

Altruism and Primary Healthcare Workers' Job Satisfaction: Findings from Central Vietnam

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Abstract

To achieve the Sustainable Development Goals, particularly to promote healthy living and well-being for all ages, we must ensure a high quality of healthcare services at primary facilities. However, the shortage of healthcare workers in primary facilities is a problem in many countries, including Vietnam. Despite concerns about the low job satisfaction of health workers and value of altruism in this field, no existing research has thus far addressed its effect on job satisfaction. This study thus contributes to the body of knowledge on healthcare workers' job satisfaction by observing the role of altruism.

We conducted a quantitative analysis by using data collected from healthcare workers employed at primary facilities in central Vietnam in 2014. The survey administered to healthcare workers (n=241) included a hypothetical dictator game questionnaire to elicit their level of altruism. We then used an ordered probit model to examine the factors associated with healthcare workers' job satisfaction, focusing particularly on altruism by controlling for both individual-level attributes and the condition of their workplaces.

We found that a higher level of altruism is associated with lower job satisfaction. Further analysis revealed that more altruistic workers are also likely to have a stricter self-evaluation of healthcare quality, including the availability of drugs. Altruistic healthcare workers may be frustrated when working in environments in which resources are constrained and workers cannot perform to their full ability despite a wish to help others.

Keywords: healthcare workers' job satisfaction, altruism, human resource management, SDGs

1. Introduction

In 2015, many countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). These SDGs place importance on ameliorating people's health, with human resource management in primary healthcare facilities crucial in two ways in the context of the present study. Firstly, Goal 3 of the SDGs targets an improvement in maternal and child health, as well as the provision of preventative medicine, including vaccinations at primary healthcare facilities (United Nations. n.d.). Secondly, as declared in the Alma Ata Declaration in 1978, primary healthcare facilities not only provide healthcare, but also discover and define health problems and needs, develop solutions, and implement and evaluate interventions in local communities. In this regard, the active involvement of primary healthcare facilities in the community can improve people's quality of life (Gerhardt, 1994).

Despite this, the shortage of healthcare workers in primary facilities is a problem in many countries, including Vietnam. The public health system in Vietnam is well regulated, with 44 national hospitals, 476 provincial hospitals, 1,319 district hospitals, and 10,926 commune health stations (CHSs). These CHSs play a central role in delivering primary care services, covering 99% of communes including rural and mountainous areas (WHO and the Ministry of Health Viet Nam, 2012). However, CHSs face substantial staff shortages, which prevents

them from providing high-quality healthcare services. Hence, urgent improvement is required. The government is aware of the importance of strengthening the capacity of primary care services, and human resource management at CHSs has improved through rigorous policy intervention, particularly since 2013, such as increasing the number of medical staff from socioeconomically disadvantaged areas, regulating temporary secondment for medical staff, and sending young voluntary doctors to remote areas (Ministry of Health and Health Partnership Group, 2016). Nonetheless, the general shortage of healthcare workers, particularly doctors, remains a serious issue. Indeed, only 76% of CHSs had doctors in 2012 (Ministry of Health and Health Partnership Group, 2016).

Research on the human resource management of healthcare workers, which generally focuses on nurses, identifies higher job satisfaction as the main predictor of not leaving their job (Hayes et al., 2012). In Vietnam, limited research has examined healthcare workers' job satisfaction, the findings suggest that job satisfaction is low because of insufficient salaries and benefits, poor facilities and equipment, and a lack of professional development opportunities (Tran, Van, & Hinh, 2013; Nguen, Duong, & Vu, 2016). These findings concur with the results of studies conducted in other developing countries such as Uganda (Luboga, Hagopian, Ndiku, Bancroft, & McQuide, 2011), Senegal (Rouleau, Fournier, Philibert, Mbengue, & Dumont, 2012), Tanzania (Mbaruku, Larson, Kimweri, & Kruk., 2014), Afghanistan, Malawi (Fogarty et al., 2014), and Ghana (Bonemberger, Aikins, Akweongo, & Wyss, 2014).

Based on the foregoing, this study investigates the factors associated with healthcare workers' job satisfaction by taking into account both individual attributes and the condition of their workplaces (i.e., CHSs). In particular, the contribution of this study is the exploration of the relationship between healthcare workers' altruism and job satisfaction in CHSs. Despite the importance of altruism among healthcare workers (Thompson, Melia, & Boyd I, 1994) and desire to help others being the most common motivation to pursue a nursing career, studies focusing on altruism are inexplicably limited. For example, after reviewing 100 studies of job satisfaction among hospital nurses published between 1966 and 2011, although Lu, Barriball, Louse, Zhang, and White (2012) did show that 'positive affectivity' is linked to job satisfaction, the authors did not specifically refer to altruism.

To the best of the current authors' knowledge, only two studies have observed the role of altruism in this context, namely a qualitative study in Iran (Nasrabadi, Nikbakht, Dibaji, & Forough, 2015) and a small study in India (Gopalan, Satyanarayan, & Ashis, 2012), both of which suggested a positive correlation between altruism and job satisfaction and healthcare workers' motivation. Hence, although the effect of altruism on workers' job satisfaction has long been neglected, it is intriguing and necessary to question how altruism relates to the job satisfaction of healthcare workers.

To analyse CHS job satisfaction in Vietnam, the current research surveyed healthcare workers in three provinces in central Vietnam in 2014. In particular, this survey included a hypothetical dictator game questionnaire to elicit measures reflecting altruism, which the literature has treated as an unobservable factor. By using the data obtained from these surveys, we performed a quantitative analysis to reveal the association between healthcare workers' job satisfaction and altruism, as well as other individual attributes. Such findings are relevant for increasing our understanding of the factors influencing healthcare workers' job satisfaction both in and outside of Vietnam.

2. Method

2.1 Study Setting

In 2014, in affiliation with the Hue University of Medicine and Pharmacy, the authors conducted a field survey in three provinces in central Vietnam: Thua Thien Hue, Quang Tri, and Khanh Hoa. For the data collection, we purposefully chose three districts in Thua Thien Hue and Quang Tri and two districts in Khanh Hoa to include both urban and rural settings (including lowland and highland areas). The central region of Vietnam stretches narrowly from coastal to mountainous areas and has diverse agroclimatic conditions because of its geographical features. Hence, the sample can be considered representative of these three provinces.

In each province, we obtained a list of CHSs from the Provincial Health Department and randomly selected several CHSs in each district. Specifically, we selected six CHSs in the city, coastal, and mountainous districts of Thua Thien Hue, six CHSs in the city district and four CHSs in the lowland and highland districts of Quang Tri, and 10 CHSs in the city district and eight CHSs in the rural district of Khanh Hoa. We thus identified a total of 50 CHSs for the field survey.

On the day of the interview, 36 of the 311 healthcare workers were absent because of official duties and authorised leave. Hence, we collected data from 275 workers. We then excluded administrative staff from the

main sample, which left 243 healthcare workers belonging to the 50 CHSs. Among these, we limited the sample to the 241 responses that included all the variables necessary for the analysis. We interviewed healthcare workers to understand their job satisfaction and other individual characteristics and measured their levels of altruism. Finally, we also collected information on CHS characteristics, including supply capacity and facilities

2.2 Altruism and the Administration Process

2.2.1 Measurement of Altruism

Psychology, sociology, and economics researchers have described altruism according to their various disciplines (Gormley, 1996). However, the current study does not distinguish these various definitions of altruism and instead treats the term as expressing a regard for others as a principle for action. We measure altruism based on participants' responses to a hypothetical question in an exercise called the dictator game. This game is played between Player 1, the dictator (health worker), and Player 2, a randomly selected participant from Vietnam. Both players are blinded to one another's identity. To begin the game, Player 1 receives 200,000 Vietnam Dong (equivalent to approximately 10 US dollars) as an endowment. Player 1 then decides how much he or she wants to keep and how much to send to Player 2. Player 1 can send any amount between 0 and 200,000 Dong to Player 2, and that amount is then automatically doubled so that Player 2 receives whatever amount contributed by Player 1 multiplied by two, plus an additional contribution of 30,000 Dong given by the project staff. The voluntary transferred amounts are, in general, interpreted as measures of altruism, assuming there is no self-involved reason for the first player to transfer money to the second player.

2.2.2 Administration Process

We conducted the hypothetical dictator game during the interview part of this study. We explained the aforementioned rules of the dictator game to respondents (healthcare workers) and assigned them the role of Player 1. We also reminded participants about their anonymity in the game and kept the rules simple to avoid confusion. The data obtained from the game involved the amount of money that each respondent was willing to give to those assigned the role of Player 2, and we used this amount as the altruism measurement in the analysis.

2.3 Data and Empirical Analysis

2.3.1 Healthcare Workers' Job Satisfaction

To analyse healthcare workers' job satisfaction, we adopted an ordered probit model. We elicited workers' job satisfaction by posing the following question about their overall satisfaction: To what extent are you satisfied with your overall work for the CHS? Respondents answered on a five-point Likert scale: 1 = Very satisfied, 2 = Satisfied, 3 = Mostly satisfied, 4 = Dissatisfied, and 5 = Very dissatisfied. For the analysis, we reversed the numbers (5 = Very satisfied to 1 = Very dissatisfied). None of the participants responded with 'Very dissatisfied' and the median choice was '4 = Satisfied' (see Table 1).

2.3.2 Explanatory Variables: Individual Attributes

2.3.2.1 Altruism

In the literature, the working environment is often the focus used to understand healthcare workers' job satisfaction, while individual attributes (particularly altruism) are not included as explanatory variables. This is partly due to the difficulty observing such attributes. However, the amount reported in the dictator game enabled us to include altruism as a variable. Among our participants, the most frequently reported amount was 100,000 Dong, accounting for 32.95% of all respondents, followed by 200,000 Dong (23.26%), 50,000 Dong (20.93%), and 0 Dong (6.59%). According to the summary statistics, over 60% of the interviewed healthcare workers transferred half the amount of money or more. For the estimation, we applied the logarithmic value of this altruism measure to treat healthcare workers who answered 0 for the transfer amount. The calculation was as follows: $\log(\text{altruism} + (\text{altruism}^2 + 1)^{1/2})$ (see Table 1).

2.3.2.2 Sociodemographic Information and Qualifications

In addition to the variable of interest, we controlled for sociodemographic information by including individual characteristics such as age, sex, educational attainment, marital status, number of children, years employed at the CHS, whether he/she is the CHS head, and whether he/she is from the same commune as the CHS. We used information on participants' hometowns to explore whether healthcare workers' job satisfaction was related to whether they work at a CHS located in their hometown. We also included professional qualifications in the regression model as explanatory variables to determine whether there are any differences in satisfaction and desire to transfer by qualification level (doctor, assistant doctor, nurse, auxiliary nurse, pharmacist, midwife). Table 1 presents the summary statistics.

2.3.3 Explanatory Variables: Working Environment

As the literature has explored, the working environment is an important factor in determining workers' job satisfaction. The current study's analysis included salary, a dummy variable of training provided at the CHS (1: provided, 0: not provided), and a dummy variable of overtime worked at the CHS (1: hours worked at the CHS during the last week exceeded 40 hours, 0: otherwise). In addition to salary, the research included responses to whether one's main difficulties in working at this CHS are limited to salaries. Additionally, we included the CHS characteristics of supply capacity and infrastructure, such as the number of healthcare workers per 1,000 people, number of beds per 1,000 people, and the existence of necessary facilities (e.g., refrigerators and electric generators). The regression model further included community population and dummy variables for district characteristics (city, lowland, and mountain) to control for the fixed effect of each district.

Table 1. Summary statistics

Variable	Mean	Std. Dev.	Min	Max
Dependent variables				
Overall satisfaction	3.913	0.681	2	5
Explanatory variables: Individual characteristics				
Log of altruism	16.798	5.264	0	21.203
Age	38.527	9.634	21	59
Age squared	1576.751	740.372	441	3481
Male	0.237	0.426	0	1
Education: secondary school	0.071	0.257	0	1
Education: vocational training	0.627	0.485	0	1
Education: college, university or over	0.299	0.459	0	1
Marital status (1: married 0: otherwise)	0.809	0.394	0	1
Number of children	1.017	3.198	0	6
Years worked at the CHS	12.282	9.472	0.3	44
Head of CHS	0.203	0.403	0	1
From the same community as the CHS	0.568	0.497	0	1
Qualification: Medical doctor	0.202	0.402	0	1
Qualification: Assistant doctor	0.266	0.443	0	1
Qualification: Nurse	0.068	0.252	0	1
Qualification: Auxiliary nurse	0.104	0.306	0	1
Qualification: Pharmacist	0.078	0.269	0	1
Qualification: Midwife	0.266	0.443	0	1
Explanatory variables: Working environment				
Log of wage	8.410	0.366	7.090	9.241
Main difficulties in working at the CHS is limited salaries	0.680	0.467	0	1
Training provided at work (1: provided, 0: not provided)	0.834	0.373	0	1
Hours worked (attending patients) at the CHS (last week) is longer than 40 hours	0.166	0.373	0	1
Number of health workers at the CHS per 1,000 community population	6.427	1.334	4	10
Number of bed per 1,000 community population	1.079	1.635	0.042	8.214
Having refrigerator at the CHS	0.676	0.469	0	1

Having electric generator at the CHS	0.162	0.369	0	1
Log of community population	9.002	0.796	6.881	10.069
District dummy: Lowland district	0.295	0.457	0	1
District dummy: Mountain district	0.278	0.449	0	1
District dummy: City district	0.427	0.496	0	1
Provincial dummy: Thua Thien Hue	0.328	0.470	0	1
Provincial dummy: Quang Tri	0.257	0.438	0	1
Provincial dummy: Khanh Hoa	0.407	0.492	0	1

3. Results

As shown in Table 2, we identified the coefficients of the results of the ordered probit model to demonstrate the relationships with the explanatory variables. Firstly, altruism is negatively associated with overall job satisfaction, and statistically significant at the 1% level. This finding implies that among healthcare workers, the higher the altruism level, the lower is job satisfaction.

Secondly, most of the individual characteristics do not correlate with job satisfaction. These include age, sex, marital status, number of children, and whether he/she is from the same community as the CHS location. Further, years employed at the CHS are not associated with satisfaction. On the contrary, assistant doctors, midwives, and pharmacists tend to have higher levels of job satisfaction than medical doctors. Additionally, those who attended vocational school or obtained an education at the college or university (or higher) level are less satisfied than secondary-educated workers.

According to the research data, workers who have undergone vocational training and secondary education appear to share the same job position, as they mainly serve as assistant doctors and nurses. These results indicate that workers with vocational training are dissatisfied because their job rank does not match their qualifications, preventing them from performing to their full ability. In addition, workers holding college, university, or higher educational qualifications are less satisfied compared with those with secondary education backgrounds. Healthcare workers that have a higher level of education may be dissatisfied with the limitations imposed by the CHS as they are unable to provide remedial care given the lack of equipment required to treat patients; only primary healthcare is provided at the CHS and many healthcare workers may find this restrictive and frustrating.

Thirdly, few of the environmental variables show a statistically significant relationship with job satisfaction apart from workers' subjective evaluation of their salary. Healthcare workers who identify salary limitations as the main difficulty in working at the CHS are more likely to be dissatisfied with their jobs. Despite this finding, the salary they receive is not associated with job satisfaction. Although further analysis is required, this is may be because the salaries of healthcare workers in Vietnam are uniformly established based on age and professional qualifications, while any subjective evaluation of salary is also determined by the existence of other income sources such as allowance payments, profit shares, informal payments, and earnings from other jobs.

Table 2. Healthcare workers' overall job satisfaction

Overall satisfaction (5= Very satisfied - 2= Dissatisfied)		Coefficient
Individual characteristics		
Log of altruism		-0.0364*** (0.0141)
Age		0.066 (0.0957)
Age squared		-0.001 (0.0012)
Male		-0.043 (0.2040)
Education: vocational training (Ref: Secondary education)		-0.648** (0.306)

Education: college, university or over (Ref: Secondary education)	-0.645*
	(0.388)
Marital status	0.0272
	(0.241)
Number of children	0.0029
	(0.117)
Years worked at the CHS	-0.00153
	(0.013)
Head of CHS	0.140
	(0.2430)
From the same community as the CHS	-0.198
	(0.2110)
Qualification: Assistant doctor (Ref: Doctor)	1.028***
	(0.3370)
Qualification: Nurse (Ref: Doctor)	0.496
	(0.4270)
Qualification: Auxiliary nurse (Ref: Doctor)	0.692*
	(0.3640)
Qualification: Pharmacist (Ref: Doctor)	0.937**
	(0.4050)
Qualification: Midwife (Ref: Doctor)	0.802**
	(0.3290)
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Explanatory variables: Working environment	
Log of wage	0.303
	(0.4460)
Main difficulties in working at the CHS is limited salaries	-0.547***
	(0.1850)
	-0.156
Training provided at work (1: provided, 0: not provided)	(0.2600)
Hours worked (attending patients) at the CHS (last week) is longer than 40 hours	-0.0467
	(0.2150)
Number of health workers at CHS per 1,000 community population	0.005
	(0.0659)
Number of bed per 1,000 community population	-0.002
	(0.0858)
Having refrigerator at CHS	-0.040
	(0.1970)
Having electric generator	-0.0035
	(0.2800)
Log of community population	0.058
	(0.2130)
District dummy: Lowland district (Ref: City district)	-0.186
	(0.2210)
District dummy: Mountain district (Ref: City district)	0.0587
	(0.3280)
Provincial dummy: Thua Thien Hue (Ref: Khanh Hoa province)	0.2740
	(0.3120)
Provincial dummy: Quang Tri (Ref: Khanh Hoa province)	0.2990
	(0.2310)
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Constant cut1	0.7080
	(4.1250)
Constant cut2	1.9240

Constant cut3	(4.1040) 4.0380 (4.1090)
Number of observations	241
Log pseudolikelihood	-212.204

Standard errors are adjusted for 50 clusters at community level.

*** p<0.01, ** p<0.05, * p<0.1

4. Discussion

The results of this research present the striking result that a higher level of altruism is associated with lower job satisfaction. Such a result contradicts the findings of the qualitative study conducted in Iran (Nasrabadi et al., 2015) and the study in India (Gopalan et al., 2012), as both found that altruism positively affects job satisfaction. Therefore, it is important to question why this contradiction occurs. According to Witter, Ha, Shengalia, and Vujicic (2011), doctors in Vietnam often express their frustration towards working in environments where resources are constrained. Under this assumption, the current research hypothesises that more altruistic healthcare workers are less satisfied with the healthcare quality provided by the CHS in which they work. To test this hypothesis, we conducted further analyses by using more specific job satisfaction measurements and evaluating the healthcare quality offered at the sampled CHSs. To achieve this, we used the same analytical model as in the main analysis, incorporating the following dependent variables: satisfaction with the availability of drug items at the CHS, satisfaction with the staff at the CHS, and evaluation of the improvements to the quality of the health services provided at the CHS over the past two years. We incorporated satisfaction with the availability of drugs as a proxy measurement of healthcare quality because in the current study area, the CHS plays a central role in providing medicine to patients, particularly those in rural settings.

Table 3. Healthcare workers' job satisfaction

	Satisfaction (availability of drug items)	Satisfaction (the staff)	Improvement
	Mean 3.481, STDEV: 0.958, Min:1 Max:5	Mean 4.155, STDEV: 0.748, Min:1 Max:5	Mean 4.46, STDEV: 0.693, Min:2 Max:5
	(5= Very satisfied - 2= Dissatisfied)		(5=Much improved -1=Much deteriorated)
Altruism	-0.0274*	-0.019	-0.0340*
Log of altruism	(0.0150)	(0.0150)	(0.0197)
Observation:	241	241	235

Same covariates with the main analysis are included in the analysis. Whole results are provided upon request.

Standard errors are adjusted for 50 clusters at community level.

*** p<0.01, ** p<0.05, * p<0.1

As Table 3 shows, at the significance level of 10%, the altruism measurement is negatively correlated with satisfaction with the availability of drugs at the CHS; it is also negatively correlated with the evaluation of the improvements to the quality of the health services provided at the CHS over the past two years. Meanwhile, altruism is not significantly related to satisfaction with CHS staff. Such results support the hypothesis that healthcare workers with higher levels of altruism display lower job satisfaction. These findings also support the hypothesis that more altruistic workers are more likely to show lower satisfaction and provide a stricter self-evaluation of healthcare quality, including the availability of drugs.

5. Conclusion

This study is the first to quantitatively explore the relationship between altruism and job satisfaction in the

setting of primary healthcare facilities in Vietnam. The current research reveals a negative association between altruism and job satisfaction as well as shows that altruistic people are less satisfied with healthcare quality measurements. This finding implies that healthcare quality is crucial not only for patients but also for altruistic healthcare workers.

To achieve the SDGs, managing the human resources employed at primary healthcare facilities is essential. This study expands upon our current knowledge of healthcare workers' job satisfaction in Vietnam and other countries by revealing the significance of altruism for job satisfaction. Hence, it is an indispensable first step for further studies of altruism and human resource management in the healthcare context.

The limitations of the present study should be considered and resolved in future research. First, our study sample is limited to healthcare workers at CHSs in central Vietnam. Second, revealing the consequences of healthcare workers' low job satisfaction and associated higher altruism levels was beyond the scope of the study. Thus, future research should test its external validity by using larger samples from different settings and exploring the consequences of altruistic healthcare workers' low job satisfaction based on individual panel data over a longer observation period.

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