

The Relationship between A-type Personality and Job Burnout in Medical Staff: the Mediating Role of Subjective Well-being

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Abstract: Medical staff, as a special group, bear the heavy responsibility of serving patients and have a significant impact on the physical health of the people throughout the country. In the industry of interacting with people, the occupational pressure of medical staff is increasing, and job burnout is becoming increasingly severe. Therefore, this study starts from various influencing factors of job burnout and uses the Maslach Burnout Inventory (MBI-HSS), Overall Wellbeing Inventory (GWB), and Type A Behavior Type Questionnaire (TABP) to investigate 280 medical staff in Kaifeng City, Henan Province. Intended to alleviate the problem of job burnout among medical staff and provide effective recommendations, this study concludes that the higher the level of job burnout among medical staff, the lower their subjective well-being level; People with Type A personality are more likely to experience job burnout; The more obvious the tendency of Type A personality type, the lower the subjective well-being.

1. Introduction

The profession of medical staff is widely recognized as one of the most stressful professions in the world. From the social hot topic of "doctor-patient relationship" in previous years to the recent issue of epidemic treatment, medical staff seem to be at the forefront of the hot topics. In fact, as early as the 1970s, researchers discovered that in the industry of interacting with people, the profession of medical staff is a special group compared to many other professions. Therefore, some healthcare professionals in the industry may experience a series of emotional exhaustion, emotional depression, and other issues. American scholar Fruedenberger referred to this phenomenon as "job burnout" in 1974, which manifests in individual emotions, energy, and other aspects. As a functional disorder, it usually includes emotional exhaustion, depersonalization, and decreased personal sense of achievement^{[1][2]}. Science has shown that both physically and psychologically, job burnout is negative for the human body, and it can affect people's physical and mental health and work status to varying degrees. The job burnout of medical staff is mainly influenced by factors such as individuals, families, organizations, and society. Other studies at home and abroad have shown that personality traits are a significant influencing factor in job burnout, and individuals with certain personality traits are more likely to experience job burnout, such as low self-esteem, lack of control, introversion, A-type

personality, spirituality, and lack of patience.

This study starts from various aspects that affect job burnout among healthcare professionals, with a focus on exploring the impact of A/B personality types and life happiness on job burnout. I hope to have a better discussion on what personality traits medical staff should possess and how to improve their happiness level to a certain extent, in order to better face work and reduce job burnout^{[3][4][5]}. So, facing the medical profession, what is the most suitable personality type and how to make personality types serve the job, making them enthusiastic and not tired in dealing with work is a practical problem. Similarly, the correlation between subjective well-being and job burnout, and how to regulate it to prevent job burnout, is also the theme of this study.

2. Literature Review

2.1 Concept Analysis of Variables

2.1.1 Job burnout

The concept of job burnout was first proposed by Freuderberger (1974) in "Personnel Burnout". Freuderberger proposed the concept of job burnout from the perspective of clinical research, mainly because he and others have experienced a process of fatigue, lack of motivation, and lack of focus, based on clinical experience. Later, Maslach proposed the same concept from the perspective of social psychology in 1975. Job burnout, also known as burnout, refers to a long-term response that an individual experiences due to long-term inability to effectively cope with various pressures at work, including emotional exhaustion, depersonalization, and personal sense of achievement. After individuals experience job burnout, their physical and mental health will also undergo changes: in terms of physical and mental health, as job burnout increases, individuals' anxiety and depression will also increase, and may even lead to a series of physical diseases^{[6][7][8][9][10]}.

2.1.2 A-type personality

A type of personality (also known as A behavior type) is characterized by a strong sense of time, urgency, and competitiveness, manifested as more proactive behavior, more energetic, and more dominant. Numerous studies have shown that people with Type A personality are more likely to suffer from coronary heart disease than those with Type B personality. In the 1960s, two cardiologists Friedman and Roseman began to notice that many patients with coronary heart disease (CHD) were competitive and challenging workaholics, or ambitious top students who were often hostile, always in a hurry, and rarely relaxed^[10]. Friedman and Roseman refer to this behavior as Type A personality and define it as Behavioral Emotional Syndrome, which consists of three components: (1) exhibiting tendencies towards ambition, aggression, and impatience; (2) Specific behaviors such as muscle tension, rapid and powerful tone of alert, and accelerated behavior; (3) A corresponding emotional response that can easily provoke hostility or anger from others. The opposite behavioral characteristic is called B-type personality.

2.1.3 Subjective well-being

Subjective well-being is usually measured from multiple aspects to study residents' living indicators. Many scholars are very interested in this in their research, and there is an increasing number of studies on subjective well-being. Subjective well-being can be a comprehensive evaluation of the quality of life or a specific evaluation of a certain field in life. So, people can only experience happiness if they are satisfied with life and feel good about it.

2.2 Current research status of related concepts

2.2.1 Research on the correlation between Type A personality and job burnout

There is relatively little research on the relationship between Type A personality and job burnout both domestically and internationally. Regarding the exploration of job burnout and A-type personality, we found that Jiang et al. (2004) studied the relationship between job burnout and A-type personality in medical staff. The results showed that among medical staff, A-type personality is closely related to the three dimensions of job burnout, specifically manifested in a significant positive correlation between A-type personality and emotional exhaustion, depersonalization, and a negative correlation with personal achievement. That is to say, the more A-type personality medical staff have, the higher the degree of job burnout. The more B-type personality medical staff have, the lower their level of job burnout. Lavanco (1997) also showed a significant positive correlation between Type A personality and emotional exhaustion, dehumanization, and a negative correlation with personal achievement. Muhammad (1999) found consistent results in his study on the relationship between job burnout caused by work stress and Type A personality. Sun Tiancong studied the relationship between work pressure and job burnout, pointing out that work pressure is the main cause of job burnout. Furthermore, in the study by Huang.

2.2.2 Research on the correlation between subjective well-being and job burnout

Regarding the correlation between subjective well-being and job burnout, Zhang Linlin and Cui Jing (2012) pointed out in their study that after relevant analysis, it was found that the total score of subjective well-being is positively correlated with the score of personal achievement dimension in job burnout, and negatively correlated with emotional exhaustion and depersonalization scores. This indicates that nurses have lower emotional exhaustion and depersonalization during the work process, and higher personal achievement, resulting in higher subjective well-being. The reverse is also true. However, Liu Fangfang et al. (2011) cited Li Hongli's evolutionary perspective, which suggests that social roles, life wealth, personal qualities, marital status, and career types can affect a person's sense of happiness. From the analysis of various factors, the results indicate that all three dimensions of job burnout are significantly correlated with subjective well-being, and all are negatively correlated.

2.2.3 Research on the correlation between A-type personality and subjective well-being

There are many fields of research on the relationship between Type A personality and subjective well-being in China, whether it is teaching, nursing, or naval professions. Li Ling (2009) pointed out in her study that various aspects of happiness are positively correlated with a sense of time rush, competitiveness and hostility, and the total score of Type A personality type. However, we found that the author mentioned in the discussion section that although subjective well-being is positively correlated with Type A personality type and negatively correlated with work pressure, the correlation coefficients between them are not very high. Work pressure and the total score of Type A personality type have an impact on subjective well-being, but not a significant impact. This leaves us with room for exploration.

3. Proposing Questions and Research Assumptions

In the study of the relationship between A-type personality type and subjective well-being, although some studies have not found a correlation between the two, and some have found a negative or positive correlation between the two, some studies have found that some characteristics of A-type

personality type point to a tendency to reduce happiness. So, there is a negative correlation between various aspects of happiness and A-type personality type. From this, we can make assumptions about this. The research on job burnout and subjective well-being is worth exploring, and there is a significant negative correlation between the two.

Therefore, this study proposes the following assumptions:

Hypothesis 1: There is a significant positive correlation between Type A personality type and job burnout.

Hypothesis 2: There is a negative correlation between subjective well-being and A-type personality type, that is, the more obvious the tendency of A-type personality characteristics, the lower the subjective well-being.

Hypothesis 3: There is a significant negative correlation between job burnout and subjective well-being. The higher the individual's subjective well-being, the less job burnout occurs.

Hypothesis 4: Subjective well-being plays a mediating role in the impact of personality types on job burnout, that is, personality types have an impact on job burnout, with some acting through subjective well-being.

4. Research Methods

4.1 Research subjects

A survey was conducted in four key hospitals in Kaifeng City, Henan Province. 280 participants participated in the study, and a total of 280 questionnaires were distributed. Among them, 49 were invalid and 231 were valid, with a recovery rate of 78%. This study adopted a holistic random sampling method, with 30 male healthcare workers (13%) and 201 female healthcare workers (87%); 81 doctors (35.06%), 140 nurses (60.60%), and 10 caregivers (4.33%); 65 medical staff under the age of 30 (28.14%), 89 medical staff aged 30-39 (38.53%), and 77 medical staff over the age of 40 (33.33%).

4.2 Measurement tools

4.2.1 Maslach Burnout Scale (MBI-HSS)

The Maslach Job Burnout Scale, Service Industry Edition, has a total of 22 items, with three dimensions: emotional exhaustion, dehumanization, and loss of personal achievement. The item is scored using a 7-point scoring method. (0-6 represents frequency, "0" represents never occurring, and "6" represents daily occurrence). The higher the score on the scale, the higher the level of burnout. In this survey, the Cronch of the scale α The coefficient is 0.71.

4.2.2 Type A Behavior Type Questionnaire (TABP)

The A-type behavior type questionnaire has two versions: the American version and the Chinese version. The American version of the A-type behavior type questionnaire appeared relatively early, while the Chinese version of the A-type behavior type questionnaire was developed in 1983 by Zhang Boyuan, a scholar who referred to some American A-type behavior type questionnaires and combined them with the characteristics of Chinese people. After three tests and revisions, the questionnaire was completed. The entire questionnaire consists of 60 questions, divided into three dimensions: sense of time rush (TH) (25 items), competitiveness and hostility (CH) (25 items), and lie detection questions (L) (10 items).

The rating for Type A behavior is based on the TH score plus the CH score, while the L score is

not included in the total score, so the maximum score is 50 points. When $L \geq 7$ points, it can be considered an invalid survey questionnaire. In this study, only two personality characteristics of type A behavior type (29-50 points) and type B behavior type (1-26 points) were discussed, and the rest were not within the scope of the study. In this survey, the Cronch of the scale α The coefficient is 0.89.

4.2.3 Overall Happiness Scale (GWB)

General Well Being Schedule (Fazio, 1977). This scale is a thinking based measurement tool developed by the National Center for Health Data Statistics in the United States. Duan Jianhua revised the scale in 1996. The overall happiness scale adopts a 10 point scale. The scoring criteria are based on the accumulation of options 0-10. This scale has 33 items, among which 1, 3, 6, 7, 9, 11, 13, 15, and 16 are reverse scoring. The national standard score (norm) is 75 for males and 71 for females. The higher the score on the scale, the stronger the individual's subjective well-being. In this survey, the Cronch of the scale α The coefficient is 0.82.

4.3 Research process

Prior to the implementation of the test, a unified guidance language was used to distribute, test, and collect data from the Maslach Burnout Scale - Service Industry Version (MBI-HSS), Overall Happiness Scale (GWB), and Type A Behavior Type Questionnaire (TABP) using a paper questionnaire. The complete and compliant questionnaire was entered into SPSS 25.0 software for descriptive statistics, reliability and validity, correlation, and regression analysis and processing of the data.

5. Research Results

5.1 Descriptive Statistics of Job Burnout, Overall Happiness, and Type A Personality Types

Table 1: Descriptive statistics of job burnout, overall happiness, and A personality type

	N	M	SD
A-type personality type	78	33.200	3.300
B-type personality type	153	19.990	4.110
burnout	231	54.400	13.577
general well-being	231	118.670	15.900

The results from Table 1 showed that in this study, the average score of job burnout among medical staff was 54.400, which indicates that the subjects generally have a state of job burnout compared to the total score of the three dimensions of the job burnout scale; The overall score of happiness is 118.670, which is relatively small compared to the total score of overall happiness and significantly higher than the norm (male 74, female 71), indicating that the overall level of happiness of the participants is very high, and they tend to express this feeling of happiness in life; The average (standard deviation) of the data measured by the A-type personality type questionnaire is 33.200 ± 3.300 ; The average (standard deviation) of the data measured by the B-type personality type questionnaire is 19.990 ± 4.110 .

5.2 Correlation between job burnout, overall happiness, and A/B personality types

From the above Table 2, it can be seen that there is a very significant negative correlation between job burnout and overall happiness, indicating that people with higher overall happiness are less likely to experience job burnout; There is an extremely significant positive correlation between job burnout and type A personality, indicating that people with type A personality tendencies are more likely to

experience job burnout than those with type B personality tendencies; There is an extremely significant negative correlation between overall happiness and A-type personality type, and a significant positive correlation with B-type personality type. This indicates that people with A-type personality type tendencies may experience a decrease in their level of happiness due to their competitive nature, time constraints, and other characteristics.

Table 2: Correlation between Job Burnout, Overall Happiness, and Type A Personality Types

	burnout	general well-being	A/B personality type
burnout	1		
general well-being	-0.246***	1	
A-type personality type	0.249***	-0.299***	1
B-type personality type	-0.120*	0.188**	1

5.3 Analysis of the mediating effect of overall happiness among medical staff in A/B personality types and job burnout

The results of the correlation analysis, as shown in Table 3, show a significant pairwise correlation between job burnout, overall happiness, and A/B personality type, with a close relationship among the three. In order to further explore the internal connection between them and job burnout, this study analyzed the overall happiness of medical staff and the A-type personality type. In constructing regression equations, special attention should be paid to the problem of multicollinearity, which can lead to serious parameter estimation and expand errors. The VIF value of various dimensions of job burnout and A-type personality type in the study is $1.000 < 10$; The VIF value for overall happiness is 1.121 (data above 10 indicates severe collinearity). From the results displayed in the data, the variance expansion coefficient can also represent collinearity results. The range of variance expansion coefficients for each variable is 0.34-0.66, indicating that there is no serious problem in multicollinearity.

Model 1 uses Type A personality type as the independent variable, subjective well-being as the mediating variable, and job burnout as the dependent variable, with the Bootstrap self-sampling frequency set to 1000. The results showed that the direct effect of Type A personality type on job burnout was 0.166 ($p=0.011 < 0.05$); The mediating effect of subjective well-being on type A personality type is -0.302 ($p=0.000 < 0.001$); The mediating effect of subjective well-being on job burnout is -0.161 ($p=0.003 < 0.01$), and the total mediating effect accounts for 22.65% of the total effect ($a * b/a * b+c$). The confidence interval for the total indirect effect between Type A personality type and job burnout is 0.050 to 0.303, without including 0, indicating that subjective well-being plays a mediating role between Type A personality type and job burnout. Before adding mediating variables, type A personality type can negatively predict job burnout issues ($\beta = 0.166, p=0.011 < 0.05$), so subjective well-being plays a partial mediating role in A-type personality type. The specific model path diagram is shown in Table 3.

Table 3: Path map of the mediating effect model of subjective well-being in A-type personality type and job burnout

Sequential test of the mediating effect of overall happiness in A-type personality type and job burnout			
Standardized regression equation		Regression coefficient test	
Step 1	Y=0.166X	SE=0.065	p=0.011
Step 2	M=-0.302X	SE=0.060	p=0.000
Step 3	Y=0.166X-0.161M	SE=0.065	p=0.011
		SE=0.054	p=0.003

(Note: SE represents standard error)

6. Research Discussion

6.1 Correlation between job burnout, overall happiness, and A/B personality types

The result of this study is that the correlation coefficient between A-type personality type and job burnout is 0.249. The higher the A-type personality type of medical staff, the higher the degree of job burnout. This may largely be due to individuals with Type A personality being competitive, eager for success, and lacking patience in life or work, which can lead to a higher level of job burnout over time.

From the perspective of the relationship between overall happiness and job burnout, the correlation coefficient obtained through research is -0.246, showing a significant negative correlation. This conclusion is consistent with foreign research results, indicating that job burnout has a good predictive effect on subjective well-being. People with low job burnout may not have a low evaluation of themselves, with high scores in the dimension of self-achievement and good self-evaluation, leading to a higher prediction of subjective well-being and resulting in outcomes.

From the relationship between overall happiness and A-type personality type, the correlation coefficient between A-type personality type and overall happiness is -0.299. It indicates that healthcare professionals with type A personality are relatively less happy in obtaining subjective well-being. This is mainly because A-type personality types have made achievements in life, are willing to pursue, and turn their pursuits into their own. When pursuing their own goals, they have a strong sense of oppression and tension, and even generate a hint of hostility towards their opponents, so their happiness experience in life is not high. Some studies have shown that although the correlation between the two is not very high and the influencing factors may not be the main ones, they do have a certain impact.

6.2 The mediating role of job burnout, overall happiness, and A/B personality types

From the relationship between overall happiness and job burnout, there is a significant negative correlation between the two. In regression analysis, overall happiness has an extremely significant predictive effect on various dimensions of job burnout. The mediating effect regression equation shows that C 'is extremely significant, indicating that overall happiness, as a mediating variable, plays a partial mediating role in the A/B personality type and job burnout of medical staff. It can be said that on the one hand, personality types directly affect the level of job burnout among medical staff. People with A personality type tendencies are more likely to experience job burnout than those with B personality type tendencies due to various reasons. On the other hand, it is also possible to indirectly affect the degree of job burnout through the mediating variable of overall happiness. People with a high sense of happiness have a high level of self-recognition and active pursuit when facing life or work, thereby reducing job burnout.

Therefore, the results of this study also confirm that although overall happiness plays a mediating role in job burnout, it is not a complete mediating role. This may mean that the influence of the independent variable on the dependent variable is not the only mediating pathway, and there are other mediating variables worth exploring in future research.

6.3 Limitations and improvements of this study

The sample sources in this study are only concentrated on medical staff from 4 hospitals in Kaifeng City, Henan Province, with weak representativeness. For example, in terms of the variable of overall happiness, the test results of participants in different cities are different. As a small city in Henan Province, Kaifeng can only represent partial results, and participants in first tier cities such as Beijing,

Shanghai, and Guangzhou may interpret this result differently. Therefore, in future research, it is possible to consider expanding the sample size to make the participant sample more representative and broaden the scope of application of the study. Moreover, the study used a questionnaire survey method and a self-reported scale, which may result in concealment and errors among participants.

7 Research Conclusion

In summary, the following conclusions have been drawn from this study:

(1) The surveyed medical staff generally have job burnout, and there is no significant difference between men and women.

(2) There is a significant positive correlation between Type A personality type and job burnout.

(3) There is a negative correlation between subjective well-being and A-type personality type, that is, the more obvious the tendency of A-type behavioral characteristics, the lower the subjective well-being.

(4) There is a significant negative correlation between job burnout and subjective well-being. The higher the individual's subjective well-being, the less job burnout occurs.

(5) Subjective well-being plays a partial mediating role in the impact of personality types on job burnout, that is, personality types have an impact on job burnout, and some of it is mediated through subjective well-being.

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