



Original article

Exploring the effect of perceived organizational support and resilience on Chinese pharmacists' engagement in stressful and competitive pharmaceutical work at hospitals

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ABSTRACT

Background: Currently, pharmacists occupy a non-mainstream position in China's healthcare system, and there has been little research concerning the interaction among pharmacists' psychological status, work engagement, and other aspects of the healthcare system and relationship with their work. Our study examined the basic situation of Chinese pharmacists and investigated the relationship among pharmacists' perceived organizational support, resilience, and engagement when working in a competitive environment.

Objective: To investigate the awareness of perceived organizational support among pharmacists at Chinese hospitals, analyze the correlation between perceived organizational support and short-term resilience and work engagement scale scores after frustration, and examine the effect of various factors on pharmacists' work engagement in a stressful and competitive work environment.

Method: An electronic questionnaire survey was made available to 300 pharmacists at Chinese hospitals, and these pharmacists were engaged in intensely competitive work within their respective hospitals. The questionnaire survey employed the Utrecht Work Engagement Scale (UWES), Brief Resilience Scale (BRS), and Perceived Organizational Support Scale (POS). IBM SPSS Statistics Version 19.0 was used to analyze the collected data.

Results: A total of 295 of the 300 questionnaires were recovered, for a valid questionnaire rate of 98.33% (n = 295). The 3 scales used in this study were scored on 5-point Likert scales; the BRS-6 scale assessed resilience, and a mean value of 3.43 points was obtained; the UWES-9 scale assessed employee engagement, and a mean value of 3.63 points was obtained; and the POS-8 scale assessed perceived organizational support, and a mean value of 3.35 points was obtained. These results indicated that the pharmacists had above average perceived organizational support, short-term resilience, and work engagement. We found that the BRS had a Pearson correlation of 0.553 with the UWES and that the POS had a Pearson correlation of 0.663 (P < 0.01) with the UWES, revealing that there was a significant correlation between the pharmacists' perceived organizational support, short-term resilience, and engagement.

Conclusions: This study found that pharmacists possessing relatively strong short-term resilience and receiving extensive perceived support from their organizations are able to more effectively engage with their everyday work, a result that indicated that the perception of receiving organizational support and the possession of short-term resilience have a significant connection with employees' work engagement.

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1. Introduction

The steady progress of reform to “separate pharmacy from medicine” within the Chinese healthcare system has fundamentally disrupted medical institutions' conventional model of “using profits from pharmaceutical sales to sustain medical operations.” A series of policies issued by the National Health Commission, such as the *Circular on Printing and Issuing Opinions for Strengthening*

Drug Administration in Medical Institutions and Promoting Rational Drug Use issued by the Bureau of Medical Administration, National Health and Family Planning Commission (document Guo-Wei-Yi-Fa [2020] No. 2), have reiterated the importance and urgency of rational drug use (State Administration of Traditional Chinese Medicine, 2018; Bureau of Medical Administration, 2020). In China, the ultimate realization of rational drug use at medical institutions takes the form of safe, effective, economical, and appropriate use of drugs, and pharmacists play an important role in the implementation and promotion of this process. Drug price addition is a policy adopted by Chinese government to compensate the hospital income in a specific period of time, it stipulated that the prices of the drugs sold by medical institutions at or above the county level shall be based on the actual purchase price, with a price increase rate of no more than 15% in sequence, and the bonus income based on the price increase rate shall be the drug bonus, which is included in the total income of the hospital as the profit income of the pharmacy department (National Development and Reform Commission, 2016). With the completion of the task of canceling the drug price addition, public hospitals lose the profit of drug income, which used to be one of the most important revenue sources of pharmacy department. Meanwhile, the charging system of pharmaceutical services such as pharmaceutical outpatient service and pharmaceutical consultation has not been fully established in China. So after zero bonus, in order to reflect pharmacists' value, we need to continuously improve the pharmaceutical service ability and establish charging items, which requires pharmacists to develop better service ability. Under these circumstances, the strengthening of the cultivation and training of pharmacists, improvements in relevant management systems, and the enhancement of pharmacists' ability to participate in pharmaceutical management matters are especially important. In addition to a broad range of hospital pharmaceutical services, clinical pharmaceutical service systems established by various countries, as exemplified by the systems established in developed countries such as the United States and Japan (Pharmacy ACOC, 2008; ACCP, 2014; Zhu and Shang, 2015; Shen, 2017), also administer community pharmacy services and derivative household pharmaceutical services (Evans et al., 2017). Furthermore, by promoting rational drug use, pharmacists can reduce patients' risk of hospitalization and re-hospitalization, lessen risks of infection, and play an active role in diagnosis and treatment (Leary et al., 2019; Readdean et al., 2018; Shao, 2008).

Unlike that of physicians, the value of hospital pharmacists has tended not to elicit as much concern from the public, and society has poor professional recognition of pharmacists. A similar problem has prevailed overseas. For example, hospital and community pharmacists in Northern Ireland face high levels of work-related stress due to such issues as heavy workloads, insufficient staffing, and frequent work interruptions (McCann et al., 2009). In another example, a survey of community pharmacists in France found that work-related stress levels were high and that more than 30% of subjects reported strong impacts such as anxiety, depression, and fatigue (Balayssac et al., 2017). Because of pharmacists' high-tension, high-stress, and high-risk work environment, directing greater humane concern and humanitarian consideration toward these medical personnel has become a developmental trend, and organizational support is being increasingly applied in healthcare systems. Numerous studies in China and abroad have focused on the correlation and linkage between organizational support and nurses, physicians, and medical personnel in general (Li et al., 2020; Liu et al., 2018), and a cross-sectional study explored the effect of perceived organizational support and resilience on the engagement of pharmacists working in a competitive environment in Saudi Arabia (Al-Omar et al., 2019). To ensure that pharmacists can work more effectively, realize the full value of their work, pro-

vide rational pharmaceutical services to patients, and boost healthcare quality at hospitals in China, it is necessary to place greater emphasis on humane concern for pharmacists. Therefore, certain measures must be taken to enhance pharmacists' professional identity and positive role.

The special function of the pharmacy profession makes pharmacists major implementers and promoters of reform in the healthcare system, and they play an important role in rational pharmaceutical services. Nevertheless, pharmacists currently also face high levels of work-related stress. However, while recently there has been much thought directed toward maintaining the rights of patients and promoting the reform and development of public hospitals in China, little attention has been given to maintaining the rights and interests of pharmacists. In addition, due to charging structure of the 15% drug additive implemented in public hospitals in China, the role of pharmacists' promotion of rational drug use among patients has long been neglected.

Currently, pharmacists occupy a non-mainstream position in China's healthcare system, and there has been little research concerning the interaction among pharmacists' psychological status, work engagement, and other aspects of the healthcare system and relationship with their work. There have been very few studies on the effect of short-term resilience and perceived organizational support on engagement among Chinese pharmacists, and most existing studies have tended to focus on pharmacists' work satisfaction (Wei and Gao, 2002; Conklin and Desselle, 2007). However, attention to hospital pharmacists' perceived organizational support and short-term resilience can help increase their loyalty and encourage them to devote themselves fully to their everyday work while also facilitating the creation of value by the organization. This study therefore examined the basic situation of Chinese pharmacists and investigated the relationship among pharmacists' perceived organizational support, resilience, and engagement when working in a competitive environment. By investigating the demographic factors affecting pharmacists and exploring the degree to which various influencing factors enhance pharmacists' sense of self-identity and work performance, this study hopes to provide a theoretical basis for efforts to encourage pharmacists to play an effective role in pharmaceutical services and bring about medical and pharmacy system reform in China.

2. Questionnaire

The questionnaire in this study was created by inviting experts to a panel discussion, collecting relevant original data, and then designing and revising the questionnaire; that process was followed by testing the reliability and validity of the questionnaire scale.

2.1. Questionnaire survey

In a questionnaire pretest administered to 10 pharmacists, open questions were used to request from the respondents a list of sources of professional identity in their work and the concern, support, and respect they received from their units. These interviews chiefly sought to understand the respondents' on-the-job self-identity, environmental identity, and social identity and to investigate the arduousness and complexity of their work and their state of mental and physical health.

2.2. Questionnaire design

The design of the survey questionnaire generally reflected the results of the preliminary survey and included the following 3 main parts: questions concerning the subjects' basic situation,

including demographic variables (age, sex, marital status, etc.), level of education, professional title, and type of hospital the respondents worked at (general hospital or specialized hospital); questions concerning the hospital pharmacists' everyday work content and focal points and the relative proportions of their various pharmaceutical tasks (13 items, for example, drug preparation, drug dispensing, pharmaceutical management, pharmacological research, pharmacological patient rounds, and drug use consultation); and questions investigating the effect of their work situation and working environment on the pharmacists.

2.3. Survey scale

2.3.1. The Brief Resilience Scale (BRS-6)

The Brief Resilience Scale (BRS-6) was used to analyze how long it took the pharmacists to recover from difficult situations. There are many types of resilience, including the ability to bounce back or recover from stresses, the ability to adapt to and relieve stress, the ability to fend off illness when in adverse circumstances, and the ability to achieve extraordinary performance when under stressful or adverse circumstances (Tusaie and Dyer, 2004). Smith measured resilience as an independent variable using 6 statements scored on a 5-point Likert scale in which 1 represented strongly disagree and 5 represented strongly agree; this scale consisted of 3 positively worded items (such as "I tend to bounce back quickly after hard times.") and 3 negatively worded items (such as "I tend to take a long time to get over setbacks in my life."). A preliminary analysis of the BRS scale's factor structure, reliability, and validity found that the BRS had very good internal reliability and validity (Smith et al., 2008). This scale assesses resilience using the most primitive and most basic forms and has been used in the past in research involving medical professionals (Waddimba et al., 2016; Chang et al., 2019).

2.3.2. The Utrecht Work Engagement Scale (UWES-9)

The Utrecht Work Engagement Scale (UWES-9) was used to investigate pharmacists' work engagement. This scale defines engagement as a positive, fulfilled mental state connected with work and is chiefly used to measure employees' work engagement (Schaufeli et al., 2002). The UWES-9 contains 9 statements scored on a 5-point Likert scale and can be used to calculate total scores or average scores for each of 3 subscales. Each subscale contains 3 dimensions: vigor, dedication, and absorption. Vigor is assessed with the 1st, 2nd, and 5th statements; dedication is assessed with the 3rd, 4th, and 7th statements; and absorption is assessed with the 6th, 8th, and 9th statements. A Likert scale is used for scoring, where 1 indicates strongly disagree and 5 indicates strongly agree. This scale is appropriate for the stressful nature of pharmacists' work and can be used to analyze the risk of emotional exhaustion and fatigue entailed in this work. Medical institutions in countries such as Vietnam and Britain have successfully verified the adaptability of this scale, and this scale has been successfully applied in studies involving these medical institutions (Thuy et al., 2020; Yadava et al., 2015; Nilsson et al., 2013).

2.3.3. The Perceived Organizational Support Scale (POS-8)

The Perceived Organizational Support Scale (POS-8) was used to gain an understanding of the impact of organizations on pharmacists' work environment. The short version of the POS scale measures perceived organizational support as a second independent variable (Eisenberger et al., 1986). This scale is based on the social exchange concept, the principle of recompense, and organizational humanization. It goes beyond employee commitment to the organization emphasized in past research, chiefly looks at the overall impression that organizations give their employees, and specifically examines whether organizations value employees' contribu-

tions and show concern for their interests. Organizations that do so value the efforts made by their employees and try to satisfy their employees' psychological needs (such as the need for respect, belonging, and approval). In simple terms, this scale gauges the support that employees perceive they receive from the organization. This instrument contains 8 statements scored on a 5-point Likert scale, where 1 indicates strongly disagree and 5 indicates strongly agree. This scale was selected for this study because it can reflect employees' belief concerning whether their organization values them. The scale assesses the degree of on-the-job support, degree of employee value identity, and degree of employee interest to assess hospitals' provision of organizational support to pharmacists. The scale was used in this study to determine employees' views concerning their hospitals' affirmation of their contributions and concern for their welfare.

The most novel aspect of the use of these 3 scales is that this was the first time that they had been applied to assess pharmacists' everyday work at hospitals in China. The BRS, UWES, and POS have been used in numerous studies; their reliability and validity are well-verified, and their overall reliability is excellent (Tavakol and Dennick, 2011).

3. Research method

3.1. Questionnaire survey

Pharmacists working at tertiary public hospitals in China from April to June 2020 were the target subjects. Three hundred pharmacists engaged in different types of hospital work were randomly selected directly or selected by the heads of their units and departments to receive an electronic questionnaire. In the questionnaire, the pharmacists were asked about their perceived organizational support and how this affected their resilience and work engagement.

3.2. Survey method

Pharmacists were randomly selected from tertiary public hospitals listed on the National Health Commission's website to serve as research subjects, and a proven online survey tool (wjx.cn) was used to collect data. All pharmacists completed the questionnaire anonymously, and the respondents' names were not disclosed, as clearly explained in the questionnaires.

We used descriptive statistics to obtain frequencies, percentages, means, and standard deviations. All questionnaire items with negative wording were reversed, and the scores for items with reverse scoring were re-recorded; the total score was obtained by averaging the answers of relevant items. This study used bivariate Pearson correlation to analyze the relationship among the different scales and employed one-way ANOVA and multinomial logistic regression analysis to analyze the relationship between the demographic factors and the BRS, POS, and UWES.

4. Results

4.1. Subjects' social demographic characteristics

This study distributed 300 questionnaires during the data collection period; 295 responses were received, for a response rate of 98.33% (n = 295). Table 1 displays the demographic variable frequencies and percentages for the research subjects.

4.1.1. Sex and marital status

Among the respondents, 77.97% (n = 230) were female, and 84.07% were married. In China, hospital pharmacist constitutes a

Table 1
Subjects' social demographic characteristics (n = 295).

Item	Frequency	%	Mean (S.D.)
<i>Respondent's sex</i>			
Female	230	77.97%	
Male	65	22.03%	
<i>Age (years)</i>			
21–30	54	18.31%	38.04
31–40	140	47.46%	(8.10)
41–50	75	25.42%	
51–60	26	8.81%	
<i>Years of employment</i>			
0–10	62	21.02%	19.41
11–20	56	18.98%	(8.28)
21–30	162	54.92%	
31–40	15	5.08%	
<i>Years of employment at current hospital</i>			
0–10	88	29.83%	18.15
11–20	52	17.63%	(9.97)
21–30	142	48.14%	
31–40	13	4.41%	
<i>Marital status</i>			
Married	248	84.07%	
Unmarried	41	13.90%	
Divorced/separated	6	2.03%	
<i>Level of education</i>			
Ph.D.	18	6.10%	
Master's	96	32.54%	
Bachelor's	174	58.98%	
junior college degree	7	2.37%	
<i>Hospital type</i>			
Tertiary class A general	92	31.19%	
Tertiary class A specialized	130	44.07%	
Other	73	24.75%	
<i>Department</i>			
Outpatient pharmacy	99	33.56%	
Inpatient pharmacy	33	11.19%	
Dispensary	16	5.42%	
Intravenous admixture	29	9.83%	
Clinical pharmacology	118	40%	
<i>Title</i>			
High ranking	87	29.49%	
Middle ranking	118	40%	
Junior	86	29.15%	
Other	4	1.36%	
<i>Position</i>			
Section/lab leader	52	17.63%	
Department director	54	18.31%	
Staff	189	64.07%	
<i>Duties</i>			
Preparing pharmacist	164	55.59%	
Clinical pharmacist	118	40%	
Research pharmacist	13	4.41%	
<i>Average working time per week (h)</i>			
≤40	117	39.66%	
41–60	160	54.24%	
61–80	14	4.75%	
>80	4	1.36%	
<i>Chief content of everyday work</i>			
Clinical pharmacological services: (1) Drug use consultation, (2) drug use monitoring and reporting, (3) drafting of treatment plans, (4) pharmacological consultation, (5) pharmacological patient rounds, (6) patient drug use guidance, (7) pharmacological monitoring	102	34.58%	
Non-clinical pharmacological services: (8) preparation of drugs, (9) drug dispensing, (10) pharmacy management	164	55.59%	
Pharmacological research and instruction: (11) pharmacological research, (12) training instruction	13	4.41%	
(13) Other	16	5.42%	

very stable, moderate-income occupation. Based on the traditional views of men in China, they must hold positions allowing them to support their households. As a consequence, hospital pharmacy work in China is currently dominated by women; the results of the questionnaire survey provide confirmation of this phenomenon.

4.1.2. Age

The greatest number of respondents were in the 31–40 year age group (47.46%; n = 140), suggesting that the survey subjects chiefly consisted of young first-line pharmacists.

4.1.3. Years of employment

The pharmacists who participated in this study had a mean age of 38.04 ± 8.10 years, had been employed for a mean of 19.41 ± 8.28 years, and had been employed at the hospital where they were working for a mean of 18.15 ± 9.97 years. The greatest number of pharmacists had been employed for 21–30 years, and the similarity between the years of employment and years of employment at their current hospital indicated that most of the respondents had worked continuously at the same hospital and that very few had switched jobs or switched hospitals.

4.1.4. Level of education

Bachelor's degree was the most common level of education (58.98%; n = 174), followed by master's degree (32.54%; n = 96). Most pharmacists in China have a moderate level of education, with most possessing a bachelor's degree, followed by master's degree; holders of Ph.D. and junior college degrees are outliers. This finding indicates that the pharmacist occupation in China requires a certain level of technical skills and knowledge and that pharmacists must undergo formal education and training. However, because persons with outstanding talent are scarce in the field of pharmacy, further efforts should be made to attract more highly talented individuals.

4.1.5. Hospital types

The hospitals participating in this study were chiefly tertiary class A general hospitals (75.26%; n = 222). This result was consistent with the fact that there are relatively few pharmacists working at specialized hospitals.

4.1.6. Department and duties

The departments in which the subjects worked chiefly consisted of clinical pharmacology, outpatient pharmacy, and inpatient pharmacy; their positions largely consisted of general staff (64.07%; n = 189), with the greatest number being preparing pharmacists, followed by clinical pharmacists.

4.1.7. Professional title and duties

A majority of the subjects had junior or intermediate job titles (69.15%). Because of the very large correlation between medical workers' positions and their level of education, work experience, working level, and actual ability, persons with higher titles accounted for only small proportion of the subjects. A majority of the subjects had the title of staff member, and there were few with middle-ranking titles in their department or hospital, a finding that is consistent with the reality in Chinese hospitals.

4.1.8. Content of everyday work

The largest percentage of subjects had worked an average of 41–60 h per week (54.24%; n = 160). The clinical pharmacists' everyday work content included non-clinical pharmacological services, such as drug preparation, drug dispensing, pharmaceutical management, and research and instruction, and clinical pharmacological services, such as drug use consultation, drug use monitoring

Table 2
Pharmacists' responses to the resilience scale (BRS) questionnaire.

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean score
I tend to bounce back quickly after hard times	2 (0.68%)	15 (5.08%)	58 (19.66%)	184 (62.37%)	36 (12.2%)	3.8
I have a hard time making it through stressful events	25 (8.47%)	147 (49.83%)	94 (31.86%)	23 (7.8%)	6 (2.03%)	3.55
It does not take me long to recover from a stressful event	3 (1.02%)	27 (9.15%)	84 (28.47%)	159 (53.9%)	22 (7.46%)	3.58
It is hard for me to snap back when something bad happens	29 (9.83%)	169 (57.29%)	73 (24.75%)	22 (7.46%)	2 (0.68%)	3.68
I usually come through difficult times with little trouble	17 (5.76%)	90 (30.51%)	157 (53.22%)	25 (8.47%)	6 (2.03%)	2.71
I tend to take a long time to get over setbacks in my life	8 (2.71%)	114 (38.64%)	124 (42.03%)	42 (14.24%)	7 (2.37%)	3.25
Subtotal	84 (4.75%)	562 (31.75%)	590 (33.33%)	455 (25.71%)	79 (4.46%)	3.43

Table 3
Pharmacists' responses to the work engagement scale (UWES) questionnaire.

Item	Strongly disagree	Disagree	Neutral	Agree	strongly agree	Mean score
When I get up in the morning, I feel like going to work	4 (1.36%)	29 (9.83%)	87 (29.49%)	144 (48.81%)	31 (10.51%)	3.57
When I'm doing my work, I am bursting with energy	4 (1.36%)	15 (5.08%)	86 (29.15%)	160 (54.24%)	30 (10.17%)	3.67
I am in a very cheerful and happy mood when I am working	6 (2.03%)	11 (3.73%)	101 (34.24%)	147 (49.83%)	30 (10.17%)	3.62
When I'm working, I feel energetic	5 (1.69%)	13 (4.41%)	102 (34.58%)	148 (50.17%)	27 (9.15%)	3.61
My work inspires me	6 (2.03%)	21 (7.12%)	98 (33.22%)	142 (48.14%)	28 (9.49%)	3.56
I am enthusiastic about my work	5 (1.69%)	15 (5.08%)	99 (33.56%)	142 (48.14%)	34 (11.53%)	3.63
I am proud of my work	5 (1.69%)	15 (5.08%)	95 (32.2%)	142 (48.14%)	38 (12.88%)	3.65
I am immersed in my work when I'm working	4 (1.36%)	15 (5.08%)	110 (37.29%)	137 (46.44%)	29 (9.83%)	3.58
I feel happy when I am working intensely	5 (1.69%)	8 (2.71%)	83 (28.14%)	163 (55.25%)	36 (12.2%)	3.74
Subtotal	44 (1.66%)	142 (5.35%)	861 (32.43%)	1325 (49.91%)	283 (10.66%)	3.63

and reporting, and pharmacological patient rounds (see Table 1 for detailed work content).

4.2. Short-term resilience

The BRS-6 scale was used to assess resilience. This scale employed a 5-point Likert scale to rate 6 statements; the mean score was 3.43 points (Table 2). Among the scale's positively worded items, the mean score for "I tend to bounce back quickly after hard times" was 3.80, the mean score for "It does not take me long to recover from a stressful event" was 3.58, and the mean score for "I usually come through difficult times with little trouble" was 2.71. Furthermore, for negatively worded statements, the mean score for "I have a hard time making it through stressful events" was 3.55, the mean score for "It is hard for me to snap back when something bad happens" was 3.68, and the mean score for "I tend to take a long time to get over setbacks in my life" was 3.25. These results indicate that the pharmacists' short-term resilience tended to be somewhat higher than average for both positive and negative events.

4.3. Employee engagement

The UWES-9 scale was used to assess employee engagement. This scale employed a 5-point Likert scale to rate 9 statements; the mean overall score was 3.63 points (Table 3). Among the scale's

positively worded items, the mean score for "When I get up in the morning, I feel like going to work" was 3.57, the mean score for "When I'm doing my work, I am bursting with energy" was 3.67, the mean score for "I am in a very cheerful and happy mood when I am working" was 3.62, the mean score for "When I'm working, I feel energetic" was 3.61, the mean score for "My work inspires me" was 3.56, the mean score for "I am enthusiastic about my work" was 3.63, the mean score for "I am proud of my work" was 3.65, the mean score for "I am immersed in my work when I'm working" was 3.58, and the mean score for "I feel happy when I am working intensely" was 3.74. The participating pharmacists received relatively high employee engagement scores, which were all above average.

4.4. Perceived organizational support

The POS-8 scale was used to assess perceived organizational support. This scale employed a 5-point Likert scale to rate 8 statements; the mean overall score was 3.35 points (Table 4). Among the scale's positively worded items, the mean score for "The organization strongly considers my goals and values" was 3.25, the mean score for "Help is available from the organization when I have a problem" was 3.35, the mean score for "The organization really cares about my wellbeing" was 3.29, the mean score for "The organization would forgive an honest mistake on my part" was 3.31, the mean score for "The organization is willing to help me when I need a special favor" was 3.42, the mean score for "If given the opportunity, the organization would take advantage of me" was 3.14, the mean score for "The organization shows very little concern for me" was 3.73, the mean score for "The organization cares about my opinions" was 3.34, and the mean score for "The organization is willing to help

Table 4
Pharmacists responses to the perceived organizational support (POS) questionnaire.

Item	Strongly disagree	Disagree	Agree slightly	Agree	Strongly agree	Mean score
The organization strongly considers my goals and values	13 (4.41%)	44 (14.92%)	115 (38.98%)	101 (34.24%)	22 (7.46%)	3.25
Help is available from the organization when I have a problem	14 (4.75%)	29 (9.83%)	114 (38.64%)	115 (38.98%)	23 (7.8%)	3.35
The organization really cares about my wellbeing	14 (4.75%)	41 (13.9%)	103 (34.92%)	120 (40.68%)	17 (5.76%)	3.29
The organization would forgive an honest mistake on my part	12 (4.07%)	35 (11.86%)	116 (39.32%)	113 (38.31%)	19 (6.44%)	3.31
The organization is willing to help me when I need a special favor	13 (4.41%)	22 (7.46%)	110 (37.29%)	129 (43.73%)	21 (7.12%)	3.42
If given the opportunity, the organization would take advantage of me	17 (5.76%)	49 (16.61%)	126 (42.71%)	81 (27.46%)	22 (7.46%)	3.14
The organization shows very little concern for me	44 (14.92%)	160 (54.24%)	63 (21.36%)	23 (7.8%)	5 (1.69%)	3.73
The organization cares about my opinions	9 (3.05%)	30 (10.17%)	128 (43.39%)	107 (36.27%)	21 (7.12%)	3.34
Subtotal	136 (5.76%)	410 (17.37%)	875 (37.08%)	789 (33.43%)	150 (6.36%)	3.35

me when I need a special favor” was 3.42, the mean score for “If given the opportunity, the organization would take advantage of me” was 3.14, and the mean score for “The organization cares about my opinions” received a mean score of 3.34. Among negatively worded items, the mean score for “The organization shows very little concern for me” was 3.73. The participating pharmacists’ perceived organizational support scores were all above average, indicating that they perceived a large sense of support from their organizations.

4.5. Correlation analysis

The Pearson correlation of the BRS and UWES was 0.553 ($P < 0.01$), and the Pearson correlation of the POS and UWES was 0.663 ($P < 0.01$). The fact that the BRS and POS had relatively strong correlations with the UWES indicated that pharmacists with high short-term resilience and strong perceived support from their organizations had high levels of engagement and could effectively dedicate themselves to their everyday work.

4.6. Multiple linear regression factor analysis

Multiple logistic regression analysis showed that the UWES was linearly correlated with sex ($F = 10.299$, $P = 0.001$). One-way ANOVA indicated that among the research variables, sex was correlated with work engagement, with women having higher levels of work engagement. The BRS predictor variables included position ($F = 7.484$, $P = 0.007$) and years of employment at current hospital ($F = 5.858$, $P = 0.003$). The BRS was linearly correlated with position and years of employment at current hospital, i.e., pharmacists with higher positions and more years of employment at their current hospital had greater short-term resilience in the face of setbacks. The POS predictor variables included professional title ($F = 10.800$, $P = 0.001$), position ($F = 10.405$, $P = 0.000$) and hospital type ($F = 8.598$, $P = 0.000$). The POS was linearly correlated with professional title, position, and hospital type, i.e., pharmacists with higher professional titles and positions working at tertiary class A hospitals had greater perceived organizational support.

5. Discussion

Employing the BRS, POS, and UWES, this study discovered that perceived organizational support by and short-term resilience of pharmacists at public hospitals in China were positively associated with their work engagement. This finding provides a theoretical basis and guidance for efforts to enhance pharmacists’ engagement.

The mean BRS score was 3.43, close to an “Agree” level of response, and the responses to both positively and negatively worded items were at an above average level. This nevertheless suggests that despite the fact that most pharmacists have strong short-term resilience, their response to acute stress requires further strengthening. This finding is consistent with the results of related studies (Chang et al., 2019; Olson et al., 2015). Pharmacists with relatively high positions and many years of employment at their current hospital were found to have especially strong short-term resilience and were better able to deal with negative situations, obstacles, and uncertainty, which may have made them better able to achieve success. This result is easy to understand. The differences in the short-term resilience of pharmacists with different positions and ranks may be attributable to the gradual enhancement of personal development and of the social value of medical workers as they are promoted to higher positions. In addition, such pharmacists will also have more opportunities to give lectures, provide training, and teach, further suggesting that posi-

tion may have an important effect on the professional identity of medical personnel. Organizations may thus be able to obtain better work performance from pharmacists by putting them in higher positions. Significant differences in short-term resilience were seen in pharmacists with different years of work at their current hospital. This finding may be attributable to the fact that as pharmacists’ years of work increase, the social resources and degree of recognition they receive also increase; this is likely the cause of the significant differences in this study’s results and is consistent with work practices in China. Furthermore, related studies have indicated that the implementation of resilience enhancement in certain workplaces can successfully reinforce employee resilience (McAllister and McKinnon, 2009; Vanhove et al., 2016).

The mean POS score was 3.35, close to an “Agree” level of response, indicating an above average level of organizational support. Most pharmacists at public hospitals believed that they received support from their organizations and that the hospitals valued their contributions and showed concern for their welfare. This finding was consistent with those from other studies (Al-Omar et al., 2019; Gorji and Etemadi, 2014). A linear correlation existed between the POS and professional title, position, and hospital type, and the higher the professional title and position of pharmacists at tertiary class A general hospitals, the stronger was their perceived organizational support. Pharmacists with superior professional titles and positions may also have greater welfare guarantees and a higher level of value identity. This may be connected with the characteristics of the medical industry, in particular the medical industry’s emphasis on practice. Higher-level medical personnel may obtain better perceived organizational support after gaining extensive clinical working experience, and this may also be reflected in their professional identity, benefits and compensation, and peripheral value identity. In contrast, medical personnel with junior or intermediate titles are typically at a stage in life during which they must struggle and strive to obtain promotions and must accumulate practical knowledge and clinical experience. As a consequence, these lower-level personnel obtain less benefits, compensation, and value identity than do their more senior counterparts. This hierarchy explains why the medical industry is a sector in which individuals with better qualifications and experience receive greater respect, benefits, and compensation (Tang, 2013). The effect of hospital type may be attributable to the fact that, in comparison with tertiary general hospitals, specialized hospitals tend to preferentially possess a single type of medical resource and their resources are unevenly distributed. Higher-grade hospitals have a greater scale of operations and stronger capabilities; they receive more government funding, can offer high-quality academic education and specialized training to further their personnel’s professional development, and can establish relatively systematic training systems to help transmit experience, thus enhancing the level of organizational support perceived by medical personnel. In addition, specialized hospitals tend to have limited room for growth and relatively few high-level skilled professionals; their physicians tend to have lower levels of education, few learning opportunities, and less qualifications and work experience than do physicians at tertiary hospitals. This may result in the commonly low levels of professional identity among the employees at specialized hospitals.

The mean UWES score was 3.63, close to an “Agree” level of response, indicating that pharmacists at public hospitals in China tend to have high levels of work engagement. The BRS and POS were strongly correlated with the UWES. This study found that Chinese pharmacists at public hospitals with strong short-term resilience and high levels of perceived organizational support also tend to be able to effectively dedicate themselves to their everyday work. Multiple logistic regression analysis revealed that UWES was linearly correlated with sex; specifically, women had higher levels

of work engagement than men. Pharmacists frequently encounter factors that cause stress, including heavy workloads, but must continuously provide high-quality service, deal with the various relationships between patients and clinical medical personnel, and, possibly, work rotating shifts. As a consequence, hospital pharmacists often do not perform sufficient self-care and may encounter conflicts with colleagues, including physicians, peers, and superiors. A questionnaire survey of pharmacists at hospitals in Saudi Arabia revealed that clinical pharmacists complained the most about heavy workloads and that a higher percentage of female pharmacists than male pharmacists expressed dissatisfaction with their working hours (Slimane, 2017). Such factors will exert a destructive effect on pharmacists' mental and physical health. These factors also affect how pharmacists view their work, how the organization affects positivity, commitment and joy at work, and how pharmacists deal with their family relationships and lives outside of work. To successfully resolve these issues, giving more attention to female pharmacists when necessary is very important for improving health and performance.

There are several limitations in our study. Firstly, although all pharmacists have equal opportunity to participate in the questionnaire, it may be distorted due to different psychological, social and other factors. What's more, maybe not all respondents finished the questionnaire accurately or justly. Besides, it is a cross-sectional study only giving a presentation of a period of time. The sample size is small in our research. Since we employed a convenience sampling method for sample selection, the results cannot be regarded as representative of all pharmacists in China.

6. Conclusions

This study examined the relationship among the perceived organizational support, short-term resilience, and work engagement of pharmacists at hospitals in China within the context of medical reform in the wake of the "zero drug mark-up" policy. Perceived organizational support and short-term resilience were significantly correlated with employee engagement. Compared with male pharmacists, female pharmacists had greater work engagement. The higher was pharmacists' position and years of service at their current hospital, the greater was their short-term resilience. The higher the professional title and position of pharmacists at tertiary class A general hospitals, the greater was their perceived organizational support. In light of these findings, it is particularly important for hospital administrators to address pharmacists' mental health, increase perceived organizational support, and draft workplace policies and methods that emphasize pharmacists' welfare, health, and work-life balance. The overall goal is to establish and enhance perceived organizational support, short-term resilience, adaptability, and employee engagement in the high-stress, highly competitive work environments prevailing under domestic medical reform.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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