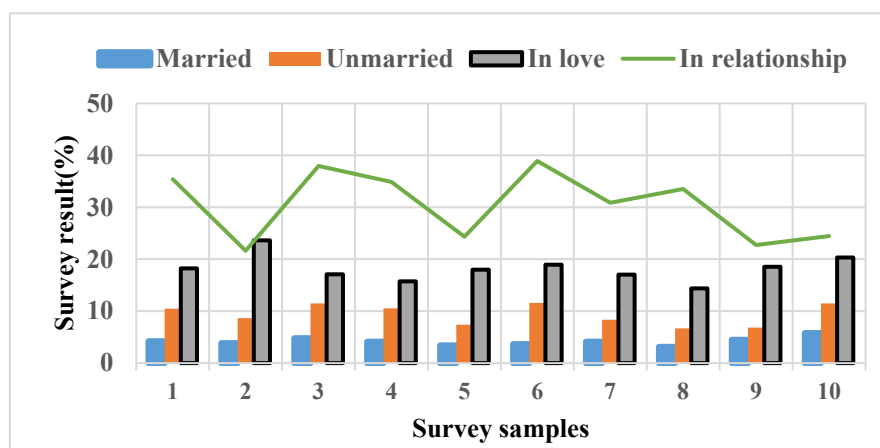
**Table 14.** Comparison of work stress sources of middle managers.

Pressure source	Number of samples	Mean
Task requirements	30	2.9800
social factors	21	2.7905
Organization mechanism	30	3.1067
And atmosphere	22	2.9143
Job responsibility	21	2.5944
Working environment	23	2.6032
Career Development	20	2.3833



According to the correlation test standard,  $P < 0.05$  means that the two types of factors are significantly correlated. It can be seen from Table 14 that the significance probability value of the test of the difference between the average number of the six work stressors in the two groups of men and women is  $P > 0.05$ , which cannot reject the original hypothesis that the gender difference in the work stressors of the middle-level managers of state-owned enterprises is not different significantly.

The conflict between marriage and work family is shown in Figure 8.



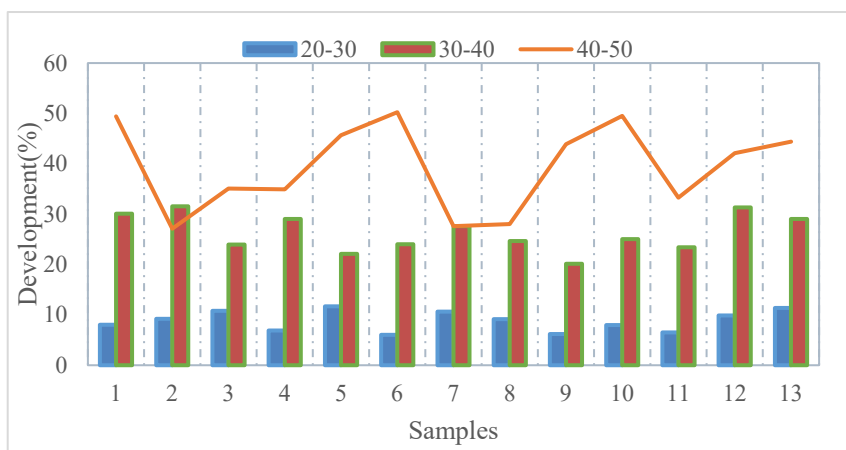
**Figure 8.** The conflict between marriage and work family.

Examine the mean and standard deviation of each category as shown in Table 15. Among the factors affecting work stress are organizational structure and tendency (3.41), job role (3.05), workload (3.37), and self-development (3.08), work-family conflict (3.92), the average value of the five stressors is more than 3, and the working environment (2.89) and interpersonal relationship (2.81) are more than 2.5. Therefore, organizational structure and tendencies, job roles, workload, self-development, and work-family conflicts are the main sources of work pressure, while the work environment and interpersonal relationships are secondary sources of work pressure.

**Table 15.** Mean and standard deviation of each category.

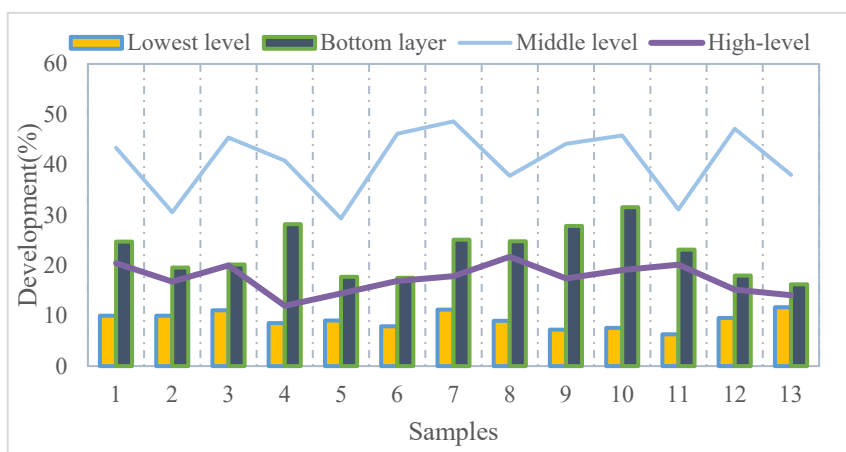
Pressure source	The minimum value.	Max
Organizational structure and tendencies	2,80	4.60
working environment	1,00	5.00
Job role	2.00	4.00
Workload	2.67	3.67
Self-development	1.50	4.75
Interpersonal relationship	1.00	4.20
Work-family conflict	2.00	5.00

The conflict between age and self-development is shown in Figure 9. At the age of 20–30 years old, the pressure from self-development is greater, with an average value of 4.04; with the increase of age, the average value of pressure from self-development in the 31–40 years old age group is 3.12, and 41–50 years old Middle-level female managers in this age group have less pressure for self-development than women in the 31–40 years old age group. Early interviews and exchanges also found that middle-level female managers in 20–30 years old need training. The strongest.



**Figure 9.** The conflict between age and self-development.

Educational background and job roles are shown in Figure 10. The job role is regarded as a serious source of stress by middle-level female managers with a college degree. For middle-level female managers with a master's degree or above, most of them are concentrated in the pressure value of 3 and below. The higher the education level, the job role is a factor. The lower the pressure on middle-class women. Among the middle-level female managers, who can sit in this position, their rich experience and excellent work ability are unquestionable, but the level of education will determine their way of thinking, and determine the content of work tasks and work goals. Whether there is a deep and thorough understanding of the understanding, how to assign tasks, how to arrange work efficiently, and how to control the progress.



**Figure 10.** Educational background and job roles.

The relationship between academic qualifications and organizational structure is shown in Figure 16. Organizational structure and tendencies are considered by middle-level female managers with a college degree as a more serious source of work pressure, with an average value of 4.04. Middle managers with a master's degree and above are slightly better than those with a bachelor's degree due to pressure from their organizational structure and tendencies. By. The pressure value of middle-level female managers with undergraduate degree is concentrated in 3.2–3.8, and the pressure value of master degree and above is mainly concentrated in 2.8–3.0. It can be seen that the organizational structure and tendencies are regarded as one of the main stressors by middle-level

female managers as a whole. Educational background and organizational structure and tendencies.

**Figure 16.** The relationship between academic qualifications and organizational structure.

Pressure source	Organizational structure and tendencies		
High school	2.8	3	3.2
Junior college	0	0	0
Undergraduate	6	3	6
Master degree and above	7	11	3

The correlation analysis between personal background and work stressor is shown in Table 17.

**Table 17.** The correlation analysis between personal background and work stressor.

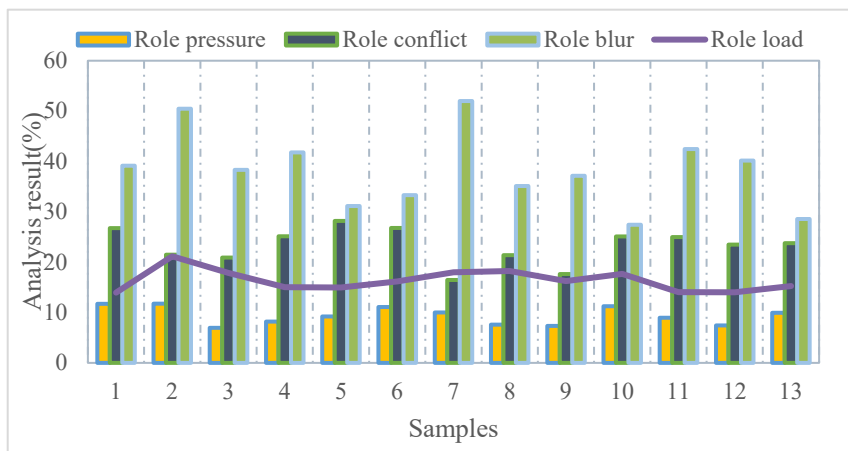
Pressure source	Self-development	Interpersonal relationship
Age	.017	.655
Marriage	.066	.699
Education	.377	.788
Working years	.700	.188

Table 18 shows the correlation between various factors of work stressor.

**Table 18.** Correlation between various factors of work stressor.

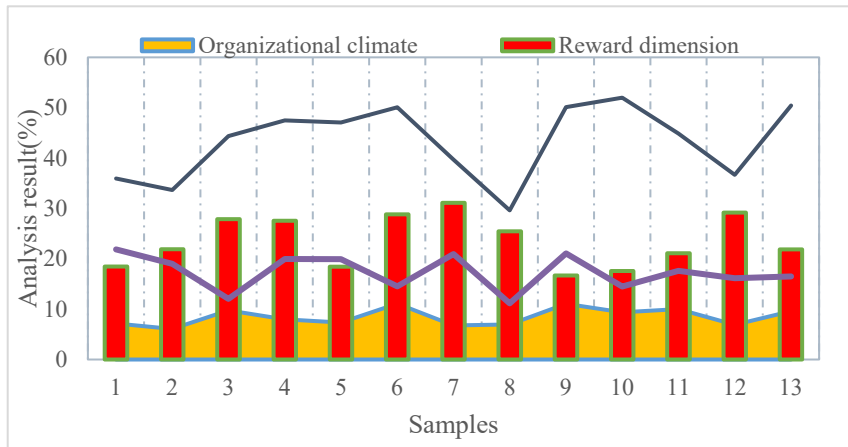
Pressure source	Self-development	Interpersonal relationship
Organizational structure and tendencies	.018	.694
working environment	.075	.648
Job role	.360	.796
Workload	.755	.140
Self-development	.1	.099

The factor reliability analysis of the role stress questionnaire is shown in Figure 11.



**Figure 11.** The factor reliability analysis of the role stress questionnaire.

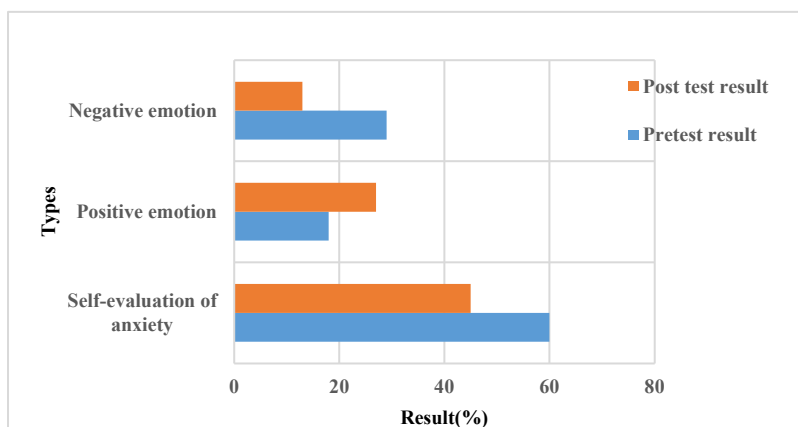
The organization climate questionnaire analysis is shown in Figure 12. The scale has high reliability and internal consistency. From the results of the analysis, the organizational climate scale is reduced to four factors, and the cumulative total explained variance is 76%.



**Figure 12.** The organization climate questionnaire analysis.

Common incentive and guidance methods are as follows:

One is goal motivation. Goal stimulation method is to use a certain goal to constantly stimulate people to move forward, through the goal to stimulate people's enthusiasm, initiative and creativity, to achieve the purpose of education a method. An inspiring goal can make people hope more, produce inspiring effect, and fully mobilize people's subjective initiative. It is worth noting that educators should guide students to set correct personal goals when motivating them. Figure 13 shows that the intervention effect of the individual case is obvious.



**Figure 13.** Comparison of measured data before and after.

## 5. Conclusions

The questionnaire used in this research is based on reading related literature, drawing on relevant questionnaires used by predecessors, and revising it in combination with the specific environment faced by this research. The relationship between. After the first draft of the questionnaire was completed, it was discussed with the company personnel, classmates, and mentors many times, and a small range of predictions were made, and the final questionnaire was obtained after revisions and improvements were made according to everyone's opinions. This article extends the health collection equipment of deep learning to the family, continuously records the health status of residents through the mobile Internet, and uses the information resources of the regional residents' health file platform to provide residents with health status evaluation, management and guidance, health care consultation, education and education. The department of management mainly includes human resources, product design, audit and so on. Trainee users can access and display the information sent by any server only through the browser, thus greatly reducing the cost of network management and maintenance. This computing mode is called B/S (Browser/Server, browser/server) mode. As a new research direction in machine learning, deep learning has achieved fruitful research results in various fields in recent years. The deep learning network structure is complex, and a large amount of data is needed for network training. However, in real life, it is difficult for us to obtain such large-scale data; at the same time, due to the large number of deep learning layers, even if backpropagation is used to train the network, it will consume a lot of time. Therefore, how to effectively train the network with a small amount of data has become an important problem to be solved urgently in deep learning. The regional health service carrier (Internet of Things) is a network health service carrier that integrates health guidance intervention, risk assessment, and intelligent collection of health data. The realization of this system is based on the intelligent sensor technology of the Internet of Things. The premise is the mobile Internet. The medical staff of the professional health management department and the medical department are its support. The goal is to provide family and personal health management service needs. In order to better improve the practical ability of psychological counseling of social work, we should constantly enrich the working methods of psychological counseling of enterprise employees, and further improve the applicability and effectiveness of psychological counseling services of social work through continuous learning and learning from

practical experience in other fields, so as to meet the service needs of different enterprises.

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## Conflicts of interest

These no potential competing interests in our paper. And all authors have seen the manuscript and approved to submit to your journal. We confirm that the content of the manuscript has not been published or submitted for publication elsewhere.

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