Effects of Organizational and Personal Factors on Intention to Stay with Organizations among the Workers of a Cement Company Using Structural Equation Modeling

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\textbf{A-R-T-I-C-L-E-N-F-O}

\textbf{Article Notes:}
Received: Nov 04, 2020
Received in revised form: Nov 22, 2020
Accepted: Nov 24, 2020
Available Online: Dec 21, 2020

\textbf{Keywords:}
Intention to stay
Musculoskeletal disorders
Paternalistic management
Safety leadership

\textbf{A-B-S-T-R-A-C-T}

\textbf{Background & Aims of the Study:} Management and leadership style is one of the characteristics that can be of great help to organizations in the competitive world of industries and organizations. On the other hand, individual factors can also play a decisive role in organizational issues. In competition with other organizations, the retention of human resources which is a daunting challenge for numerous organizations is also regarded as a competitive organizational advantage (8). The present study aimed to determine the role of organizational and individual factors on employees' intention to stay with an organization in one of the cement factories in southern Iran in 2018.

\textbf{Materials and Methods:} The present cross-sectional descriptive-analytical study 142 participants who were randomly selected from among all operational workers on fixed day shifts and rotational shiftwork. Data collection tools included the following questionnaires: a researcher-made demographic form, body map, the intention to stay questionnaire, safety leadership questionnaire developed by Tabibi, and paternalistic management scale designed by Cherry. The obtained data were analyzed in LISREL and SPSS software (version 20) using descriptive and analytical methods, as well as structural equation modeling.

\textbf{Results:} The used instruments were reported to be reliable rendering a Cronbach's alpha coefficient of > 0.7. The results of the body map questionnaire demonstrated that 31 (23.9%) employees reported pain in the lower back as painful and very painful, which was higher than pain scores in other parts of the body. Moreover, paternalistic management, safety leadership, and stress did not show a significant effect on the variables of authoritarianism, musculoskeletal disorders, and the intention to stay, respectively (P > 0.05).

\textbf{Conclusion:} As evidenced by the obtained results, when people in authority assume a paternal role in organizations and receive the expected responses from their subordinates, they will witness a remarkable decrease in employees' intention to leave their present organization.

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Please cite this article as: Khandan M, Hosseini F, Shahreki B, Barahouei Noori S, Yadollahifar S. Effects of Organizational and Personal Factors on Intention to Stay with Organizations among the Workers of a Cement Company Using Structural Equation Modeling. Arch Hyg Sci 2021;10(1):11-20

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\textbf{Background}

The increasing competition among industries and organizations and the need for organizational change and transformation have attracted the attention of researchers to find effective performance strategies in an organization...
through understanding organizational issues (1). The recognition of the present era as the most motivating period for recognizing and implementing management has highlighted the fact that the success of any organization depends on the effective use of human resources (2).

The researchers have recently turned their focus toward management and leadership styles as sets of attitudes and skills developed and exercised by managers. These skills are formed by the following factors: system, values, belief in employees, leadership tendencies, and a sense of security in ambiguous situations (2). The people in authority can select different styles for the management of human resources (1).

Among the various leadership styles, paternalistic leadership as defined in the study by Farh and Cheng (2000) is based on fatherly benevolence combined with strong discipline and authority (3). This style of leadership consists of three basic parts: authoritarianism leadership, moral leadership, and benevolent leadership (3). The paternalistic leaders take on all the duties of a father, such as the provision of care, protection, and guidance (4). In addition, in order to improve organizational performance, safety leadership as a subsystem of organizational leadership can determine the quality of organizational leadership (5).

In this regard, ethical leadership is considered one of the most important characteristics of safety managers. In their study, Homayounfar et al. (2018), pointed to the impact of this leadership style on acceptance, participation, and safety motivation of employees (6). Moreover, in this context, Stacey et al. (2011) found that individuals' distrust in safety leadership was strongly influenced by serious defects in trust and benevolence of leaders (7).

In competition with other organizations, the retention of human resources which is a daunting challenge for numerous organizations is also regarded as a competitive organizational advantage (8). This organizational factor is of great importance since companies actually lose their valuable human talents by losing their employees, and this loss can be to the benefit of competitors. The training of new employees requires significant resources, takes a long time, and involves a slope of the learning curve (9).

Employee turnover can be influenced by organizational factors, such as leadership style (4, 10, 11). Lieberman (2014) considers paternalistic leadership to be effective in reducing employees' turnover intention since it leads to their emotional dependence on the organization and increases their commitment to their job (10). Ethics as one of the important behaviors of leaders performs a determining role in employees' turnover intention and behaviors through affecting organizational commitment and job satisfaction (12).

Therefore, ethical leadership as one of the dimensions of paternalistic leadership has a negative relationship with employees' turnover intention by strengthening the sense of belonging and organizational commitment (12, 13, 14). Authoritarian leaders may also obtain the same outcome by instilling fear in employees (14). Nonetheless, Cherry (2015) reported that authoritarian-led organizations are more prone to employee turnover and absenteeism (15). On the other hand, Elici et al. (2012) have pointed to the predictive role of safety facilities and safety leadership in reducing this tendency (11).

Nevertheless, the influential factors affecting employees' intention to stay or leave the organization are not limited to the aforementioned issues. Psychological factors, such as stress, (16, 12, 17, 18) and physical factors, including musculoskeletal disorders, (19, 20) can be also mentioned as other effective factors. As estimated by the Occupational Safety and Health Association (2017/2018), within 2017-18, 595,000 workers suffered from work-related anxiety,
depression, and stress, and 469,000 workers suffered from work-related musculoskeletal disorders. Moreover, 15.4 and 6.6 million lost working days were reported for these workers, respectively (21).

Stress and musculoskeletal disorders can increase employees' dissatisfaction and their desire to leave; however, they can be reduced by the use of appropriate management styles (2, 22), such as authoritarian leadership which is among the organizational stressors (14, 23) and moral leadership style which is in opposition to stressors (13). Authoritarian leadership in Iranian organizations has presented numerous problems to the implementation of new leadership styles (4).

Moreover, the effect of participatory leadership styles, such as paternalistic leadership, on instilling a sense of security in employees and their reduced turnover intention has been highlighted in various studies. In light of the aforementioned issues, the present study was conducted in a cement factory in southern Iran in 2018 to answer the following questions:

**Question 1:** Can safety leadership and paternalistic leadership/management style affect stress, work-related musculoskeletal disorders (WMSDs), and employees' intention to stay with an organization?

**Question 2:** Do WMSDs and stress affect employees' intention to stay with in an organization?

**Question 3:** Is paternalistic leadership/management style related to safety leadership?

### Materials & Methods

The present cross-sectional descriptive-analytical study 142 participants who were randomly selected from among all operational workers on fixed day shifts and rotational shiftwork. It is worth noting that subjects could withdraw from the study at any stage they wished. The data about gender, marital status, level of education, and work system were obtained through a researcher-made demographic questionnaire. Moreover, self-reported questionnaires provided the history of work-related musculoskeletal disorders and stress.

The indicators of an intention to stay, paternalistic management (including the dimensions of benevolent leadership, authoritarian leadership, as well as ethical leadership) and safety leadership (including the dimensions of decision-making, control, and motivation), were separately assessed in some questionnaires. In addition, a valid body map questionnaire (24) was used to determine the mean severity and location of pain in different organs of the body. To this end, the subjects determined the location of the pain by marking on the body map and indicated the severity of their pain using the ruler in the map diagram of each organ in the questionnaire. The body map divides the whole body into 13 parts, encompassing the left and right organs of the body (24).

As opposed to turnover intention, the intention to stay as a positive issue motivates the workers to stay and work in organization (25). Work Intention Inventory was designed to assess a set of tendencies that result from the health conditions of workers (26). This questionnaire consists of five subscales and each subscale has five items which are rated on a 7-point Likert scale. A score of 0 signifies the absence of any intention, while 6 suggests the maximum intention (26). The validity coefficients of the questionnaire exceeded the allowable limit of 0.80, and the convergent reliability coefficients for the scores obtained from each section were obtained at 0.87 (26). As mentioned earlier, each part of the questionnaire is dedicated to one of the indicators of work intention, and the section of intention to stay was used in the present study.

The questionnaire translated by Tabibi et al. (2014) was used to collect and assess the
information related to safety leadership. The reliability, as well as content and construct validity of this questionnaire, have been also confirmed (5). This 32-item questionnaire encompassed the dimensions of safety control, safety motivation, and decision making. The answers were rated on a 5-point Likert scale (very high, high, medium, low, and very low (5).

The paternalistic management was assessed using a scale designed by Cherry et al. (2004) in 26 sections encompassing the dimensions of paternalistic leadership, including ethical leadership, authoritarian leadership, and benevolent leadership. The items in this scale were rated on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree) (27). The internal validity coefficient scores for the scales of benevolent leadership, ethical leadership, and authoritarian leadership were reported to be 0.94, 0.90, and 0.89, respectively (35).

The data were analyzed in LISREL and SPSS software (version 20). Minimum value, number or score (min), maximum value, number or score (max), mean, and standard deviation were among the statistical characteristics defined for the variables of age, work experience, number of work-related musculoskeletal disorders, safety leadership components (decision-making, control, and motivation), paternalistic leadership components (benevolence, authoritarianism, and ethics), intend to stay, and stress levels. Furthermore, qualitative variables, including gender, marital status (single, married, and separated), and level of education (under diploma, diploma, postgraduate, bachelor, master and doctorate), work system (fixed day shifts and rotational shiftwork), history of musculoskeletal disorders, and stress (yes and no) were reported using frequency, frequency percentage, and cumulative percentage. The multivariate analysis technique of Structural Equation Modeling (SEM) was used to analyze and test the simultaneous correlation of the variables. In this model, in order to evaluate the fit of the measurement model and structural model with the sample data, measurement model fitting and reliability of the constructs (items of the questionnaires used in the research) were performed by examining the factor loadings. Cronbach's alpha coefficient, as well as its reliability and validity, were confirmed by calculating the average variance extracted (AVE), and divergent validity proposed by Fornell and Larcker (1981).

Finally, the fit of the structural model was performed using three criteria of Z-value, Q², and R². It is stated that a Z coefficient>1.96 is required for each construct to confirm its significance at 95% confidence level (28), and three values of 0.19, 0.33, 0.67 are regarded as criterion values for weak, medium, and strong levels of R² (28). Moreover, Q² >35 indicates the strong predictive power of the model (28).

Based on the results of the study, the mean scores of age and work experience were reported as 35±6.80 and 9±5.43. Regarding marital status, 90.7, 7.9%, and 1.4% of cases were married, single, and divorced, respectively. The majority of employees (43.2%) had a diploma, 23.7%, 20.1%, 10.1%, and 2.9% of subjects had high school education, bachelor's, associates', master's, and doctoral degrees, respectively. Moreover, 64.3% and 35.7% of cases were fixed day workers and shift workers, respectively. In addition, 68.5% of employees stated that they had experienced musculoskeletal disorders and 31.5% denied such an experience. A history of stress was confirmed by 66.4% of subjects. The mean scores of decision making, control, and safety motivation were reported as
44.12±18.59, 21.29±9.18, 13.61± 5.59, respectively. Other variables, such as benevolence, authoritarianism, and ethics, three dimensions of paternalistic management, obtained the mean scores of 41.51±15.53, 21.5±6.82, and 15.99±29.4. Moreover, the mean score of intention to stay was calculated at 20.94±6.14.

The results of the body map questionnaire demonstrated that 31 (23.9%) employees reported pain in the lower back as painful and very painful, which was higher than pain scores in other parts of the body. The percentages for the other 26 areas of the body are displayed in Table 1. The convergent validity criterion examines the correlation between each construct and the observable variables within that structure. It showed the appropriate convergence of constructs after calculating the AVE index, which was higher than 0.04 for all constructs.

As the correlation matrix (Table 2) based on Fornel and Larcker method shows, the square root of AVE of the latent variables in the present study which is given in the original diameter of this matrix in most cases is larger, compared to the correlation between them written in the lower and left cells of the original diameter. Therefore, it can be concluded that constructs in the model have a higher interaction with their indicators, compared to other constructs. In other words, divergent validity is desirable.

Cronbach's alpha coefficient indicated that the reliability of each construct was > 0.7, and the mixed reliability index was reported to be >0.7, signifying the relative reliability of the constructs in the model.
constructs (28). In addition to reporting Cronbach's alpha coefficients and combined reliability, factor loading values were evaluated, and items 12 and 17 in authoritarianism dimensions with factor loadings less than 0.4 were detected. Thereafter, all factor loadings were higher than 0.4, pointing to the appropriateness of this criterion (Figure 1) (29).

### Table 2) Correlation matrix and divergent validity of research variables

|               | Moral | Motivation | Control | Authoritarianism | Benevolence | Management | Safety Leadership | Intent to Stay | Decision Making |
|---------------|-------|------------|---------|------------------|-------------|------------|-------------------|----------------|----------------|---------------|
| Moral         | 0.740 | -0.454     | -0.567  | -0.071           | 0.756       | 0.884      | -0.553            | 0.605          | -0.540         | 0.889         |
| Motivation    | -0.454| 0.745      | 0.902   | 0.209            | -0.434      | -0.541     | -0.584            | -0.486         | 0.907          | 0.253         |
| Control       | -0.567| 0.902      | 0.860   | 0.300            | -0.541      | -0.175     | -0.811            | -0.459         | -0.581         | -0.511        |
| Authoritarianism | -0.071| 0.209      | 0.300   | 0.811            | 0.856       | 1.020      | 0.676             | 0.645          | 0.999          | 0.645         |
| Benevolence   | 0.756 | -0.434     | -0.541  | -0.175           | 0.856       |           |                   |                |                |               |
| Management    | 0.884 | -0.541     | -0.175  | 0.811            | -0.584      |           |                   |                |                |               |
| Safety Leadership | -0.553| 0.951      | 0.269   | 0.820            | -0.568      |           |                   |                |                |               |
| Intent to Stay| 0.605 | -0.486     | -0.584  | -0.602           | 0.616       |           |                   |                |                |               |
| Decision Making | -0.540| 0.907      | 0.253   | -0.526           | 0.645       |           |                   |                |                |               |

Figure 1) Executed model with factor loadings
Table 3) T and p-value of the effect of variables on each other

<table>
<thead>
<tr>
<th>Effect of exogenous on endogenous variable</th>
<th>T Statistics</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal -&gt; Intent to Stay</td>
<td>4.102</td>
<td>0.000</td>
</tr>
<tr>
<td>Management -&gt; Moral</td>
<td>14.507</td>
<td>0.000</td>
</tr>
<tr>
<td>Management -&gt; Authoritarianism</td>
<td>0.904</td>
<td>0.366</td>
</tr>
<tr>
<td>Management -&gt; Benevolence</td>
<td>287.229</td>
<td>0.000</td>
</tr>
<tr>
<td>Management -&gt; Stress</td>
<td>6.525</td>
<td>0.000</td>
</tr>
<tr>
<td>Management -&gt; Intent to Stay</td>
<td>3.497</td>
<td>0.001</td>
</tr>
<tr>
<td>Safety Leadership -&gt; Motivation</td>
<td>48.331</td>
<td>0.000</td>
</tr>
<tr>
<td>Safety Leadership -&gt; Control</td>
<td>107.380</td>
<td>0.000</td>
</tr>
<tr>
<td>Safety Leadership -&gt; Musculoskeletal</td>
<td>0.178</td>
<td>0.859</td>
</tr>
<tr>
<td>Safety Leadership -&gt; Intent to Stay</td>
<td>2.410</td>
<td>0.016</td>
</tr>
<tr>
<td>Safety Leadership -&gt; Decision Making</td>
<td>336.122</td>
<td>0.000</td>
</tr>
<tr>
<td>Stress -&gt; Intent to Stay</td>
<td>0.810</td>
<td>0.418</td>
</tr>
</tbody>
</table>

In the present study, the exogenous variables of paternalistic management, safety leadership, and stress did not have a significant impact on the endogenous variables of authoritarianism, musculoskeletal disorders, and intention to stay, respectively (P> 0.05). Other exogenous variables had significant effects on endogenous variables (P<0.05) (Table 3). The $R^2$ index shows the effect of an exogenous variable on an endogenous variable. R-squared values over 0.33 and 0.67 obtained in the present study signified moderate and strong predictive power of this model and its proper fit, except for the authoritarian variable (less than 0.19) (Figure 2). Moreover, the $Q^2$ values also apply to all constructs of the structural model.

Discussion

The present study aimed to answer the following question: Can organizational factors, such as paternalistic leadership style and safety leadership, or physical and psychological factors, such as musculoskeletal disorders and stress, affect employees' intend to stay in organizations?

As illustrated by the obtained results, paternalistic leadership style, safety leadership, and musculoskeletal disorders had a significant effect on employees' intend to stay; nonetheless, the impact of stress was not significant. Based on Daghati (2018), among the 18 factors affecting employee retention, the management and leadership style ranked the first as the most important factor (30). Lieberman (20014) showed that the paternalistic leadership style promotes employees' commitment to work by arousing their sense of emotional dependency on the organization (10).

Gelfand (2007) indicated that paternalistic leaders consider it an obligation to support their employees in a manner resembling a parent and in exchange they earn loyalty and respect (31). In line with the results of the present study, Amponsah-Twiah et al. pointed to the decisive role of safety leadership in reducing employees'
turnover intention. In response to the other part of the question raised in this article, Goncalves et al. (2001) pointed out that the mismatch between employees’ equipment and their anthropometric characteristics can cause job stress, which in turn, can increase employee turnover as a risk factor (32).

Musculoskeletal disorders can seriously affect the quality of life and lead to job restrictions, absenteeism, and even the need for a career change (20). The results of the present study did not point to the effect of stress on employees’ intention to stay with an organization; nonetheless, the majority of national and international studies (12, 16, 17, 18) have addressed this impact. In agreement with the present study, Zare et al. (2017) showed that job stress had no effect on employees' turnover intention (9). Nonetheless, apart from the assessment of the direct effect of the aforementioned factors on the intention to stay, the current study examined the indirect effect of safety leadership and paternalistic leadership with the mediating role of stress and musculoskeletal disorders.

Consistent with the present study, various national and international studies have pointed to the relationship of job stress with leadership style and management (2, 33,34). When managers create a negative psychological and emotional atmosphere full of stress and work pressure, they instill fatigue, resentment, and anger in employees. Moreover, they will witness a considerable decrease in creativity and performance of employees and constant stress (2). Henry Ren Yeh et al. (2008) indicated the significant relationship between paternalistic leadership and job stress (33).

**Conclusion**

As evidenced by the obtained results, when people in authority assume a paternal role in organizations and receive the expected responses from their subordinates, they will witness a decrease in employees' intention to leave their present organization.

**Footnotes**

**Acknowledgements**

The research team would like to extend their deepest gratitude to all the personnel participating in the present study and the managers of the company.

**Conflict of Interest**

The authors declare that they have no conflict of interest regarding the publication of the current article.

**References**

10. Liberman L. The impact of a paternalistic style of management and delegation of authority on job satisfaction and Organizational Commitment in Chile and the US. Innovar 2014;24(53):187-96. Link
31. Karimi M, Shajaei S. Studying the relationship between paternalistic leadership and employees' voice emphasizing on moderator role of knowledge sharing of employees at branches of Saderat Bank in Golestan Province. Manag Governmental Organ 2015;3(2):21-

