A Study on Job Satisfaction of Clinical Nurses: Using a Medical Center in Southern Taiwan as an Example

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Abstract

The purpose of this study is to explore the correlation and influencing factors of job satisfaction among nurses. This study is a cross-sectional correlation study, in which convenience sampling is adopted and the subjects are clinical nurses serving in a medical center in Taiwan. This study was conducted by census, in which a total of 750 questionnaires were issued, with the effective recovery rate 79.5%. The structured questionnaire was adopted, with the contents including personal basic data sheet and job satisfaction scale. The obtained data were analyzed by t-test, one-way ANOVA, Scheffe's post-hoc test, and Pearson's product-moment correlation. It is found in the results of the study that the average score of job satisfaction among clinical nurses is 72.3 (out of 100, with a score range of 34 to 100). In terms of influencing factors of job satisfaction, having children or not, marital status, position, and service unit are significantly correlated with "inner satisfaction," "external satisfaction," and "overall satisfaction." Based on the results of the study, the researchers made relevant recommendations for nursing administrators and future research.

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1. Introduction

The quality of care and the improvement of retention rates are always important issues in the nursing profession. The American Association of Critical-Care Nurses (AACN) conducted a survey on nurses around the world [1] and found that nurses generally hold heavy workload, they are dissatisfied with workload, salary, and benefits, and they lack a sense of identity. According to the survey results of the Ministry of Health and Welfare, Taiwan Executive Yuan, the average turnover rate of Taiwanese nurses in 2018 was as high as 19.94%. Each current nurse serves 193 patients on average, which is much higher than the average of 112 patients served per nurse in European and American countries. Under the development trend of population aging, chronic diseases and long-term care, there will be more demands for nursing manpower in the future. However, in 2019, the practice rate of nurses in Taiwan was 58.85%, which was announced by Taiwan Union of Nurses Association [16]. The ratio of the population served per nurse is 1.7 times that of European and American countries. Severe shortage of nurses increases patient mortality, resuscitation failure rates, and medical errors [14]. The cost of leaving a nurse is as high as NT$158,000~189,000 [16]. The level of job satisfaction of nurses is one of the important factors affecting their retention. Nurses with poor job satisfaction have higher turnover intentions [10]. The purpose of this study is to investigate the job satisfaction of nurses in a medical center with a questionnaire, expecting to use the results of this study to make the job satisfaction status of Taiwanese nurses more complete and provide it to supervisors as a reference for improvement.

2. Research Method

2.1   Research design

This study is a cross-sectional correlational design, with the main purpose to understand the job satisfaction of nurses and the correlation between the basic attributes and job satisfaction of nurses. Data were collected by census sampling using structured questionnaires. A medical center in Southern Taiwan was the sampling site.

2.2   Research scope

The subjects of this study are the clinical nurses of a medical center in Southern Taiwan, meeting the following criteria: (1) Those who must have a qualified nurse practitioner license. (2) Currently the official nurses of the receiving medical center. (3) Those who are not from other units to come to support. (4) Those who are willing to participate in the investigation of this research. In this study, α is set as 0.05, statistical power 0.8, and the correlation coefficient .15. It is estimated that the number of samples required for this study should be at least 349 [20], This study was conducted by census method. A total of 750 questionnaires were sent out, with 551 recovered and the recovery rate 73%. There were 438 valid questionnaires, and the effective recovery rate was 79.5%.

2.3 Reliability and Validity Test

2.3.1 Job satisfaction scale

The job satisfaction of this study is based on the Minnesota Satisfaction Questionnaire (MSQ), which is a short-question questionnaire compiled by [17], with 20 questions, including 13 questions on intrinsic satisfaction, 7 questions for extrinsic satisfaction, and 20 questions for general satisfaction. According to the results of the test conducted by many scholars at home and abroad, the Cronbach's s α value of the overall satisfaction level is 0.77 to 0.92, the internal satisfaction is 0.83 to 0.91, and the external satisfaction is 0.71 to 0.82. [17]. The reliability of this scale is stable, and the design structure is widely accepted by general researchers. However, considering the different characteristics of the industry, the semantics and expressions are modified to conform to the customary methods of the medical industry. Each question is on a five-point Likert scale, with one reverse question and the rest positive questions.

2.3.2 Questionnaire for basic personal information

This part is the basic information of the research object, including "age," "gender," "education level," "marital status," "service years," "having children or not," "service unit" and "position".

2.4 Data collation and analysis

The data obtained from the study were used for descriptive statistics using SPSS 21.0 for Windows computer statistical software, and inferential statistics were carried out by independent sample t test, Pearson correlation and one-way ANOVA analysis of variance.

2.5 Rights and interests of subjects

Before the research was carried out, the rights and interests of the subjects had been reviewed by the Institutional Review Board (IRB), and the subjects have the right to refuse this research without affecting their work. The content of the questionnaire is coded, and the information obtained is only for academic research. The researcher will properly keep the relevant questionnaires to ensure the privacy of the respondents.

3. Results

3.1   Description of the demographic characteristics of nurses

There are 438 subjects in this study, with an average age 28.7 and the standard deviation 4.4; 241 (55%) are 26 to 30 years old, followed by 89 (20.3%) who are under 25 years old. There are 430 women (98.2%) the most, and 403 of them (92.0%) have a college degree or above. In terms of marital status, 326 (74.4%) are unmarried, and 345 (78.2%) have no children. The majority (341) work as nurses (77.8%). Most of the service units are in gynecology and pediatrics departments (22.8%), followed by the internal medicine department with 89 people (20.3%) and the surgical department with 83 patients (18.9%). The average length of service is 5.3 years, with the standard deviation 3.9; among them, 110 (25.1%) are in one to three years.

3.2   The current situation of job satisfaction of nurses

The highest total score is 100 and the lowest is 34, with an average total score of 72.3 (SD=9.8), representing the overall job satisfaction is moderate to high. The average scores of the two dimensions of the research scale range from 3.41 to 3.72, with "inner satisfaction" (M=3.72, SD=0.50) higher than "external satisfaction" (M=3.41, SD=0.58). The top three questions with the highest scores are "my job will not ask me to do things that go against my conscience" (4.29±0.77), "my job gives me the opportunity to cooperate with others" (4.07±0.65), and "I have the opportunity to do the work on my own" (4.00±0.64). The lowest score is "my workload is so heavy that I feel overwhelmed" (2.58±0.86). The highest score for inner satisfaction is "my job will not ask me to do things that go against my conscience" (4.29±0.77). The highest score in the "External Satisfaction" dimension is "I am satisfied with getting along with colleagues" (3.72±0.78).

Table 1: Nurses' job satisfaction scores (N=438)

Dimension/Question	Mean	Standard deviation
"Inner satisfaction"	48.3	6.62
1. My job gives me a sense of accomplishment.	3.65	.75
2. My job gives me the opportunity to develop my abilities.	3.72	.68
3. My job makes me have different work experience.	3.80	.72
4. My job allows me to further my self-development.	3.84	.70
5. My job gives me the opportunity to cooperate with others.	4.07	.65
6. I have opportunities to explain the nature of my job to others.	3.58	.82
7. My job gives me a chance to get ahead.	3.30	.88
8. My job will not ask me to do things that go against my conscience.	4.29	.77
9. I am often complimented for my performance at work.	3.41	.75
10. My job gives me the freedom to make my own decisions.	3.48	.78
11. My job is stable, and I don't have to worry about being fired.	3.82	.74
12. I can do things my own way.	3.45	.79
13. I have opportunities to do the work on my own.	4.00	.64
"External satisfaction"	23.9	4.06
14. I'm satisfied with the working conditions provided by the hospital.	3.55	.86
15. In terms of workload, I am satisfied with my salary.	3.35	.91
16. I'm satisfied with some of the hospital's policies.	3.30	.85
17. I have confidence in my supervisor's ability to do the job.	3.72	.78
18. I am satisfied with the way my supervisor handles things.	3.59	.82
19. I am satisfied with getting along with colleagues.	3.83	.71
20. My workload is so heavy that I feel overwhelmed.	2.58	.86
"Overall satisfaction"	72.3	9.83

3.3   Analysis of the differences between the demographic characteristics of nurses and various variables

3.3.1   Gender

The relationship between gender and nurses' job satisfaction is analyzed by t-test difference.

Table 2: Gender and job satisfaction of nurses (N=438)

Dimension	Gender	Mean	Standard deviation	t	p
Inner satisfaction	Male	3.65	.65	-.38	.700
	Female	3.72	.50		
External satisfaction	Male	2.96	.57	-2.23	.026
	Female	3.42	.57		
Overall satisfaction	Male	3.41	.58	-1.17	.239
	Female	3.61	.48		

Note: p<.01
Note: Male=8, Female=430.

Table 2 shows the "internal satisfaction," "external satisfaction," and "overall satisfaction" of nurses by gender. The results of the t-test show that the differences in the mean numbers do not reach a significant level of .01, that is, there is no significant difference in job satisfaction between male and female nurses.

3.3.2   Differences in age and job satisfaction of nurses

One-way ANOVA is used to analyze the relationship between age and job satisfaction of nurses.

Table 3: **Differences in age and job satisfaction of clinical nurses (N=438)**

Dimension	Group	Mean	Standard deviation	F	p	Post Hoc
"Inner satisfaction"	<= 25 years old	3.79	.41	4.19	.006	No significance
	26~30 years old	3.64	.54			
	31~35 years old	3.82	.48			
	36 years old (inclusive) and above	3.84	.39			
"External satisfaction"	<= 25 years old	3.51	.54	11.91	<.001	31~35 years old > 26~30 years old
	26~30 years old	3.28	.59			
	31~35 years old	3.60	.48			
	36 years old (inclusive) and above	3.67	.53			
"Overall satisfaction"	<= 25 years old	3.69	.41	7.79	<.001	31~35 years old > 26~30 years old
	26~30 years old	3.51	.51			
	31~35 years old	3.74	.43			
	36 years old (inclusive) and above	3.78	.39			

Note: p<.01
Note: <=25 years old = 89, 26~30 years old = 241, 31~35 years old = 86, and 36 years old (inclusive) and above = 22.

Table 3 shows that in the "internal satisfaction," "external satisfaction," and "overall satisfaction" dimensions, when analyzing the results by the F test, it is found that the difference in the mean is at a significant level of .01. Therefore, it is inferred that nurses of different ages have significant differences in the dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction" of job satisfaction. By Scheffe's post-hoc comparison, it is found that in the dimensions of "external satisfaction" and "overall satisfaction," the scores of the 31-35-year-old age group are larger than those of the 26-30-year-old age group.

3.3.3   Differences between service years and nurses' job satisfaction

One-way ANOVA is used to analyze the relationship between service years and nurses' job satisfaction.

Table 4: Differences between service years and nurses' job satisfaction (N=438)

Dimension	Group	Mean	Standard deviation	F	p	Post Hoc
"Inner satisfaction"	1 year or less	3.66	.46	4.37	.002	10+years＞3~5 years
	1~3 years	3.77	.48			
	3~5 years	3.57	.56			
	5~10 years	3.73	.49			
	10+ years	3.85	.47			
"External satisfaction"	1 year or less	3.46	.59	10.29	＜.001	10+years＞3~5 years
	1~3 years	3.38	.57			
	3~5 years	3.17	.59			
	5~10 years	3.44	.50			
	10+ years	3.69	.52			
"Overall satisfaction"	1 year or less	3.59	.47	6.98	＜.001	10+years＞3~5 years
	1~3 years	3.64	.47			
	3~5 years	3.43	.53			
	5~10 years	3.63	.45			
	10+ years	3.80	.44			

Note: $p < .01$

Note: less than one year = 49, 1~3 years = 110, 3~5 years = 103, 5~10 years = 93, more than 10 years = 83.

As shown in Table 4, when analyzing the results by the F test, it is found that the differences in the three dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction" all reach a significant level of .01. Therefore, it is inferred that clinical nurses with different service years have significant differences in the three dimensions of job satisfaction, including "internal satisfaction," "external satisfaction," and "overall satisfaction." By Scheffe's post-hoc test comparison, it is found that the scores of the nurses with more than 10 years of service are greater than those with 3-5 years of service in terms of "internal satisfaction," "external satisfaction," and "overall satisfaction."

3.3.4   Differences between marital status and job satisfaction of nurses

The relationship between marital status and nurses' job satisfaction is analyzed by t test.

Table 5: Marital status and job satisfaction of nurses (N=438)

Dimension	Group	Mean	Standard deviation	t	p
"Inner satisfaction"	Unmarried	3.67	.51	-3.39	.001
	Married	3.86	.46		
"External satisfaction"	Unmarried	3.34	.59	-4.49	<.001
	Married	3.62	.49		
"Overall satisfaction"	Unmarried	3.56	.49	-4.15	<.001
	Married	3.78	.43		

Note: p<.01
Note: N=438: unmarried=328, married=110.

Table 5 shows that when analyzing the results by the t test, it is found that the differences in the three dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction" all reach a significant level of .01. Therefore, it is inferred that clinical nurses with different marital status have significant differences in the three dimensions of job satisfaction: "internal satisfaction," "external satisfaction," and "overall satisfaction." The average score of the married clinical nurses is higher than that of the unmarried, and the t-test reached a significant level of .01, Therefore, it is inferred that the "internal satisfaction," "external satisfaction," and "overall satisfaction" of clinical nurses with different marital status are significantly different, and the married nurses' satisfaction is higher than the unmarried nurses'.

3.3.5 Differences in job satisfaction of the nurses having children or not

The relationship between the nurses having children or not and the level of job satisfaction of nurses is analyzed by t test. (Table 8)

Table 6: Job satisfaction of the nurses having children or not (N=438)

Dimension	Having children or not	Mean	Standard deviation	t	p
"Inner satisfaction"	Yes	3.85	.49	2.76	.634
	No	3.68	.50		
"External satisfaction"	Yes	3.67	.50	4.98	.076
	No	3.34	.58		
"Overall satisfaction"	Yes	3.78	.45	3.91	.350
	No	3.56	.49		

Note: p < .05
Note: Having children = 93 and having no children = 345.

Table 6 shows that, in the t test, it is found that the difference in the mean of the three dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction" do not reach the significant level of .05 for the nurses having children or not. There are no significant differences in the three dimensions of "internal

satisfaction," "external satisfaction," and "overall satisfaction" among clinical nurses with and without children.

3.3.6 Differences between nurses' education level and job satisfaction

Regarding the relationship between nurses' education level and job satisfaction, a t-test is carried out for difference analysis.

Table 7: Education level and job satisfaction of nurses (N=438)

Dimension	Education level group	Mean	Standard deviation	t	p
"Inner satisfaction"	College	3.67	.44	-.63	.527
	University (inclusive) or above	3.72	.51		
"External satisfaction"	College	3.37	.51	-.43	.664
	University (inclusive) or above	3.41	.58		
"Overall satisfaction"	College	3.56	.43	-.60	.544
	University (inclusive) or above	3.61	.49		

Note: p < .01
Note: College = 35 and university (inclusive) and above = 403.

Table 7 shows that nurses with different educational levels do not have significant differences in the three dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction."

3.3.7 The difference between the position held and the job satisfaction of the nurses

One-way ANOVA is used to analyze the relationship between positions and job satisfaction of nurses.

Table 8: Different positions and job satisfaction of nurses (N=438)

Dimension	Group	Mean	Standard deviation	F	p	Post Hoc
"Inner satisfaction"	Nurse	3.67	.51	5.36	<.001	(Deputy) head nurse＞Nurse
	Group leader	3.76	.52			
	Senior nurse	3.97	.34			
	(Deputy) head nurse	4.05	.35			
"External satisfaction"	Nurse	3.38	.57	4.25	.002	(Deputy) head nurse＞Nurse
	Group leader	3.39	.61			
	Senior nurse	3.43	.65			
	(Deputy) head nurse	3.82	.46			
"Overall satisfaction"	Nurse	3.56	.48	5.53	<.001	(Deputy) head nurse＞Nurse
	Group leader	3.63	.52			
	Senior nurse	3.78	.37			
	(Deputy) head nurse	3.97	.35			

Note: $p < .01$
Note: Nurses = 341, group leaders = 53, senior nurses = 14, and (deputy) head nurses = 30.

Table 8 shows that through the F test analysis, it is found that the differences in the mean of "internal satisfaction," "external satisfaction," and "overall satisfaction" among nurses with different positions reached a significant level of .01. Therefore, it is inferred that nurses who hold different positions have significant differences in the dimensions of "internal satisfaction," "external satisfaction," and "overall satisfaction." In Scheffe's post-hoc test comparison, it is found that the "inner satisfaction," "external satisfaction," and "overall satisfaction" of (deputy) head nurses are higher than that of general nurses.

3.3.8 Differences in job satisfaction among nurses with different service units

One-way ANOVA is used to analyze the relationship between service units and nurses' job satisfaction.

Table 9: Differences in job satisfaction among nurses with different service units
(N=438)

Dimension	Group	Mean	Standard deviation	F	p	Post Hoc
"Inner satisfaction"	Emergency	3.72	.49	2.80	.027	a. Outpatient clinic > Emergency, internal medicine department b. Department of Surgery > Department of Internal Medicine
	Outpatient clinic	3.58	.46			
	Internal medicine department	3.58	.55			
	Surgical department	3.77	.42			
	Intensive care unit	3.74	.56			
	Gynecology and pediatrics departments	3.81	.47			
"External satisfaction"	Emergency	3.15	.67	7.35	< .001	
	Outpatient clinic	3.65	.52			
	Internal medicine department	3.16	.52			
	Surgical department	3.55	.51			
	Intensive care unit	3.42	.57			
	Gynecology and pediatrics departments	3.49	.56			
"Overall satisfaction"	Emergency	3.52	.52	3.68	.006	
	Outpatient clinic	3.61	.46			
	Internal medicine department	3.43	.50			
	Surgical department	3.70	.41			
	Intensive care unit	3.63	.53			
	Gynecology and pediatrics departments	3.70	.46			

Note: $p < .01$
Note: Emergency = 41, Outpatient clinic = 43, Internal medicine department = 89, Surgical department = 83, Intensive Care Unit = 82, Gynecology and Pediatrics departments = 100.

Table 9 shows regarding the job satisfaction of nurses serving different units analyzed by the F test, the differences in the dimensions of "external satisfaction" and "overall satisfaction" both reach a significant level of .01. Thus, it is inferred that there are significant differences in the "external satisfaction" and "overall satisfaction" dimensions among clinical nurses in different service units. In Scheffe's post-hoc test comparison, it is found that in the dimension of "external satisfaction," the scores of the nurses in the outpatient department are greater than those in the emergency department and internal medicine department; the scores of the nurses in the surgical department are greater than those in the internal medicine department.

4. Conclusion and Suggestion
4.1   Research findings and conclusions
The research hypotheses and empirical analysis results are summarized as follows:

4.1.1   The current situation of job satisfaction of clinical nurses
The average score of the research subjects' job satisfaction is 72.3, which is a medium-to-high level, and the "internal satisfaction" is slightly higher than the "external satisfaction." There are significant differences in age, marital status, years of service, positions held, service units, and job satisfaction, but there are no significant differences in gender, children, and education levels.

4.1.2   Differences in job satisfaction among nurses with different background variables
1. *Gender*: In various dimensions of job satisfaction of nurses, there is no significant difference between women and men [14].
2. *Age*: Nurses with older age (31-35) have higher job satisfaction [10].
3. *Marital status*: Married nurses have higher job satisfaction.
4. *Having children or not*: There is no significant difference in the overall and various dimensions of job satisfaction among nurses due to having children or not.
5. *Educational level*: There is no significant difference in the overall and various dimensions of job satisfaction of nurses due to different educational levels.
6. *Years of service*: In terms of years of service, significant differences are found in this study. According to Scheffe's post-hoc test comparison, the nurses who have served for more than 10 years have higher "internal satisfaction," "external satisfaction," and "overall satisfaction" than those who have served for 3 to 5 years [15].
7. *Position*: Clinical nurses who serve as (deputy) head nurses have higher job satisfaction than general nurses [7].
8. *Service units*: There are significant differences in job satisfaction among clinical nurses in different service units [4]. The scores of the nurses serving in outpatient and surgical wards are larger than those in emergency and internal medicine wards.

4.2   Research conclusions

1. The clinical nurses of the medical center have a moderately high job satisfaction, and the highest level of satisfaction with "inner satisfaction," but in "external satisfaction," the item "my workload is so heavy that I feel overwhelmed" is the lowest in satisfaction. From this, it is possible to understand the direct expression and feedback of patients and their families or medical teams, which brings encouragement and a sense of achievement to clinical nurses [2].

    For clinical nurses with high emotional labor and high workload, being able to have a moderately high job satisfaction also means that clinical nurses are no longer constrained by a single factor in their work values. Through the cooperation of the working environment, the improvement of self-ability, and the enthusiasm for nursing, job satisfaction of nurses can be increased, which can be used as a reference to reduce the turnover rate of clinical nurses and improve the job satisfaction of clinical nurses [13].

2. Among the different demographic variables of clinical nurses in this medical center, there are significant differences in the part of job satisfaction. Older married nurses with longer seniority have higher job satisfaction, which representing the personality traits, sense of responsibility, and recognition of the nurses and their institutions can motivate individuals to promote job satisfaction; hospital supervisors should improve the job satisfaction of nurses in order to reduce the turnover rate of nurses, prolong occupational life, retaining nursing elites [6].

4.3   Suggestion

Recommendations for nursing care from the results of this study are stated as follows:

4.3.1   Nursing practice

1. *Establishing selection criteria and selecting appropriate nurses*

From the research results, there are significant differences between the demographic characteristics and job satisfaction. It is suggested that the administrator can analyze the attributes, patient characteristics, and needs of each department and unit and then formulate the emotional characteristics that meet the nurses of each department and unit. In addition, in order to know whether the candidate has good emotional perception ability, the emotional intelligence test published in the market can be referred, which includes an individual's assessment of one's ability to perceive one's own emotions [5][11]. Designing selection tool. When selecting clinical nurses, the interview or written test can be used to indirectly predict whether the candidate has a high level of recognition and commitment to the organization to which they belong, and whether they have better emotional awareness. It may be possible to arrange personnel with different emotional characteristics in suitable units, so that clinical nurses can have good physical and mental health and well-being, and it is not easy to leave due to job burnout, emotional stress and other

factors, resulting in an increase in personnel costs [3].

2. *Establishing a human resource reserve system and adjusting manpower allocation*

In this study, it is found that the lowest job satisfaction among nurses is out of a heavy workload. It is suggested that in addition to self-examination, one can actively pursue further studies or learn relevant work knowledge from senior personnel, enhance one's professional intelligence and skills, and cultivate one's professional quality and ability, so as to cope with the diversified social environment and be competent in clinical business [8]. Administratively, establishing a human resource reserve system can appropriately adjust human resource allocation and work distribution. Managers should try to coordinate and reduce non-nursing professional business, assign administrative staff to handle them, make good use of computer operating systems, and simplify the content of work items, so as to increase the time of professional care and improve the quality of care. Nurse growth groups can be established to meet regularly in small groups, so that nurses can share each other's experiences and support and encourage each other. Appropriately scheduled vacations or organize tourism activities can be given, so that employees can relax, relieve the pressure of work, adjust their body and mind, and improve work efficiency [18].

4.3.2   Nursing research

1. *Re-validation of the reproduction study*

This study shows that although clinical nurses have moderately high job satisfaction, a job satisfaction scale with nurses as the research object has not yet been developed domestically. It is expected to re-examine it with a remake study.

2. *Expanding research objects*

Limited by research time, funding, and ability, the subjects of this study are limited to clinical nurses in a medical center in Tainan. Whether there will be different research results due to different service objects and cultural differences is still unknown. Therefore, in the future, in terms of research objects, the horizontal dimension can be extended to the public and private regions and the whole Taiwan regions, and the vertical dimension can be extended to regional hospitals and medical centers. In addition, the subjects of this study did not include the director and supervisor of the nursing department. However, nursing supervisors are the soul of the hospital, and it is worth exploring whether there is also high job satisfaction.

3. *Research methods with equal emphasis on quality and quantity*

In this study, a quantitative method is used for verification by means of a questionnaire survey. Although the common views of most people can be found, the job satisfaction part involves inner emotions, so it is less possible to explore the inner part in a quantitative way. If future research can strengthen the qualitative part, whether it is "quantity before quality" or "quality before quantity," it should be able to find some blind spots in the research, which will be more helpful to the research.

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