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Factors Affecting Resistance to Change among Hospital Staff using a Structural Equation Modeling Technique

Zahra Ghanavatinejad[1], Mehrdad Askarian[2], Charles John Palenik[3], Nahid Hatam[4*], Payam Farhadi[5], Haleh Ghaem[6]

[1]Student Research Committee, Department of Health Care Management, School of Management and Medical Information, Shiraz University of Medical Science, Shiraz, Iran
[2]Department of Community Medicine, Medicinal and Natural Products Chemistry Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
[3]GC Infection Prevention and Control Consultants, Indianapolis, Indiana, United States of America
[4]School of Management and Medical Information Sciences, Shiraz University of Medical Sciences, Shiraz, Iran
[5]Faculty Member of Management, Zand Higher Education Institute, Shiraz, Iran
[6]Research Center for Health Sciences, Department of Epidemiology, School of Health, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Introduction: Hospitals are complex organizations faced with continuous fundamental changes complicated by expertise diversity. The aim of this study was to investigate the factors influencing hospital employees' resistance to change.

Methods: This cross-sectional study included 510 employees working in hospitals affiliated to Shiraz University of Medical Sciences; they were selected using stratified random sampling. Data were collected through a questionnaire. A structural equation modeling technique using LISREL Version 8.8 tested the hypotheses and conceptual model.

Results: Results indicated that dispositional resistance to change and involvement with change directly affected the employees' resistance to change. Perceived benefits of change to involvement in change were significant (T-values >1.96) and the hypotheses related to these paths were accepted. Perceived benefits of change indirectly affected the employees' resistance to change by influencing involvement. Dispositional resistance to change and involvement in change (mediator variables) were estimated 0.89, 0.03, and 0.47, respectively.

Conclusion: The study results indicated that hospital managers should encourage the employees to actively participate in their change program by strengthening perception of the benefits. This could help reduce the employees' resistance.

Keywords: Change, Resistance, Benefits, Involvement, Hospitals, Employees, Management

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***Correspondence to:**
Nahid Hatam, PhD;
Community-based Psychiatric Care Research Center, Shiraz University of Medical Sciences, Shiraz, Iran .School of Management and Information Sciences, Shiraz University of Medical Sciences, Shiraz, Iran
Tel:+98-71-32296031
Fax: +98-71-32288607
Email: hatamn@sums.ac.ir

Introduction

Hospitals have always faced challenges such as maintaining the patients and practitioners' satisfaction and improving the effectiveness of their services. Hospital system managers often seek to improve the quality of their services using organizational change.

Failure of large organizational change programs can be directly attributed to the employees' resistance (1-3). Many organizational changes are managed from a technical viewpoint, so that identifying and understanding how human elements affect the success or failure is often overlooked (3-5).

According to Giangreco, resistance is objection to the change process which may include measures which are considered unpleasant, harmful or troublesome based on personal or group assessment. This objection can include a range of individual and collective actions such as non-violent behavior, indifference and passive and active resistance (6).

Oreg revealed that people differ in their personal inclination to resist or accept change; however, those

with a propensity for resistance have less interest in initiating change (7). An individual's tendency to resist a change is based on personality traits such as reluctance to lose control, cognitive difficulties, lack of mental flexibility, stress and anxiety, intolerance to the adjustment period involved in change, preferring lower levels of motivation and renewal or reluctance to abandon old habits (7).

Awareness of the benefits of change represents an understanding of the potential impact that a change might have. In other words, it represents personal losses and gains associated with the change (8). Studies have indicated that perception of appropriateness, benefits and potential consequences of change is associated with commitment to change, readiness for change, and reduced resistance (9-11). Therefore, it is expected that the extent to which individuals favor a change and losses over its benefits determines their level of resistance.

Studies have shown that involvement with the change process has a great influence on resistance to change (8, 12-16). Participation by increasing individual self-efficacy can reduce resistance to changes (17). It is important to identify and analyze the factors affecting the employees' reactions to change and improve acceptance within an organization. The aim of this study was to investigate the factors that impact resistance to change among hospital staff in the form of a conceptual model.

Methods

This cross-sectional study was conducted in 2014, using structural equation modeling (SEM) (18). SEM was used to test the research model fit and relationships between variables. According to Lee and Lomax, SEM requires 100 to 500 participants in order to produce accurate and precise results (18).

Setting and Sample

The potential study population consisted of all employees working in the teaching hospitals of Shiraz University of Medical Sciences (N = 7921). The desired sample size for this study was 500 participants who were selected using stratified random sampling from all 15 university affiliated hospitals of Shiraz University of Medical Sciences after obtaining oral informed consent.

The conceptual model used in our research was developed by merging variables of the expanded model proposed by Giangreco, Pecicc and Oreg's dispositional resistance to change scale (7, 8). In our model, it was assumed that an individual's perception of change benefit and level of their involvement in the change process directly affects his/her resistance to change behaviors (Figure 1. Paths 2_a and 2_b). It was also assumed that dispositional resistance to change has a direct effect on resistance to change behaviors (Figure 1. Path 3). Also, dispositional resistance to change mediates the relationship between perceived benefits of change and involvement and resistance to change (Figure 1. Paths 1_a and 2_b).

The hypotheses of moderating the effects of dispositional resistance to change in this study were based on the study conducted by Michel et al. (19) and the theory of moderating effect of negative affectivity on the relationship between job stressors and job strains (20). The H4 path was added to the model according to the study by Coyle-Shapiro model which showed that the level of involvement was positively related to their assessment of program benefits (21). Thus, it was hypothesized that perceived benefits of change influenced the level of involvement in the change process.

Data were collected through a structured questionnaire made by combining several surveys with questions selected by an expert panel (6-8, 22). Selected questions were translated into Persian and then back-translated into English and edited three times. Finally, an individual proficient in English with access only to the third Persian version translated the questionnaire into English. Afterwards, the two versions were compared and carefully reviewed in terms of semantics. The version used in the study contained 69 items, 13 of which measured resistance to change. Also, there were 7 pro-change and 6 anti-change items. Content and construct validity of this scale mimicked that of Giangreco and Peccei (7) which produced the reliability of pro-change and anti-change scales with alpha coefficients of 88% and 76%, respectively.

In order to measure the personality trait of resistance to change, Oreg's dispositional resistance to change scale of 17 items was used (7). The questionnaire includes Routine Seeking (RS) (Questions 1 to 5), Emotional Reaction (ER) (Questions 6 to 9), Short-Term Focus (ST) (Questions 10 to 13), and Cognitive Rigidity (CR) (Questions 14 to 17). Higher scores in this questionnaire represent elevated negative attitudes towards change and higher tendency toward resistance. Reliability was confirmed by a study involving different countries with Cronbach's alpha coefficients of 0.72 to 0.85 (22).

To measure perceived benefit of change and extent of involvement in change, we used two scales from a study by Giangreco and Peccei (8). Perceived benefit of change can affect behavior. This scale consisted of 25

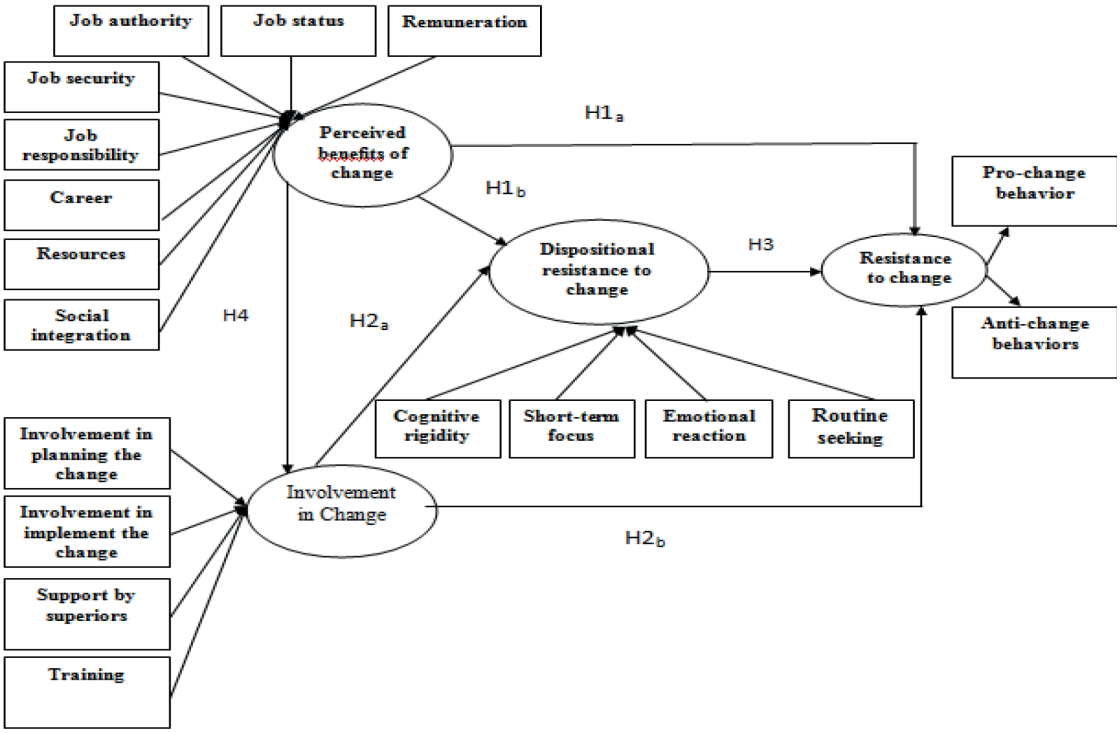

Figure 1: The research conceptual model

items that measured individual perception of changes in salaries and bonuses (Questions 1 and 2), job status (Questions 3 to 5), job authority (Questions 6 to 8), job security (Questions 9 to 11), job responsibility (Questions 12 to 16), career (Questions 17 to 19), resources (Questions 20 to 22), and social integration in the workplace (Questions 23 to 25). Higher scores in this questionnaire represent elevated perception levels as to the benefits associated with change.

The involvement in change scale was also taken from a study by Giangreco and Peccei (23). This scale consisted of 14 items measuring involvement in planning change (Questions 1 to 3), involvement in implementation of the change (Questions 4 to 6), support by superiors (Questions 7 to 10), and training (Questions 11 to 14). Higher scores in this questionnaire represent higher levels of involvement in the change process. Scale validity was confirmed using a study by Giangreco and Peccei (23). Reliability of the perceived benefits of change and involvement in change was approved by Cronbach's alpha coefficients of 90% and 70%, respectively (8).

As to compatibility, all responses in this study were scored based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Reliability and Validity of the Scales and Subscales

Cronbach's alpha coefficient of our questionnaire was calculated to measure reliability and internal consistency of the scales and subscales used. An acceptable coefficient was considered to be 0.70 for the overall scale. However, because of lower number of questions in the subscales, alpha coefficients ≥0.60 were considered to be acceptable (23, 24). Scales with alpha coefficients below 0.50 were excluded from the analysis (25-27). Cronbach's alpha coefficients for all the study scales and subscales are presented in Table 1. All scale Cronbach's alpha coefficients were acceptable (>0.70). All but three subscales had acceptable coefficients (>0.60).

CR items were further evaluated by exploratory factor analysis. This indicated that Question 14 had a low correlation with the other three questions. This indicated that this question did not measure the same factor as the other questions of this subscale did. Therefore, this question was excluded from the analysis. By removing this question, the reliability of this subscale increased. Remuneration subscale was also eliminated from the analysis because its alpha coefficient was less than 0.50.

Because its alpha coefficient was close to 0.60, this subscale was not excluded from the analysis.

The validity of the questionnaire was approved by the research team. Spearman's correlation coefficient was used to measure the correlation between the study variables, while Cronbach's alpha coefficient assessed the reliability of the questionnaire sections using SPSS statistical software, Version 19. In SEM

Table 1: Scale items and the results of reliability and confirmatory factor analysis of the scales (n=510)

Scales	Subscales	Questions	Standardized Loading	T	α
Resistance to change (RTC) α=0.78	Pro-change behavior (pro)	1. I am doing much more than required to help this organization through the numerous changes.	0.54	12.34	0.85
		2. I cooperate actively to realize the change.	0.67	16.32	
		3. I encourage actions to support the realization of the change.	0.70	17.22	
		4. I promote the change with enthusiasm.	0.74	18.33	
		5. I try to convince others of the appropriateness of the change.	0.74	18.39	
		6. I vigorously sustain the change in public discussions.	0.73	17.94	
		7. I make considerable effort so that my subordinates understand the change.	0.63	15.03	
	Anti-change behaviors (Anti)	1. I am critical about the change in public discussions.	0.40	8.71	0.73
		2. I am critical about the change with my superiors.	0.33	7.25	
		3. I support union activities against the change.	0.68	16.32	
		4. I support the actions of my subordinates against the change.	0.86	22.30	
		5. I support the actions of my colleagues against the change.	0.86	22.13	
		6. I report complaints about the change to my superiors.	0.20	4.31	
Dispositional resistance to change (DRTC) α=0.78	Routine seeking (RS)	1. I generally consider changes to be a negative thing.	0.42	11.04	0.63
		2. I'll take a routine day over a day full of unexpected events any time.	0.59	10.90	
		3. I like to do the same old things rather than trying new and different things.	0.71	14.58	
		4. Whenever my life forms a stable routine, I look for ways to change it.	0.15	3.20	
		5. I'd rather be bored than surprised.	0.71	13.91	
	Emotional reaction (ER)	1. If I were to be informed that there's going to be a significant change regarding the way things are done at work, I would probably feel stressed.	0.76	16.12	0.72
		2. When I am informed of a change of plans, I tense up a bit.	0.83	18.70	
		3. When things don't go according to plans, it stresses me out.	0.51	12.10	
		4. If my boss changed the criteria for evaluating employees, it would probably make me feel uncomfortable even if I thought I'd do just as well without having to do any extra work.	0.48	10.33	
	Short-term focus (ST)	1. Changing plans seems like a real hassle to me.	0.53	11.32	0.72
		2. Often, I feel a bit uncomfortable even about changes that may potentially improve my life.	0.60	12.72	
		3. When someone pressures me to change something, I tend to resist even if I think the change may ultimately benefit me.	0.69	15.63	
		4. I sometimes find myself avoiding changes that I know will be good for me.	0.69	16.23	
	Cognitive rigidity (CR)	2. Once I've come to a conclusion, I'm not likely to change my mind.	0.67	13.28	0.73
		3. I don't change my mind easily.	0.79	15.94	
		4. My views are very consistent over time.	0.72	14.89	
Perceived benefits of change (PBC)	Job status	1. The visibility of my role is more now.	0.73	18.28	0.84
		2. The prestige of my role is more now.	0.82	21.62	
		3. The sensation of feeling only a "number" is more now.	0.86	23.15	
	Job authority	1. I believe that the authority of my managerial role is more now.	0.82	21.76	0.87
		2. The authority of my benefits is more now.	0.83	22.08	
		3. I have the feeling that the reconnaissance of my authority is more now.	0.83	22.32	
	job security	1. The chance of redundancy for me is more now.	0.56	9.28	0.57
		2. The security of my job is more now.	0.40	7.31	
		3. The risk of being fired is more now.	0.73	10.60	

α=0.91	Job responsibility	1. The span of my responsibilities is more now.	0.70	17.39	0.87
		2. The level of responsibility regarding the work of my collaborators is more now.	0.81	21.07	
		3. The level of responsibility regarding the career of my collaborators is more now.	0.81	21.08	
		4. The level of responsibility on the resources that I manage is more now.	0.73	18.39	
		5. The level of responsibility on the results of my unit is more now.	0.79	20.33	
	Career	1. I have the feeling that the chance of a promotion is more now.	0.75	19.07	0.87
		2. The chances of promotion for me are more now.	0.91	25.65	
		3. My future career perspective is more now.	0.86	23.19	
	Resources	1. The quantity of financial resources of my unit is more now.	0.68	15.87	0.80
		2. The quantity of human resources of my unit is more now.	0.72	17.19	
		3. The quality of human resources of my unit is more now.	0.77	18.56	
	Social integration	1. The quality of relationships with my colleagues is more now.	0.78	19.40	0.76
		2. The possibility of building up personal contacts is more now.	0.73	17.84	
		3. The trust in my collaborators is more now.	0.75	18.40	
Involvement in change (IIC) α=0.83	Involvement in planning the change	1. In planning of the change, I felt somehow part of this organization.	0.54	11.43	0.64
		2. The middle management has not been involved in planning of the change.	0.55	11.71	
		3. The middle management has been properly informed of planning of the change.	0.80	17.37	
	Involvement in implement the change	1. In implementation of the change, I felt somehow part of this organization	0.59	12.86	0.70
		2. The middle management has not been involved in implementation of the change.	0.61	13.57	
		3. The middle management has been properly informed of implementation of the change.	0.79	18.22	
	Support by superiors	1. The top management did not invest enough resources in the change.	0.48	10.31	0.73
		2. The top management has supported the change with extensive explanations.	0.74	16.92	
		3. In managing the change in my unit, I had the support of my supervisor.	0.78	17.87	
		4. In my unit, we lacked the necessary resources for implementing the changes.	0.46	9.69	
	Training	1. The change has been supported by a proper training program.	0.64	14.67	0.76
		2. I have all the necessary knowledge to manage the change.	0.52	11.34	
		3. I received all the required training to manage the change	0.78	18.81	
		4. My organization gave me all the tools for facing the change.	0.73	17.24	

Table 2: Fit indices for the measurement models

Measures	X^2/df	RMSEA	GFI	AGFI	RMR	NFI	NNFI	IFI	CFI
1- Perceived benefits of change	3.7	0.07	0.88	0.85	0.08	0.96	0.96	0.97	0.97
2- Involvement in change	5.8	0.09	0.90	0.85	0.06	0.90	0.89	0.92	0.92
3- Dispositional resistance to change	3.4	0.07	0.92	0.89	0.06	0.90	0.91	0.93	0.93
4- Resistance to change	3.3	0.069	0.94	0.91	0.04	0.94	0.95	0.96	0.96

evaluation, we used LISREL Version 8.8 software to assess the validity of the questionnaire through confirmatory factor analysis and test the hypothesis and the conceptual model.

Results

Demographic Characteristics of the Participants

In this study, 77.6% (396) of the subjects were female, 64.2% (324) were married, and 69.2% (353) had bachelor degrees. Most participants had exacutive organizational positions 66.5% (339) The mean age of the participants was 34.2±8.01 years and their mean working experience was 29.7±8.10 years. Also, 32.5% (166) and 31% (158) of the participants were under contract and were employed, respectively. Of the 550 questionnaires distributed, 510 were completed properly.

Table 3: The correlations between the composite measures of the model constructs

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Resistance to change	1.00	0.26**	0.22**	0.34**	0.11**	-0.26**	-0.17**	-0.16**	-0.25**	-0.18**	-0.14**	-0.16**	-0.20**	-0.23**	-0.16**	-0.17**
2. Routine seeking		1.00	0.26	0.33	0.16	-0.02	0.04	-0.03	-0.11**	-0.05	0.00	-0.07	-0.04	-0.08	-0.02	-0.01
3. Emotional reaction			1.00	0.47	0.20	-0.10*	-0.09*	-0.09*	-0.08	-0.06	-0.05	-0.09*	-0.10*	-0.07	-0.13**	-0.09
4. Short-term focus				1.00	0.27	-0.05	-0.02	-0.12**	-0. 10*	-0.06	0.006	-0.06	-0.11*	-0.10*	-0.06	-0.07
5. Cognitive rigidity					1.00	0.007	0.003	-0.01	-0.06	0.07	0.08	0.05	0.01	-0.02	0.04	0.10*
6. Job status						1.00	0.73**	0.15**	0.45**	0.53**	0.46**	0.49**	0.32**	0.28**	0.35**	0.36**
7. Job authority							1.00	0.10*	0.43**	0.55**	0.46**	0.47**	0.26**	0.24**	0.31**	0.34**
8. Job security								1.00	0.19**	0.18**	0.04	0.11**	0.05	0.08	0.08	0.05
9. Job responsibility									1.00	0.41**	0.28**	0.43**	0.24**	0.30**	0.22**	0.32**
10. Career										1.00	0.23**	0.47**	0.30**	0.26**	0.34**	0.40**
11. Resources											1.00	0.54**	0.18**	0.20**	0.32**	0.39**
12. Social integration												1.00	0.32**	0.30**	0.31**	0.39**
13. Involvement in planning the change													1.00	0.50**	0.26**	0.33**
14. Involvement in implementing the change														1.00	0.26**	0.37**
15. Support by supervisors															1.00	0.39**
16. Training																1.00

**Correlation is significant at 0.01 level; *Correlation is significant at 0.05 level

Assessment of the Measurement Models Using Confirmatory Factor Analysis to Demonstrate Construct Validity

To evaluate construct validity and predictive power of the questions related to each scale, we used confirmatory factor analysis based on SEM. In this way, standardized coefficients represented standardized factor loadings between the factors and the indicators (between the construct and dimensions). If this coefficient was >0.4, then those questions were considered as having good explanatory power.

To test the significance of the path coefficients (factor loadings) between the observed variables (questions) and the related latent variables (factors), we employed a T-value index. If this index was greater than the absolute value of 1.96, the questions were significant predictors of their factors. The results of confirmatory factor analysis of the scales used in the study are presented in Table 1. All the T-values were significant and factor loadings of all the questions related to each subscale were >0.4. This indicated that all the scales were valid, except for two questions (anti-change behavior and RS) whose factor loadings were less than 0.4.

To evaluate the measurement models and the structural model, we calculated the model-fitting indicators by LISREL software. These indicators included absolute fit indexes (x^2/df, RMSEA, AGFI, GFI, and RMR) and comparative fit indexes (NFI, NNFI, IFI, and CFI). x^2/df index <3 indicates good fitness of the model (28, 29). Where GFA, AGFA, NFI, NNFI, IFI, and CFI were close to 1, good model fitness was assumed. Specifically, indexes with values above 0.90 were acceptable (30). With respect to RMSEA and RMR, values less than 0.05 indicated the highly desirable fitness of the model, while those less than 0.08 indicated desirable fitness. On the other hand, a model with two indexes of 0.1 or more indicated poor fitness (30-32).

Fitness indexes for the measurement models are presented in Table 2. NFI, NNFI, IFI, and CFI were in a good

condition and RMSEA, RMR and GFI were on average in a relatively good condition for all four measurement models. According to Cronbach's alpha coefficients and confirmatory factor analysis, all the instruments had acceptable reliability and validity.

Confirmatory factor analysis models can be modified by removing items with T-value less than 1.96 or factor loading less than 4.0 or 5.0. As mentioned previously, factor loadings of 2 questions (one in anti-change behavior and one in RS) were less than 0.4. However, the removal of these items did not improve the fitness of the relevant measurement model. Thus, these items were kept in the model.

Correlation Analysis Results

Correlation results between the study variables are presented in Table 3. All subscales had significant correlations with resistance to change. RS was significantly correlated to job responsibility. ER showed a significant negative correlation with job status, job authority, job security, social integration in the workplace, involvement in planning the change, and support by superiors. Additionally, ST had a significant negative correlation with job security, job responsibility, and involvement in planning and implementing the change. CR was also significantly correlated to training. Finally, job status, job authority, job responsibility, career, resources and social integration in the workplace had a significant positive correlation with involvement in planning change, implementing the change, support by superiors and training.

The results of Conceptual Model Path Analysis

The results of path analysis of the model fitness indexes (structural model) are presented in Table 4. Absolute fitness indexes, RMSEA (0.07), RMR (0.03), and GFI (0.92) were in good conditions. Also, all the comparative fitness indexes, such as NFI (0.92), NNFI (0.93), IFI (0.95), and CFI (0.95), were in a desirable conditions (higher than 0.90). Therefore, SEM had a good fitness among the employees in the hospitals of Shiraz University of Medical Sciences (Figure 2).

Table 4: Fit indices for the structural model

Fit indices								
df/X^2	RMSEA	GFI	AGFI	RMR	NFI	NNFI	IFI	CFI
3.4	0.07	0.92	0.89	0.03	0.92	0.93	0.95	0.95

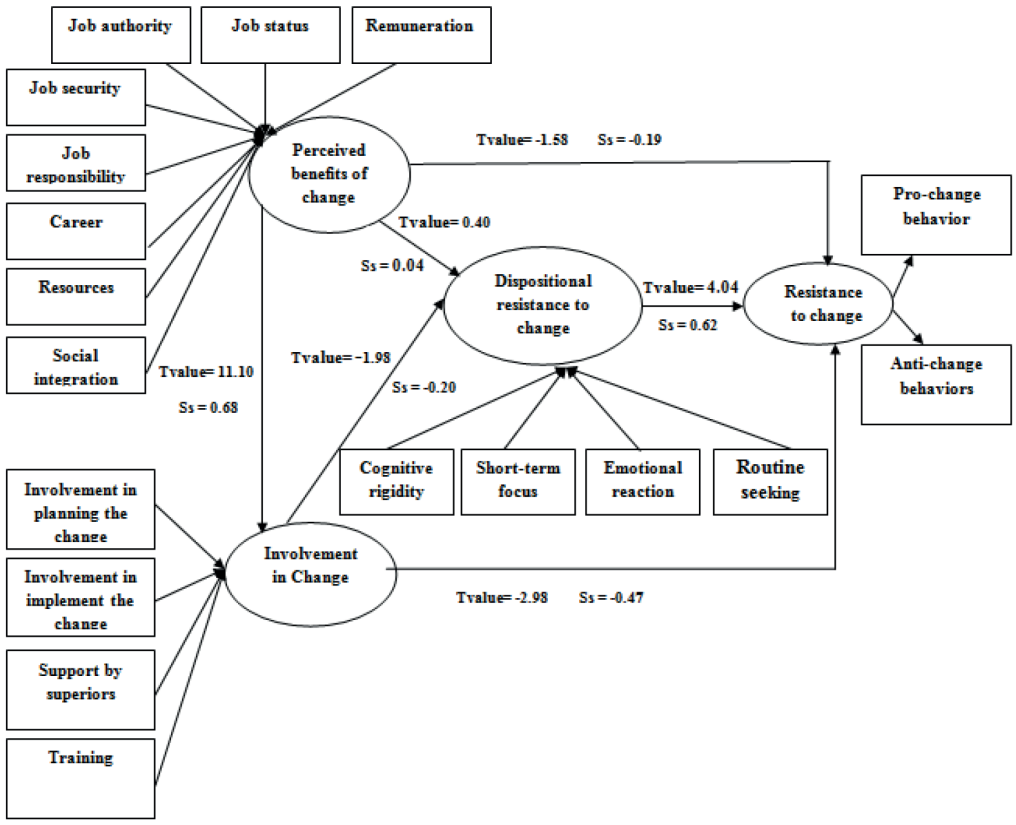

Figure 2: Schematic summary of path analysis results

Testing the Hypotheses Based on the Results of Path Analysis

In order to test the conceptual model, we evaluated the model paths (research hypotheses) based on the calculated T-values. The paths whose T-values were greater than 1.96 were considered as significant and their related hypotheses were accepted. The results of the research hypotheses based on the T-values are presented in Table 5. Accordingly, the paths of involvement in change to resistance to change, dispositional resistance to change to resistance to change, involvement in change to dispositional resistance to change, and perceived benefits of change to involvement in change were significant (T-values >1.96), so the hypotheses related to these paths were accepted. Based on Table 5, coefficients of resistance to change (dependent variable), dispositional resistance to change, and involvement in change (mediator variables) were estimated as 0.89, 0.03, and 0.47, respectively (Table 5 and Figure 3).

Discussion

The findings of this study indicated a significant positive relationship between dispositional resistance to change and resistance to change behaviors. This is consistent with the results of previous studies (33, 34).

Table 5: The results of the hypotheses based on T-values and standard solutions

Hypotheses and dependent and mediator variables	T-values	Standard solutions	Accepted or rejected
Resistance to change			
$H_{1a:}$ Perceived benefits of change → Resistance to change	-1.58	-0.19	Rejected
$H_{2b:}$ Involvement in change → Resistance to change	-2.98	-0.47	Accepted
$H_{3:}$ Dispositional resistance to change → Resistance to change	4.04	0.62	Accepted
R^2=0.89			
Dispositional resistance to change			
$H_{1b:}$ Perceived benefits of change → Dispositional resistance to change	0.40	0.04	Rejected
$H_{2a:}$ Involvement in change → Dispositional resistance to change	-1.98	-0.20	Accepted
R^2=0.03			
Involvement in change			
$H_{4:}$ Perceived benefits of change → Involvement in change	11.10	0.68	Accepted
R^2=0.47			

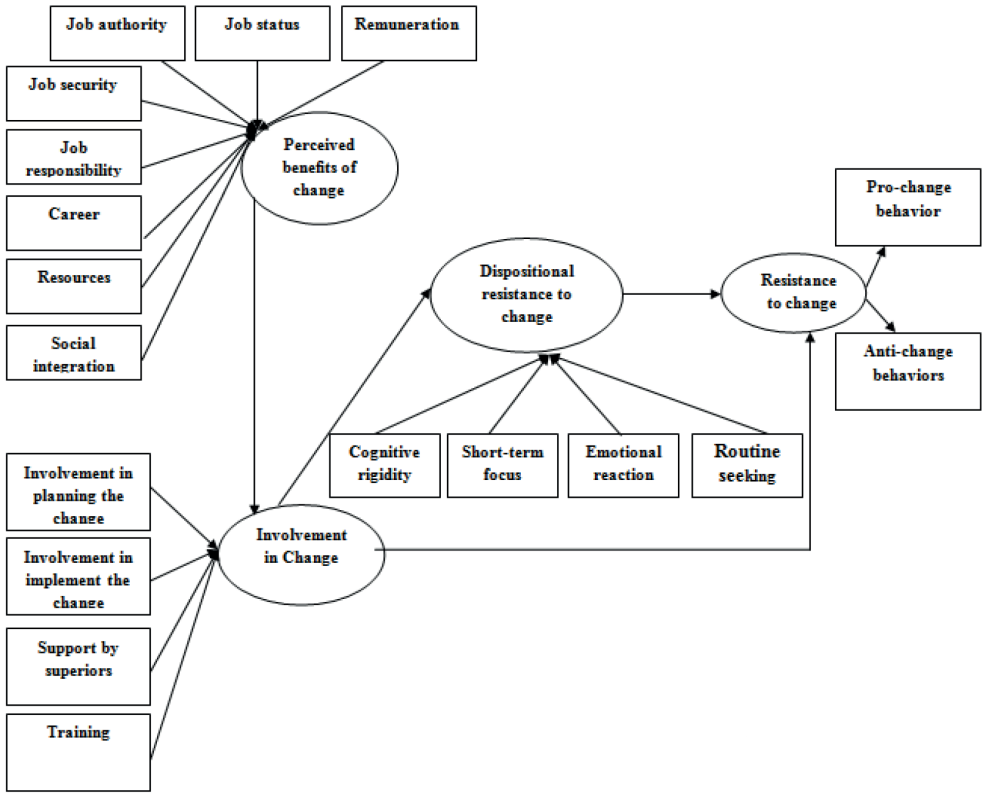

Figure 3: Final modified model

Judge et al. found that many attitudes and behaviors were based on dispositional or personality traits (35). A significant positive relationship was obtained between dispositional resistance to change and resistance behaviors. This indicated that resistance responses can be created as a result of reluctance, stress, intolerance and lack of psychological preparation for the change directly created by the thoughts and feelings associated with the change.

Studies have shown that implementing change in hospitals causes depression, anxiety, feelings of loss of control, emotional exhaustion and increased psychological distress among the hospital staff (36, 37). Such conditions can exacerbate the dispositional resistance to change in individuals.

Results of this study indicated that involvement in change had a significant direct effect on reducing resistance to change behaviors. This finding is not consistent with those of Giangreco and Peccei (8). This inconsistency could be due to differences in research settings and the populations studied.

In general, working in hospitals is based on teamwork. This may indicate the importance of employees' involvement in the change process. Hospital staff, including nurses, believes that change programs are imposed on them and their views are often not considered. Such perceptions decrease the sense of ownership towards change, which reduces behavioral adaptation to successful implementation of change programs (38). Involvement in the change process plays an important role in creating a positive attitude toward change among hospital staff (39). Results of this study agree with other reports indicating that positive employee participation in the change process is significantly associated with commitment to change and with reducing resistance to change. Also involved are increases in adaptability and compatibility to change (8, 12-16). Overall, the sense of participation in change causes the staff to feel that they are respected and trusted, which can effectively reduce resistance (40).

The findings of the present study indicated a significant negative relationship between involvement in the change process and dispositional resistance to change. Messer reported that participation was a predictor of dispositional resistance to change with a negative correlation (41). Dispositional resistance to change is caused by personality traits such as reluctance to loss of control, cognitive difficulties, lack of mental flexibility, stress, anxiety, intolerance adjustment period involved in change, preferring lower levels of motivation, and renewal and reluctance to leave old habits (7).

Improvement of an individual's psychological tolerance of change can be a good strategy to reduce resistance to change. Additionally, by increasing self-efficacy related to the change, participation has an stimulating effect on the change in the participants (17). A study on hospital staff reported that employees who were more confident in their ability to adapt to change had more readiness for organizational change (42).

Opportunity to participate in the change can lead to more commitment to the goals and activities by creating a sense of control among the staff (43, 44). Another study reported that a similar psychological characteristic (increased sense of control and power) was associated with better reactions to stressful situations (45,46). Support from colleagues and supervisors in the change process might also play an important role in overcoming stress through organizational changes (37). Active employee involvement in the change process can reduce stress, anxiety and feeling of loss of control by increasing their knowledge and skills. These factors can eliminate and reduce dispositional resistance to change. According to this relationship, our study results support the hypothesis of the moderating effect of dispositional resistance to change on the relationship between involvement in the change process and resistance to change behavior.

The findings of the current study indicated that involvement in change was significantly and positively correlated to perceived benefits of change. Similarly, the findings of the study by Coyle-Shapiro showed that the employees' participation in organizational change was positively associated with their assessment of program benefits (21). However, Giangreco and Peccei reported contradictory results (23).

In our study, the level of employee involvement in the change process varied depending on their perception of the benefits of change. Therefore, increasing perceived benefits can strengthen the hypotheses related to direct and indirect effects of involvement in the change process on resistance to change behaviors.

Although the study findings indicated that perceived benefits of change did not have a direct effect on resistance to change, it indirectly affected the reduction of resistance to change behavior by influencing involvement in the change process. Therefore, it can be concluded that in the simultaneous multivariate analysis, at least in this study, perceived benefits of change did not directly affect the resistance to change behavior. This result was in contrast to that of Giangreco and Peccei (8). This inconsistency could be attributed to differences

in the research settings and the population studied. Findings of the present study suggest that although the perceived benefit of change was low in the hospital staff of Shiraz University of Medical Sciences, it could not directly predict the resistance to change behavior. Cunningham et al. (6) also conducted a study on the hospital staff and found no significant relationship between the employees' readiness for organizational change and the potential benefits of change, which is consistent with the results of the present study.

In our study, no significant direct relationship was observed between the perceived benefits of change and dispositional resistance to change. On the other hand, this variable could indirectly affect dispositional resistance to change through influencing involvement in change. Oreg indicated that some individuals may even resist the changes that are not consistent with their interests and benefits (7). According to the R^2 obtained for dispositional resistance to change, another reason could be related to other factors whose effects were not considered in the research conceptual model.

By rejecting this hypothesis, the moderating effect of dispositional resistance to change on the relationship between perceived benefits of change and resistance to change was rejected. Also, the findings of Michel et al. on three samples demonstrated that, except for one, dispositional resistance to change could not moderate the relationship between the benefit of change and commitment to change (19).

One of the limitations of this study was the nature of cross-sectional data obtained that did not allow actual causative conclusions to be made. Another limitation was that self-report measures were used in this study. People may not respond truthfully, either because they cannot remember or because they wish to present themselves in a more socially acceptable manner.

Conclusion

Findings of this study suggest that although employee involvement in the change process could reduce their resistance to change, their perception of associated costs and benefits determined the extent of their involvement. In other words, employees' perceptions of the benefits of change lead to an increase in their participation. Increasing the employees' involvement also results in overcoming their personality characteristics of resistance to change and reducing their resistance to changes. For successful implementation of a program to change behaviors, hospital managers should encourage the employees to participate actively in the change program by considering financial and non-financial incentives for employees depending on their needs. Moreover, strengthening their perception of the benefits of change reduces their resistance to change.

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