Kasetsart Journal of Social Sciences

journal homepage: http://kjss.kasetsart.org

Antecedents of intention to leave the job among pharmacists in Thailand: Empirical evidence from fuzzy-set qualitative comparative and multiple regression analyses

Idsaratt Rinthaisong, Uthit Thaveerat*

Department of Public Administration, Faculty of Management Sciences, Prince of Songkla University, Songkhla 90110, Thailand

Article Info

Article history:
Received 26 September 2024
Revised 25 April 2025
Accepted 19 May 2025
Available online 12 November 2026

Keywords:
external motivation,
Fs/QCA,
intention to leave the job,
necessary condition,
sufficient condition

Abstract

This research sought to study an antecedent of intention to leave the job among pharmacists in southern Thailand. A questionnaire was employed as the study instrument. The sample comprised 298 pharmacists employed in government agencies, chosen by stratified random sampling without proportionality. Causal analysis was conducted utilizing multiple regression analysis and fuzzy-set qualitative comparative analysis. The multiple regression analysis results revealed that three external driving factors—job security, job autonomy, and workload issues—exerted statistically significant effects on the intention to resign from the job. The fuzzy-set qualitative comparative analysis indicated that five external driving factors—financial remuneration, job security, job autonomy, workload issues, and family influence—were the main reasons pharmacists strongly wanted to resign. The combination of all five conditions was adequate to yield seven solutions. The integration of both methodologies revealed that low job security, lack of job autonomy, and workload issues were significant factors contributing to resignation.

© 2026 Kasetsart University.

* Corresponding author.
E-mail address: uthitthaveerat@gmail.com (Thaveerat, U.).

https://doi.org/10.34044/j.kjss.2026.47.4.35
2452–3151/© 2026 Kasetsart University.

This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Introduction

In healthcare professions, turnover remains a critical problem, resulting in the loss of trained and qualified employees. Turnover intention is the best predictor of actual turnover, as expectations increase with increasing intentions (Rani et al., 2022).

Currently, the shortage of pharmacists to provide patient care has increased, and the COVID-19 situation has further reduced the number of pharmacists. Employment in all professions in the country is also a problem, and the population is currently aging (World Health Organization, 2006). In the future, if the population and the elderly increase, the workload of pharmacists will increase. However, in reality, there are few pharmacists. Therefore, it is necessary to increase the workforce to be appropriate in order to prevent pharmacists from becoming stressed and discouraged, which will lead to their intention to turnover. The shortage affects healthcare, which has a large workload but a small number of pharmacists, as there is a shortage of pharmacists worldwide. Many pharmacists are at risk of resigning from their job, thus employee turnover intentions are costly and become a significant factor that may affect overall organizational performance (Busari et al., 2017).

The working situation of pharmacists in the South has seen job resignations, with clear problems reflecting the following: From the increasing workload but the number of pharmacists is low, causing personnel to feel bored, stressed, tired, and lack motivation in working, the attitudes of the new generation that have changed regarding compensation and cost of living that may be consistent with the current situation, the opportunity to continue studying for development, and advancement in the position, all of which cause the intention to resign from work (Bandhanpreet et al., 2013).

The study of the intention to leave the job involves many factors, including the inequality in the work effort system, the work reward system, the increased stress from the job, and the bad work environment, which all have an influence on the intention to resign (Lavoie-Tremblay et al., 2010). The relevant agencies examine those factors that negatively affect the performance of pharmacists and study the external motivation factors because these factors are the most important determinants of employee behavior (Van Schalkwyk et al., 2010).

In quantitative social science research, analyzing data from only one perspective is a common practice. Typically, causal relationships between variables are examined. However, this approach may unintentionally limit our understanding of the complexity of the research phenomenon, preventing us from seeing the big picture (Richter et al., 2020).

The researchers employed causal analysis and multiple regression analysis (MRA) to identify pharmacist turnover drivers. However, regression analysis was not enough to explain turnover intention. Thus, the researchers employed fuzzy-set qualitative comparative analysis (Fs/QCA) to determine necessary circumstances for a certain conclusion (Ragin, 2006). Researchers are increasingly studying these approaches due to their ability to explain complex causal relations (Richter et al., 2022). These approaches use various causal logics, making them compatible with methodical reflection (Richter et al., 2022). We can better understand southern pharmacist turnover and the causes that lead to it by merging diverse analytical views.

Literature Review

Fs/QCA

Compared to conventional analytical methodologies, the utilization of Fussy-set Qualitative Comparative Analysis (Fs/QCA) can provide numerous advantages. In order to identify the conditions that are necessary for an outcome to occur, Fs/QCA employs both qualitative and quantitative evaluations and calculates the extent to which a case is part of a set (Ragin, 2000), serving as a bridge between qualitative and quantitative methodologies. The data are transformed into the [0, 1] range, which is why Fs/QCA employs calibrated measures. In the natural sciences, calibration is a common practice; however, it is less prevalent in the social sciences. It can be employed to satisfy the needs of qualitative researchers in interpreting relevant and extraneous variation, and quantitative researchers in precisely positioning cases relative to one another.

Turnover Intention

Turnover intention (INT) is the premeditate and conscious intention to imminently leave an organization. Employees desire to leave the organization without wanting to work in the organization anymore (Budhiarti & Riyanto, 2022). Mobley et al. (1979) showed that turnover intention is the expression of the actual behavioral intention to leave the job, find a new job, and find an opportunity to work in a better organization. Even after a century and a lot of research, the importance of this topic has not diminished (Nadeem et al., 2019). Having a strong human resource has become inevitable for employers due to

fierce competition. Therefore, this issue must be given attention because high TOI rates harm employees' commitment, cohesion, and organizational communication structures.

Motivation and Intention to Leave the Job

Motivation is a theory that explains human behavior and drives people to behave and meet their wants. It can determine the path to behavior or structure that motivates someone to repeat that activity (Gopalan et al., 2017), explaining individual behavior in each context. Individuals choose behavior based on the most appropriate stimuli in each situation due to internal and external incentive factors. Extrinsic motivation is driven by financial rewards or incentives, job security, financial remuneration, job autonomy, workload issues, and the influence of family and friends (Giancola, 2014).

Job Security and Intention to Leave the Job

Job security (JS) is the hope of employees in their work, so that they are protected and have confidence in the organization. This includes factors such as being promoted, providing welfare to employees, and providing scholarships for employees to continue their education (Akpan, 2013). Job security is a feeling of security that employers hire employees to work in the organization and promise not to terminate or fire them. If the organization's leaders provide more job security to employees, it will lead to better work efficiency and job satisfaction, resulting in a reduced intention to resign (Sokhanvar et al., 2018; Probst, 2003).

Financial Remuneration and Intention to Leave the Job

Financial remuneration (FR) is the management of human resources. It is related to the rewards that a person receives when working in the organization or the form of payments or gifts from work (Dessler et al., 2015). Compensation may include payments to employees, which are directly caused by hiring using money, such as wages, salaries, incentives, and bonuses, and indirectly, such as vacation days. Therefore, salary compensation has an impact on resignation from work. If the organization encourages employees and supervisors to devote themselves for an organization to be effective, it is necessary to reward employees, and failure to do so results in employees resigning from the organization (Falahat et al., 2019).

Job Autonomy and Intention to Leave the Job

Job autonomy (JA) is an important factor and may lead to greater motivation for employees (Cleavenger & Munyon, 2013). It is the authority that the organization or unit gives to employees to decide whether they are working in the organization with autonomy and freedom in work, and leads to greater commitment to management and work autonomy, inspiring people in the organization to learn and grow more in their work. Galletta et al. (2011) also showed the relationship between job autonomy and organization and work, which may reduce the intention to turnover (Vui-Yee & Yen-Hwa, 2020).

Workload Issues and Intention to Leave the Job

Workload issues (WL) refer to the amount of work assigned to each individual with physical and mental suitability (Agustine & Nawangsari, 2020) from receiving different amounts of work for each employee. When a person receives a high workload, it will harm the work, and if receiving a workload that is more than the work they are responsible for in a given period, they will not be able to work successfully and efficiently. Eventually, it may cause the person to want to leave the job (Dwinijanti et al., 2020).

Family Influence and Intention to Leave the Job

Family (FA): Family support is considered to have a positive impact on job role, and an indirect effect on job turnover intention through job satisfaction (Zhang et al., 2020). In addition, family support also plays a negative role in organizational performance and perceived organizational support. Family and work stress are important causes of job turnover intention (Gali Cinamon et al., 2007). Lee et al. (2011) found that family, especially emotional aspects, may act as a job stressor rather than a job role benefit, leading to lower job satisfaction.

Peer Influence and Intention to Leave the Job

Peer (PE): Alavi et al. (2023) demonstrated the important role of coworkers in alleviating burnout and maintaining well-being in healthcare professionals. Alavi et al. (2023) found that coworker support is an organizational support for greater organizational engagement. This results in a lower intention to quit the job. On the other hand, Shorey and Wong (2021) found that the negative impact when friends are bullied, devalued, and

oppressed during their work in the organization results in poor emotional health of employees, leading to higher intention to quit the job (Howard, 2024).

Conceptual Framework

This research uses a conceptual framework by taking the causes of pharmacists' intention to leave their job in Thailand. Therefore, the external motivational factors (Akosah-Twumasi et al., 2018) are set. In the research, the external motivational factors are job security, financial remuneration, job autonomy, workload issues, family influence, and peer influence. The external motivational factors leading to the intention to leave the job are shown in Figure 1.

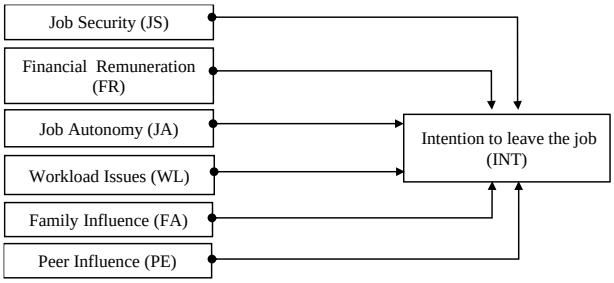


Figure 1 Conceptual framework

Methodology

This study used a quantitative research method to examine the main objective of discriminating factors in the intention of pharmacists to resign from work in the southern region of Thailand. The research approach will be explained in the following section.

Population and Sample

This study's population used southern Thai pharmacists. The southern provinces of Satun, Phatthalung, Trang, Songkhla, Yala, Pattani, and Narathiwat have different contexts than other Thai provinces. This region has a distinct identity and is mostly Muslim. Government pharmacists provided data. Discriminant function analysis requires 100 samples or 20 times the independent variable, and each group should have 20 samples (Hair et al., 2019). 298 samples were taken. The researcher used nonproportional stratified random sampling. The sample group was government pharmacists. The researcher called government hospitals to request help from the head pharmacist of the pharmacy department in completing the questionnaires. The researcher sent a stamped envelope to return the response documents, simply identifying the government hospital as the sender. We achieved a response rate of 99.33 percent by sending 300 surveys and receiving 298 responses. Women made up 82.9 percent of the responses, while men made up 17.10 percent.

Measurement

Job security variable: Developed from Kraimer et al. (2005) and Oldham et al. (1986), consisting of four questions in a 5-level rating scale, with an alpha coefficient of .75. Financial remuneration variable: Developed from Abeysekera (2007), consisting of four questions in a 5-level rating scale, with an alpha coefficient of .91. Job autonomy variable: Developed from Morgeson and Humphrey (2006), consisting of 6 questions in a 5-level rating scale, with an alpha coefficient of .88. Workload issue variable: Developed from Downing (2006), consisting of four questions in the form of a 5-level rating scale, with an alpha coefficient of .78.

Family influence variable: Developed from Midgley et al. (2000), consisting of three questions in the form of a 5-level rating scale, with an alpha coefficient of .88. Peer influence variable: Developed from Midgley et al. (2000), consisting of 3 questions in the form of a 5-level rating scale, with an alpha coefficient of .88.

Intention to leave the job: Developed from Roodt (2004), consisting of five questions in the form of a 5-level rating scale, with an alpha coefficient of .93.

Data Analysis

The researcher analyzed the data using basic statistics, including mean score, standard deviation score, kurtosis, and skewness. The research hypothesis was tested using multiple regression analysis (MRA). The researcher used the enter method. There were several preliminary agreement checks, including outlier, multicollinearity, normality, and homoscedasticity, and Fs/QCA analysis to examine the main conditions and consider the solution resulting from the combination of the main conditions.

Results

The researcher collected data for this research study by specifying the sample group as pharmacists working in government hospitals in seven provinces in the lower south, namely, Phatthalung, Trang, Satun, Songkhla, Pattani, Yala, and Narathiwat. There was a total of 298 pharmacists, 51 males (17.1%) and 247 females (82.9%).

Basic Statistical Analysis in the Research

Initial statistical analysis of all seven variables. Basic statistical analysis of the variables included the mean, standard deviation, skewness, and kurtosis. The classification of the variables is detailed in Figure 2.

From Figure 2, it was found that the respondent's samples were 298 pharmacists working in government hospitals. The external motivating factors were job security (JS), financial rewards (FR), job autonomy (JA), workload (WL), family influence (FA), and peer influence (PE). The mean score was between 2.59 and 3.49 with a standard deviation of .51 and .94. The intention to quit work (INT) had a mean score of 2.88 with a standard deviation of .84, as shown in Table 1.

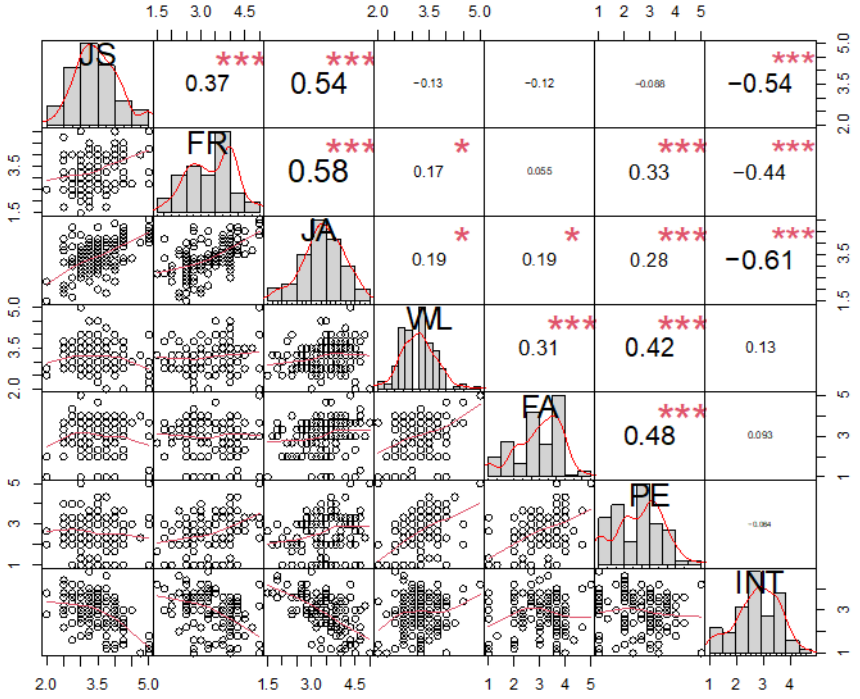


Figure 2 Pearson's product moment correlation coefficient matrix

Table 1 Mean, standard deviation, skewness, kurtosis, and standard error

Variables	Mean	Standard deviation	Skewness	Kurtosis	Standard Error
JS	3.49	.63	.39	.06	.05
FR	3.37	.79	−.12	−.73	.07
JA	3.41	.71	−.29	−.14	.06
WL	3.20	.51	.34	.61	.04
FA	2.98	.89	−.58	−.20	.08
PE	2.59	.94	−.10	−.56	.08
INT	2.88	.84	−.36	−.37	.07

In addition, the examination of the skewness and kurtosis of the independent variables found that the skewness was between −.58–.39 and the kurtosis was between −.73–.61, which were close to 0 and were within the criteria, with the skewness between −2 and +2 and the kurtosis between −7 and 7 (Hair et al., 2010). If it was within this range, it was considered acceptable that there was a normal distribution. The researcher analyzed the correlation between the independent variables and found that the values were between .07 and .54. It was also found that the workload variables, family influence, and peer influence had a non-significant relationship with the intention to resign.

Multiple Regression Result

The multiple regression analysis (Table 2 and Figure 3) with stepwise method revealed that pharmacists' intention to depart was influenced by three factors: Job security (b = –.279, t = –2.608, p < .01), job autonomy (b = −.569, t = −5.307, p < .001) and workload (b = .334, t = 2.861, p = .005). However, financial compensation had a statistically insignificant effect. The regression coefficient indicates that the intention to leave work will decrease as job security and autonomy increase. The intention to leave employment will also increase in response to the increased workload. Compensation, family influence, or friend influence did not influence the pharmacist's intention to resign from work. The variables in the multiple regression model were capable of accounting for 49.30 percent of the variance (F = 21.23, p < .001).

Testing Assumption Result

We verified the outlier values by testing the studentized residuals, finding the highest studentized residual value to be 2.89. This value was not statistically significant (Bonferroni p = .64), indicating that there was no outlier problem. The independent variables had VIF values ranging from 1.42 to 1.19, which is less than 5 (Belsley, 1993). The Q-Q plot indicated a significant distribution of scores around the axis, thereby supporting the assumption of a normal distribution for the residuals (Figure 4). The homoscedasticity chart evidences a constant distribution of the residual variance around the axis, suggesting no issue homoscedasticity in accordance with the statistical test outcomes that indicated no statistical significance (Chi-square = 1.599, p = .206).

Fs/QCA Result

The condition and solution for the intention to leave the job were analyzed using fuzzy set qualitative comparative analysis (Fs/QCA). To calibrate the data, we have chosen the values of .95, .50, and .05 as the three thresholds (or breakpoints). This will transform the data into the log-odds metric, with all values falling within the range of 0 to 1 (Ragin, 2008). The percentiles facilitate the calibration of any measure, regardless of its initial values. In detail, we determined the 95 percent, 50 percent and 5 percent of our measurements and applied these values as the three thresholds in the Fs/QCA software.

Table 2 Regression coefficient

Variables	Statistic values			95% CI			
	Unstandardized	Standard error	Standardized	t	p	Lower	Upper
(Intercept)	4.879	.489	-	9.973	< .001	3.911	5.846
JS	–.279	.107	–.210	–2.607	.010	–.492	–.067
FR	–.109	.086	–.102	–1.270	.207	–.279	.061
JA	–.569	.107	–.480	–5.307	< .001	–.781	–.357
WL	.334	.117	.202	2.861	.005	.103	.565
FA	.123	.070	.130	1.774	.078	–.014	.261
PE	–.055	.072	–.062	–.767	.444	–.197	.087
R^2 = .493, F = 21.230, p < .001							

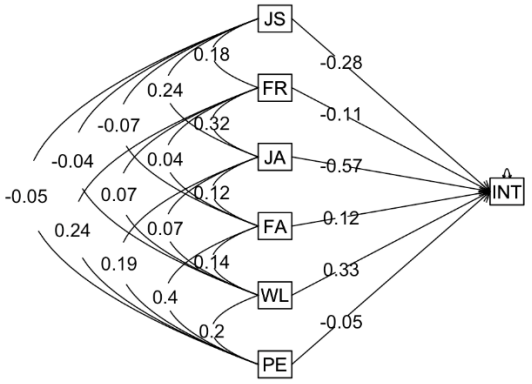


Figure 3 Regression model result

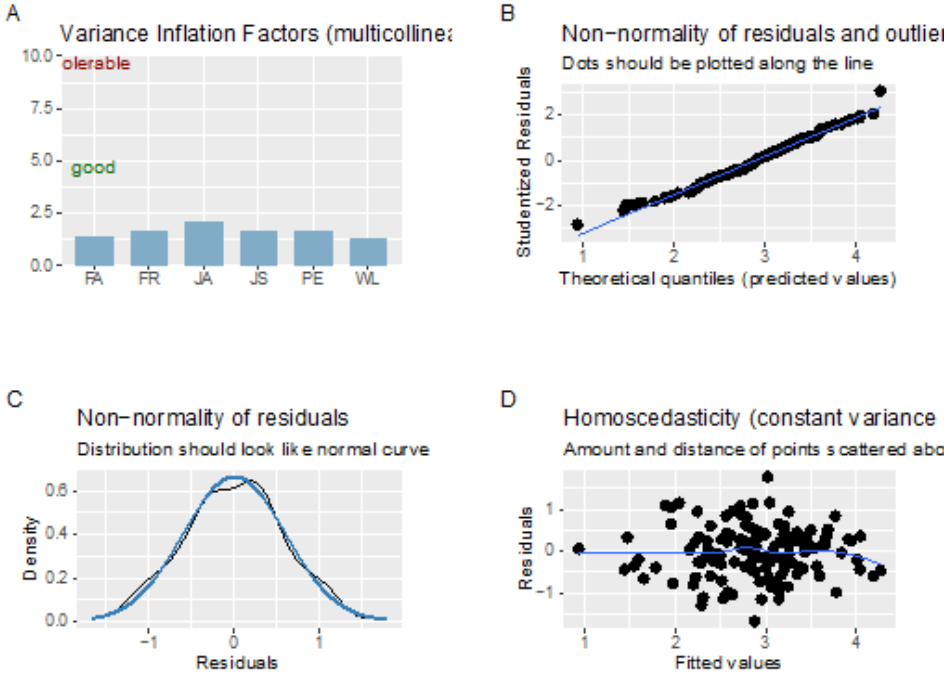


Figure 4 Testing assumption result

Necessary Conditional Analysis

The analysis of necessary conditions with singular conditions to determine whether these conditions are necessary conditions that cause intention to leave or not (Kytle, 2015). The researcher employed a consistency criterion of .9 or higher, and the coverage was greater than .75 (Legewie, 2013). From Table 3, it is evident that no condition will automatically trigger the intention to leave, but those conditions must be combined with other conditions. However, it was determined that the condition of job autonomy was the sole condition with a coverage value that exceeded the criterion. The consistency value was greater than .8, indicating that low job autonomy (~JAFZ) was the most severe condition that led to high job resignation intentions in this study.

Truth Table Analysis

The software generated truth tables that encompassed potential combinations in order to capture the combinations of conditions that influence a high intention to leave the position (Ragin, 2008). We employed the truth table analysis function of

Fs/QCA to identify the configurations of conditions that sufficiently produced a high intention to leave the job. Greckhamer et al. (2018) recommended adopting a frequency threshold of at least three cases and a consistency cut-off value of .9. We selected a threshold value of .9 due to the tradeoff between consistency and coverage (Ragin, 2006), as it demonstrated a more significant variety of solutions that accounted for a greater percentage of the cases containing the outcome. Nevertheless, this permits a minor degree of inconsistency. The outcome is typically produced by a configural of conditions, as indicated by the standard sufficiency consistency threshold of .8.

The parsimonious solution, based on simplifying assumptions, presents the most critical conditions that any solution must include. Fiss (2011) refers to these as "core conditions" and Fs/QCA automatically detects them. The investigation's findings were as follows:

The researcher determined the consistency threshold for eliminating cases to be 0.90 based on the truth table of the parsimonious solution in Figure 5. The analysis identified the cases with the lowest consistency value of .90. We identified conditions that could potentially influence pharmacists' intentions to resign from their positions. There is an overall solution consistency value of .82 and an overall solution coverage value of .81, which are considered sufficient for the sufficient condition, which encompasses both the presence and absence conditions (represented by a ~). The solution set comprises seven solutions. The five fundamental conditions were identified. It is evident that job insecurity (~JSFZ), lack of autonomy(~JAFZ), low financial remuneration (~FRFZ), heavy workload (WLFZ), and high family influence (FAMFZ) are the primary factors that contribute to a high willingness to resign. The table illustrates the text rewritten for greater simplicity of interpretation.

Table 3 Necessary conditional analysis

Conditions	Consistency	Coverage
JSFZ	.63	.58
~JSFZ	.73	.79
FRFZ	.51	.53
~FRFZ	.79	.75
JAFZ	.54	.56
~JAFZ	.83	.79
WLFZ	.72	.66
~WLFZ	.79	.66
FAMFZ	.60	.69
~FAMFZ	.73	.64
PEFZ	.63	.67
~PEFZ	.68	.67

```
--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 3
consistency cutoff: 0.901431
                          raw         unique
                         coverage    coverage   consistency
                         ----------  ---------- ----------
~JSFZ*~FRFZ              0.613879    0.0661796  0.864965
~JAFZ*FAMFZ              0.508108    0.0090577  0.920593
~FRFZ*FAMFZ              0.483126    0.0165084  0.85386
~FRFZ*~JAFZ*WLFZ         0.522863    0.0435354  0.922898
~JSFZ*~JAFZ*WLFZ         0.51103     0.0198684  0.918111
~JSFZ*JAFZ*~WLFZ         0.319942    0.00423664 0.861865
~JSFZ*~WLFZ*FAMFZ        0.348576    0          0.926242
solution coverage:       0.813879
solution consistency:    0.821076
```

Figure 5 Truth table of parsimonious solution

Table 4 suggests seven potential solutions to address pharmacists' high intention to leave government service: Solution 1: Employment opportunities with inadequate security (⊗JSFZ) and inadequate financial remuneration (⊗FRFZ). Solution 2: The work environment is characterized by a low degree of autonomy (⊗JAFZ) and a high degree of family influence (●FAMFZ). Solution 3: Low compensation (⊗FRFZ) and high family influence (●FAFZ). Solution 4: A low financial remuneration (⊗FRFZ), low job autonomy (⊗JAFZ) and high workload (●WLFZ). Solution 5: Jobs are with low security (⊗JSFZ), low job autonomy (⊗JAFZ), and high workload (●WLFZ). Solution 6: Jobs exhibit low security (⊗JS), high autonomy (●JAFZ), and low burden (⊗WLFZ). And, Solution 7: Jobs exhibit low security (⊗JSFZ), high familial influence (●FAMFZ), and low workload (⊗WLFZ).

It is evident that the solutions can account for individuals with high intentions to quit (86.19% to 92.62%) and those who quit between 31.99 percent and 58.42 percent (criterion > 40%) when both are consistent. When attempting to explain high turnover intentions, it is evident that solutions 1–5, particularly solutions 2, 4, and 5, exhibit high consistency and coverage.

Table 4 Parsimonious solution analysis result

Configuration	Solution						
	1	2	3	4	5	6	7
JSFZ	⊗				⊗	⊗	⊗
FRFZ	⊗		⊗	⊗			
JAFZ		⊗		⊗	⊗	●	
PEFZ							
FAMFZ		●	●				●
WLFZ				●	●	⊗	⊗

* Black circles "●" indicate the presence of a condition while the crossed-out circle "⊗" indicates the absence and blank indicates the don't care

The analysis yields three key conclusions (Table 4): 1) Financial remuneration is low when job security conditions are poor, regardless of whether job autonomy is high or low (solution 1). Regardless of the workload, we will observe a high level of intention to abandon work (solutions 5, 6 and 7). However, if employment security is not considered a critical factor, it was found that individuals with strong resigning intentions believed their job autonomy and compensation were insufficient (Solution 4), or their family had a significant influence on them (Solutions 2 and 3), even if they had nothing to do with job security and autonomy. The intention to resign will be high if the compensation is modest and there is a strong level of family influence (Solution 3).

Discussion

The results of the study found that from the multiple regression analysis, three factors influenced the intention to resign from work: Job security, job autonomy, and workload issues. The results of the Fs/QCA analysis found that there were five core conditions: 1) financial remuneration, 2) job security, 3) job autonomy, 4) workload issues, and 5) family influence. The five core conditions were composed of seven configurations to create sufficient conditions: 1) work with low job security and low financial remuneration (~JSFZ*~FRFZ), 2) work with low autonomy (⊗JA) and high family influence (~JAFZ*FAMFZ), 3) low financial remuneration (⊗FR) and high family influence (~FRFZ*FAMFZ), 4) low financial remuneration, low job autonomy, and high workload issues (~FRFZ*~JAFZ*WLFZ), 5) work with low job security, low job autonomy, and high workload (~JSFZ*~JAFZ*WLFZ), 6) Low job security, low job autonomy, and high workload issues (~JSFZ*JAFZ*~WLFZ), and 7) Low job security, low job load, but highly influenced by family (~JSFZ*~WLFZ*FAMFZ).

From the results of the multiple regression analysis, it was found that three external motivational factors, namely, job security, job autonomy and workload issues were factors that significantly affected the intention to resign from work. It can be seen that when there is more job security for employees in the organization, it results in job satisfaction, resulting in a decrease in the intention to resign (Sokhanvar et al., 2018). In addition, if the organization gives the authority to make decisions independently in the work, it allows personnel in the organization to learn and grow more in their work (Shalley & Gilson, 2004). This may reduce the intention to resign from work (Galletta et al., 2011). The research also found that increased workloads increased turnover intentions (Dwinijanti et al., 2020). Organizations should consider reducing the workload of pharmacists, which will reduce the chances of turnover. Personal, workload, financial compensation, family influence, and friend influence are factors that have a statistically insignificant effect on the intention to resign, which is different from the results of past studies (Dwinijanti et al., 2020). This may be because the intention to resign is related to the job and the work environment. If there are job stability and independence, and the organization has a good working environment, no stress, no conflict, and co-workers and supervisors are happy, even with a heavy workload, it will not affect the intention to resign (Siddiqi & Tangem, 2018). In terms of statistics, although monetary compensation is statistically significantly related to the intention to resign, as monetary compensation overlaps job security, it cannot explain the intention to resign further. Therefore, monetary compensation does not affect the intention to resign.

The results of the Fs/QCA analysis show that external motivation factors have high resignation intention conditions of pharmacists, including: 1) If job security conditions are low, the compensation is low, regardless of whether job autonomy is low or high, or the workload is high or low, it will result in high resignation intention. This is because a large workload will have a negative effect on the work, causing work stress (Zeytinoglu et al., 2007), which can cause job dissatisfaction, resulting in motivation to resign. 2) If it is not related to job security and job autonomy, it was found that if the compensation is low and highly influenced by the family, the resignation intention will be high. Financial compensation variables are an important factor in creating motivation to work in an organization. Income is important for human life. It can attract people to work in the organization and motivate employees to devote themselves to their work, making the organization credible, accepted, and successful (Hung et al., 2018). In addition, financial compensation is not just money. It must also be provided in non-monetary forms, such as holidays and vacations, to allow employees to relax from work and foster a creative perspective to improve work for the organization (Hung et al., 2018). When employees receive these things until they are satisfied with their jobs, they will not think of looking for a new job but will stay in the organization. 3) Family support is considered to have a positive impact on work roles (Lee et al., 2011), in which it has an indirect effect on turnover intention through job satisfaction (Zhang et al., 2020). In addition, family support also plays a negative role in organizational efficiency and perception of organizational support. Family stress and work stress were found to be important causes in turnover intention (Gali Cinamon et al., 2007). However, we cannot control family factors, while other variables can be controlled. Therefore, appropriate compensation must be provided, motivating employees to

achieve job satisfaction. At the same time, freedom must be given to work, because one condition found that turnover intention is high. If low compensation is combined with high family influence, it is easy for personnel in the organization to resign.

Conclusion

MRA and Fs/QCA analyses (Table 5) concur that job security, autonomy, and workload concerns propel pharmacists with a strong intention to resign. The MRA results indicated that diminished job security and autonomy, coupled with elevated workload, heightened inclinations to resign. Nevertheless, Fs/QCA research yields complex information and identifies five main factors that enhance resignation intention, integrated into seven solutions. From all seven solutions, low job security, low autonomy, and low pay lead to resignation. Regardless of employment independence and workload, low job security increases resignation intention. Low work security, autonomy, or income will make people with significant family influence want to quit. When job stability, remuneration, and independence are low, high workload will lead to high resignation intentions for pharmacists, but friend influence will not.

Thus, the Ministry of Public Health must recognize pharmacists' importance in performing their duties, by promoting and supporting career development, improving the organization's working environment, and providing appropriate financial compensation. Various activities must bind together to build strong relationships so pharmacists may support locals consistently and adequately.

Recommendation

Recommendation for Applying the Research Results

The following implementation suggestions come from our study: 1) Low job security is a crucial factor in creating high resignation intentions in hospitals and the Ministry of Public Health. Executives need job security policies, especially for permanent employees and government officials who are not yet civil servants. The hospital and ministry must have a salary framework and civil servant recruitment policies. Pharmacy workers should feel secure in their jobs. 2) Civil servants, who have job security, must have freedom to make decisions within their authority and consider financial compensation that will keep up with rising costs. If there is no job security or autonomy, even a simple task will lead to significant resignation rates. Thus, all pharmacists need work stability and freedom.

Recommendation for Future Research

The study of causal factors by integrating multiple regression analysis with fuss set qualitative comparative analysis allows us to understand the sufficient conditions for high turnover intentions leading to turnover. However, this study used only external motivation variables, resulting in factors or conditions that do not cover the motivation theory that states that turnover or retention in an organization is caused by internal and external motivation factors. To cover the theory and lead to practice, the study should expand the scope to cover the internal motivation factors of the original pharmacist population or expand the scope to other civil servants in the same context to see the main conditions and sufficient conditions that may be different or the same. The research results will lead to new knowledge and appropriate practice for the population.

Table 5 Summary of the results of the multiple regression analysis and Fs/QCA analysis

Variables	MRA	Fs/QCA	
	Significant factors	Core conditions	Sufficient Conditions
JS	✓	✓	1) low JS and low FR
FR		✓	2) low JS and low JA
JA	✓	✓	3) low FR and low FAM
WL	✓	✓	4) low FR, low JA and low WL
FA		✓	5) low JS, low JA and high WL
PE			6) low JS, high JA and low WL
			7) low JS, high FA and low WL

Conflict of Interest

The authors declare that there is no conflict of interest.

References

Abeysekera, R. (2007). The impact of human resource management practices on marketing executive turnover of leasing companies in Sri Lanka. *Contemporary Management Research*, *3*(3), 233–252. https://doi.org/10.7903/cmr.94

Agustine, T. D., & Nawangsari, L. C. (2020). The effect of compensation and workloads towards intention of turnover with work satisfaction as a variable mediation in clinic employees of PT Nayaka Era Husada Branch of Bekasi. *International Journal of Innovative Science and Research Technology*, *5*(7), 1304–1312. https://doi.org/10.38124/ijisrt20jul714

Akosah-Twumasi, P., Emeto, T. I., Lindsay, D., Tsey, K., & Malau-Aduli, B. S. (2018). A systematic review of factors that influence youths career choices the role of culture. *Frontiers in Education*, *3*, 58. https://doi.org/10.3389/feduc.2018.00058

Akpan, C. P. (2013). Job security and job satisfaction as determinants of organizational commitment among university teachers in cross river state, Nigeria. *British Journal of Education*, *1*(2), 82–93. https://eajournals.org/bje/vol-1-issue-2-december-2013/job-security-job-satisfaction-determinants-organizational-commitment-among-university-teachers-cross-river-state-nigeria-2/

Alavi, S. M., Kia-Keating, M., & Nerenberg, C. (2023). Secondary traumatic stress and burnout in health care providers: A post-disaster study. *Teaumatogy*, *29*(3), 389–401. http://doi.org/10.1037/trm0000418

Bandhanpreet, K., Mohindru, A., & Pankaj, M. (2013). Antecedents of turnover intentions: A literature review. *Global Journal of Management and Business Studies*, *3*(10), 1219–1230.

Belsley, D. A. (1993). Conditioning diagnostics collinearity and weak data in regression. *Journal-Operational Research Society*, *44*, 88. https://doi.org/10.1057/jors.1993.11

Budhiarti, A. A., & Riyanto, S. (2022). The effect of burnout, workload and perceived organizational politic on turnover intention for coal and mineral company employees in Indonesia. *Journal Research of Social, Science, Economics and Management*, *1*(6), 621–634. https://doi.org/10.59141/jrssem.v1i6.236

Busari, A. H., Mughal, Y. H., Khan, S. N., Rasool, S., & Kiyani, A. A. (2017). Analytical cognitive style moderation on promotion and turnover intention. *Journal of Management Development*, *36*(3), 438–464. https://doi.org/10.1108/JMD-12-2015-0184

Cleavenger, D. L., & Munyon, T. P. (2013). It's how you frame it: Transformational leadership and the meaning of work. *Business Horizons*, *56*(3), 351–360. https://doi.org/10.1016/j.bushor.2013.01.002

Dessler, G., Cole, N. D., & Chhinzer, N. (2015). *Management of human resource: The essentials*. Pearson London.

Downing, S. M. (2006). Twelve steps for effective test development. In S. M. Downing, & T. M. Haladyna (Eds.), *Handbook of test development* (pp. 3–25). Lawrence Erlbaum Associates Publishers.

Dwinijanti, L., Adhikara, M. A., & Kusumapradja, R. (2020). Job satisfaction and turnover intention among public sector nurses: Is workload and burnout the issue? *Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, *17*(1), 67–77. https://doi.org/10.31106/jema.v17i1.4951

Falahat, M., Kit, G. S., & Min, L. C. (2019). A model for turnover intention: Banking industry in Malaysia. *Asian Academy of Management Journal*, *24*, 79–91. https://doi.org/10.21315/aamj2019.24.s2.6

Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organization research. *Academy of Management Journal*, *54*(2), 393–420. https://doi.org/10.5465/amj.2011.60263120

Gali Cinamon, R., Weisel, A., & Tzuk, K. (2007). Work-family conflict within the family: Crossover effects, perceived parent-child interaction quality, parental self-efficacy, and life role attributions. *Journal of Career Development*, *34*(1), 79–100. https://doi.org/10.1177/0894845307304066

Galletta, M., Portoghese, I., & Battistelli, A. (2011). Intrinsic motivation, job autonomy and turnover intention in the Italian healthcare: The mediating role of affective commitment. *Journal of Management Research*, *3*(2), 1–19. https://doi:10.5296/jmr.v3i2.619

Giancola, F. L. (2014). Should HR professionals devote more time to intrinsic rewards? *Compensation & Benefits Review*, *46*(1), 25–31. https://doi.org/10.1177/0886368714537446

Gopalan, V., Bakar, J. A. A., Zulkifli, A. N., Alwi, A., & Mat, R. C. (2017). A review of the motivation theories in learning. *AIP Conference Proceedings*, *1891*, 020043. https://doi.org/10.1063/1.5005376

Greckhamer, T., Furnari, S., Fiss, P. C., & Aguilera, R. V. (2018). Studying configurations with qualitative comparative analysis: Best practices in strategy and organization research. *Strategic Organization*, *16*(4), 482–495. https://doi.org/10.1177/1476127018786487

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2019). *Multivariate data analysis* (8th ed.). Annalbel Ainscow.

Hair, P. S., Gronemus, J. Q., Crawford, K. B., Salvi, V. P., Cunnion, K. M., Thielens, N. M., Arlaud, G. J., Rawal, N., & Krishna, N. K. (2010). Human astrovirus coat protein binds C1q and MBL and inhibits the classical and lectin pathways of complement activation. *Molecular Immunology*, *47*, 729–798. http://doi.org/10.1016/j.molimm.2009.10.006

Howard, J. J. (2024). *The relationships of perceived supervisor and peer support on job embeddedness and turnover intent in special operations post Covid-19* [Doctoral Dissertation, Liberty University]. https://digitalcommons.liberty.edu/doctoral/5186

Hung, L. M., Lee, Y. S., & Lee, D. C. (2018). The moderating effects of salary satisfaction and working pressure on the organizational climate, organizational commitment to turnover intention. *International Journal of Business and Society*, *19*(1), 103–116. http://www.ijbs.unimas.my/images/repository/pdf/Vol19-no1-paper8.pdf

Kraimer, M. L., Wayne, S. J., Liden, R. C., & Sparrowe, R. T. (2005). The role of job security in understanding the relationship between employees' perceptions of temporary workers and employees' performance. *Journal of Applied Psychology*, *90*(2), 389–398. https://doi.org/10.1037/0021-9010.90.2.389

Kytle, E. J. (2015). Necessary courage: Iowa's underground railroad in the struggle against slavery. *Journal of the lllinois State Historical Society*, *108*(2), 184. https://repository.lsu.edu/cwbr/vol16/iss3/18

Lavoie-Tremblay, M., Leclerc, E. Marchionni, C., & Drevniok, U. (2010). The needs and expectations of generation Y nurses in the workplace. *Journal for Nurses in Staff Development*, *26*(1), 2–8. https://doi.org/10.1097/NND.0b013e3181a68951

Lee, E. S., Chang, J. Y., & Kim, H. (2011). The work-family interface in Korea: Can family life enrich work life? *The International Journal of Human Resource Management*, *22*(9), 2032–2053. https://doi.org/10.1080/09585192.2011.573976

Legewie, N. (2013). An introduction to applied data analysis with qualitative comparative analysis. *Forum: Qualitative Social Research*, *14*(3). https://www.researchgate.net/publication/291177551_An_introduction_to_applied_data_analysis_with_qualitative_comparative_analysis_QCA

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., & Urdan, T. (2000). *Manual for the patterns of adaptive learning scales* (pp. 734–763). University of Michigan. https://public.websites.umich.edu/~pals/PALS%202000_V13Word97.pdf

Mobley, Williamm H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin, 86*(3), 493–522. https://doi.org/10.1037/0033-2909.86.3.493

Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321

Nadeem, K., Khan, M. A., Imtiaz, N., & Iftikhar, Y. (2019). Turnover intention and perceived organizational support, mediating role of work engagement and organizational commitment. *European Scientific Journal*, *15*(10), 222–236. http://dx.doi.org/10.19044/esj.2019.v15n10p222

Oldham, G. R., Kulik, C. T., Stepina, L. P., & Ambrose, M. L. (1986). Relations between situational factors and the comparative referents used by employees. *Academy of Management Journal*, *29*(3), 599–608. https://doi.org/10.2307/256226

Probst, T. M. (2003). Development and validation of the job security index and the job security satisfaction scale: A classical test theory and IRT approach. *Journal of Occupational and Organizational Psychology*, *76*(4), 451–467. https://doi.org/10.1348/096317903322591587

Ragin, C. C. (2000). Fuzzy-set social science. The University of Chicago Press.

Ragin, C. C. (2006). Set relations in social research: Evaluating their consistency and coverage. *Political Analysis*, *14*(3), 291–310. https://doi.org/10.1093/pan/mpj019

Ragin, C. C. (2008). Redesigning social inquiry: Fuzzy sets and beyond. University of Chicago Press. https://doi.org/10.7208/chicago/9780226702797.001.0001

Rani, C., Kaur, R., & Geol, P. (2022). Work-Life balance of nurses and its antecedents: A systematic literature review. *Orissa Journal of Commerce*, *43*(2). https://doi.org/10.54063/ojc.2022.v43i02.

Richter, N. F., Hauff, S., Ringle, C. M., & Gudergan, S. P. (2022). The use of partial least squares structural equation modeling and complementary methods in international management research. *Management International Review*, *62*(4), 449–470. https://doi.org/10.1007/s11575-022-00475-0

Richter, N. F., Schubring, S., Hauff, S., Ringle, C. M., & Sarstedt, M. (2020). When predictors of outcomes are necessary: Guidelines for the combined use of PLS-SEM and NCA. *Industrial Management & Data Systems*, *120*(12), 2243–2267. https://doi.org/10.1108/IMDS-11-2019-0638.

Roodt, G. (2004). *Turnover intentions*. Unpublished document. Johannesburg: University of Johannesburg.

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, *15*(1), 33–53. https://doi.org/10.1016/j.leaqua.2003.12.004

Shorey, S., & Wong, P. Z. E. (2021). A qualitative systematic review on nurses' experiences of workplace bullying and implications for nursing practice. *Journal of Advanced Nursing*, *77*(11), 4306–4320. https://doi.org/10.1111/jan.14912

Siddiqi, T., & Tangem, S. (2018). Impact of work environment, compensation, and motivation on the performance of employees in the insurance companies of Bangladesh. *South East Asia Journal Of Contemporary Business, Economics and Law*, *15*(5), 153–162. https://seajbel.com/wp-content/uploads/2018/06/seajbel-215.pdf

Sokhanvar, M., Kakemam, E., Chegini, Z., & Sarbakhsh, P. (2018). Hospital nurses' job security and turnover intention and factors contributing to their turnover intention: a cross-sectional study. *Nursing and Midwifery Studies*, *7*(3), 133–140. https://doi.org/10.4103/nms.nms_2_17

Van Schalkwyk, S., Du Toit, D. H., Bothma, A. S., & Rothmann, S. (2010). Job insecurity, leadership empowerment behaviour, employee engagement and intention to leave in a petrochemical laboratory. *SA Journal of Human Resource Management*, *8*(1), 1–7. https://doi.org/10.4102/sajhrm.v8i1.234

Vui-Yee, K., & Yen-Hwa, T. (2020). When does ostracism lead to turnover intention? The moderated mediation model of job stress and job autonomy. *IIBM Management Review*, *32*(3), 238–248. https://doi.org/10.1016/j.iimb.2019.10.007

World Health Organization. (2006). Working together for Health: World health report 2006. *World Health*, *19*(3), 237. https://www.who.int/publications/i/item/9241563176

Zeytinoglu, I. U., Denton, M., Davies, S., Baumann, A., Blythe, J., & Boos, L. (2007). Deteriorated external work environment, heavy workload and nurses' job satisfaction and turnover intention. *Canadian Public Policy, 33*(Supplement 1), S31–S47. https://doi.org/10.3138/0560-6GV2-G326-76PT

Zhang, M., Foley, S., Li, H., & Zhu, J. (2020). Social support, work-family balance and satisfaction among Chinese middle and upper-level managers: Testing cross-domain and within domain effects. *The International Journal of Human Resource Management*, *31*(21), 2714–2736. https://doi.org/10.1080/09585192.2018.1464490