The Correlations between Emotional Intelligence, Conflict Management Strategies, and Communication Skills of the Environmental Health Personnel in the Health Centers Affiliated to Qazvin University of Medical Sciences in Qazvin, Iran

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ABSTRACT

Background: This study aimed to determine the correlations between the emotional intelligence, conflict management strategies, and communication skills of the environmental health personnel of the health centers of Qazvin University of Medical Sciences, Iran.

Methods: This cross-sectional study was conducted on 116 environmental health personnel in 2018, who were selected via census sampling. Data were collected using Shring's emotional intelligence scale, Burton's communication skills scale, and the conflict management scale. Data analysis was performed in SPSS version 18 using descriptive statistics, Pearson's correlation-coefficient, t-test, and ANOVA.

Results: The emotional intelligence of the personnel had significant, direct correlations with verbal and feedback skills ($P < 0.05$). Verbal skills were prominent in the evaluated environmental health personnel. Emotional intelligence and communication skills were relatively favorable in the personnel. In addition, the results of the Scheffe's test indicated a significant difference between the personnel with bachelor's and master's degrees.

Conclusion: In order to improve the emotional intelligence and communication skills of environmental health personnel, it is essential to design proper educational interventions and develop educational packages.

1. Introduction

Emotional intelligence is defined as a set of emotional and social competencies and knowledge regarding other mental skills. This concept was introduced by John Mayer, emphasizing on the ability of individuals to control their feelings and those of the others, accept the views of others, and control social relations and feedback [1]. Emotional intelligence is the capability of individuals to explain and interpret their emotional status. In fact, emotional intelligence is a form of competence, which determines the processes through which skills could be utilized optimally.
Today, 80% of success depends on the skills of individuals, which are directly associated with emotional intelligence. Communication involves the exchange of information, thoughts, and emotions from the sender to the recipient. Although people are able to easily communicate with others, they are not able to use their communication skills under the right circumstances [4]. Organization is a form of communication network, which seeks to improve its status and realize its goals by the proper management of the working capital and assets. Human resources are an important organizational asset employed by organizations. The improvement of communication skills is considered essential to increasing the efficiency of human resources [4–6]. A study in this regard demonstrated that in the past, employees were asked to disregard their emotions at the workplace. Nevertheless, the personal characteristics of employees inevitably expose these individuals to emotional issues in the workplace due to social interactions [7].

Conflict management is a phenomenon that has attracted the attention of managers and administrators in organizations. In general, conflict is a demanding issue in every professional environment, including health centers. Although conflict does not cause disturbance in professional relations, the ineffective management of conflicts may lead to undesirable outcomes. In this regard, Some Studies have argued that emotional intelligence allows a deep insight into the workplace events and conflicts, thereby helping individuals to confront these issues with patience in order to find logical solutions [8–10]. In fact, emotional intelligence is a critical skill in personnel for the effective management of conflicts, which has recently attracted the attention of researchers [11]. Recent findings have denoted that the importance of positive emotions and rationality in the success of humans has been undermined [12].

According to the literature, the emotional intelligence of managers plays a pivotal role in the identification of conflicts and adoption of appropriate strategies for conflict management in organizations [2,3]. Since environmental health personnel often work as health inspectors in various guilds, they are more exposed to work stress and tension. On the other hand, emotional intelligence enables environmental health personnel to manage their anxiety, control tensions, and adopt a positive attitude toward obstacles. Several factors influence the choice of conflict management strategies by health personnel, including emotional intelligence.

In this study, all three factors were assessed simultaneously, which were not examined in previous studies. The present study aimed to investigate the correlations between the emotional intelligence, conflict management strategies, and communication skills of the environmental health personnel in the health centers affiliated to Qazvin University of Medical Sciences, Iran.

2. Materials and Methods

This cross-sectional, analytical study was conducted on the environmental health personnel employed in the health centers affiliated to Qazvin University of Medical Sciences. The participants were selected via census sampling. Data were collected using a questionnaire, which was completed by the environmental health personnel of the health centers in Qazvin province. The samples size was estimated at 140 and reduced to 116 considering the dropout rate.

The researcher randomly provided the questionnaires to the samples. The questionnaire consisted of demographic data, Shrings emotional intelligence scale, Robin’s conflict management scale, and Burton's communication skills scale. The validity and reliability of the questionnaire have been confirmed in foreign and domestic studies, including the studies by Vatankhah et al. (2008) [3], Raesi et al. (2010) [10], and Keshkaran et al. (2012) [13].

The questionnaire consisted of four sections; the first section included nine items regarding the demographic characteristics of the participants (workplace, age, gender, marital status, work experience, management experience, education level, field of study, and organizational position). The second section was Shrings emotional intelligence scale, which consisted of 33 items scored based on a five-point Likert scale within the range of 1-5 in five subscales of self-motivation (seven items), self-awareness (eight items), self-control (seven items), social consciousness/empathy (six items), and social skills (five items). The third section was Burton's communication skills scale, which consisted of 18 items to evaluate verbal, listening, and feedback skills scored based on a five-point Likert scale. The fourth section of the questionnaire was Robbins conflict management scale, which had 30 items regarding three conflict management strategies of non-confrontation, problem-solving, and control, with the items scored based on a seven-point Likert scale. In order to ensure the validity of the questionnaire, 20 environmental health personnel were asked to re-read the questionnaire to perform a pilot study. Subsequently, the researcher referred to the health centers affiliated to Qazvin University of Medical Sciences (Abyek, Buin Zahra, Takestan, Alborz, Avaj, and Qazvin), distributed the questionnaire among the environmental health personnel, and provided the necessary explanations to the personnel to complete the questionnaire.

At first, Kolmogorov-Smirnov test was used to investigate the data normality and abnormality. Data analysis was performed in SPSS 18 (IBM Corp., Armonk, NY, USA) using descriptive statistics, Pearson’s correlation-coefficient, t-test, and analysis of variance (One-Way ANOVA ANOVA). In all the statistical analyses, P-value of less than 0.05 was considered significant. Oral consent was obtained from the participants, and those who were unwilling to participate were excluded. The personal information of the selected subjects remained entirely confidential. The study protocol was approved by Iran National Committee for Ethics in Biomedical Research (No. IR.QIUMS.REC.1397.026).

3. Result and Discussion

Among 116 personals enrolled in the study, 40 (34.5%) were male and 76 (65.5%) were female. The mean work experience of the personnel was 8.66 ± 7.02 years, and the mean management experience was 1.24 ± 0.27 years. The number of the personnel with a postgraduate diploma was 14 (12.66%), while 102 personnel (87.93%) had a bachelor's degree or higher education. In addition, the majority of the personnel had been majored in environmental health.
The findings of the current research indicated that among the components of emotional intelligence, self-awareness (mean score: 3.59 ± 0.41) and self-motivation (mean score: 3.03 ± 0.35) had the highest and lowest scores, respectively. Furthermore, the mean scores of the self-control, social, and consciousness components were 3.23 ± 0.49, 3.53 ± 0.53, and 3.46 ± 0.46, respectively. The mean score of communication skills was estimated at 3.18 ± 0.42. Among the components of communication skills, the verbal component (mean score: 3.43 ± 0.58) and effective listening (mean score: 2.72 ± 0.55) had the highest and lowest scores, respectively.

According to the descriptive data regarding conflict management (Table 1), the mean score of conflict management in the personnel was 4.03 ± 0.58. Among the conflict management components, problem-solving strategy (mean score: 4.47 ± 0.57) and non-confrontation (mean score: 3.68±0.66) had the highest and lowest scores, respectively.

The mean score of communication skills was estimated at 3.18 ± 0.42. Among the components of communication skills, the verbal component (mean score: 3.43 ± 0.58) and effective listening (mean score: 2.72 ± 0.55) had the highest and lowest scores, respectively.

According to the results of independent t-test, there were no significant correlations between emotional intelligence, communication skills, and conflict management strategies in the male and female personnel (P > 0.05).

The results of independent t-test indicated no significant correlations between emotional intelligence, communication skills, and conflict management strategies in the male and married personnel (P > 0.05).

According to the results of ANOVA, emotional intelligence had no significant correlations with the education level of the personnel (P > 0.05). On the other hand, communication skills were significantly associated with the education level of the personnel (P < 0.05). Furthermore, the results of Scheffe’s test showed a significant difference between the personnel with bachelor’s and master’s degrees in this regard (Table 6).

The results of Pearson’s correlation-coefficient demonstrated significant associations between emotional intelligence, communication skills, conflict management strategies, and control strategies with the education level of the personnel (P < 0.05).

Table 3: Mean Scores of Emotional Intelligence, Communication Skills, and Conflict Management Strategies in Terms of Marital Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Number</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total emotional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intelligence</td>
<td>Male</td>
<td>26</td>
<td>111.54</td>
<td>1.64</td>
<td>2.63</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>111.10</td>
<td>8.99</td>
<td>0.94</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>communication</td>
<td>Male</td>
<td>26</td>
<td>55.65</td>
<td>1.97</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>57.81</td>
<td>6.85</td>
<td>0.77</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>confrontation</td>
<td>Male</td>
<td>26</td>
<td>3.85</td>
<td>0.17</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>3.63</td>
<td>0.58</td>
<td>0.06</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>Male</td>
<td>26</td>
<td>4.24</td>
<td>0.11</td>
<td>0.05</td>
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<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>4.54</td>
<td>0.56</td>
<td>0.05</td>
</tr>
<tr>
<td>Control</td>
<td>Male</td>
<td>26</td>
<td>3.74</td>
<td>0.17</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>90</td>
<td>3.84</td>
<td>0.92</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Table 2: Mean Scores of Emotional Intelligence, Communication Skills, and Conflict Management Strategies in Terms of Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Number</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total emotional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intelligence</td>
<td>Male</td>
<td>40</td>
<td>111.06</td>
<td>10.38</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>76</td>
<td>111.28</td>
<td>9.99</td>
<td>1.14</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>communication</td>
<td>Male</td>
<td>39</td>
<td>57.76</td>
<td>7.41</td>
<td>1.18</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>75</td>
<td>57.09</td>
<td>7.90</td>
<td>0.91</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-confrontation</td>
<td>Male</td>
<td>40</td>
<td>3.73</td>
<td>0.69</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>76</td>
<td>3.65</td>
<td>0.67</td>
<td>0.07</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>Male</td>
<td>40</td>
<td>4.57</td>
<td>0.57</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>76</td>
<td>4.41</td>
<td>0.58</td>
<td>0.06</td>
</tr>
<tr>
<td>Control</td>
<td>Male</td>
<td>40</td>
<td>3.95</td>
<td>0.85</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>76</td>
<td>3.75</td>
<td>0.95</td>
<td>0.10</td>
</tr>
</tbody>
</table>

The findings of the current research indicated that among the components of emotional intelligence, self-awareness (mean score: 3.59 ± 0.41) and self-motivation (mean score: 3.03 ± 0.35) had the highest and lowest scores, respectively. Furthermore, the mean scores of the self-control, social, and consciousness components were 3.23 ± 0.49, 3.53 ± 0.53, and 3.46 ± 0.46, respectively. The mean score of communication skills was estimated at 3.18 ± 0.42. Among the components of communication skills, the verbal component (mean score: 3.43 ± 0.58) and effective listening (mean score: 2.72 ± 0.55) had the highest and lowest scores, respectively.

According to the descriptive data regarding conflict management (Table 1), the mean score of conflict management in the personnel was 4.03 ± 0.58. Among the conflict management components, problem-solving strategy (mean score: 4.47 ± 0.57) and non-confrontation (mean score: 3.68±0.66) had the highest and lowest scores, respectively.

The mean score of communication skills was estimated at 3.18 ± 0.42. Among the components of communication skills, the verbal component (mean score: 3.43 ± 0.58) and effective listening (mean score: 2.72 ± 0.55) had the highest and lowest scores, respectively.

According to the information in Table 2, the mean total score of emotional intelligence was 111.06 ± 10.38 and 111.28 ± 9.99 in the male and female personnel, respectively. In addition, the total score of communication skills in the male and female personnel was 57.76 ± 7.41 and 57.09 ± 7.90, respectively. The mean scores of conflict management strategies in the dimensions of non-confrontation, problem-solving, and control in the male and female personnel were 3.73 ± 0.66 and 3.65 ± 0.67, 4.57 ± 0.57 and 4.41 ± 0.58, and 3.95 ± 0.85 and 3.75 ± 0.95, respectively.

The results of independent t-test indicated no significant correlations between emotional intelligence, communication skills, and conflict management strategies in the male and female personnel (P > 0.05).

According to the information in Table 3, the mean score of total emotional intelligence in the single and married personnel was 111.54 ± 13.41 and 111.10 ± 8.99, respectively. In addition, the mean total score of communication skills in the single and married personnel was 55.65 ± 10.07 and 57.81 ± 6.85, respectively. The mean scores of conflict management strategies in the dimensions of non-confrontation, problem-solving, and control in the married and single personnel were 3.85 ± 0.89 and 3.63 ± 0.58, 4.24 ± 0.56 and 4.54 ± 0.56, and 3.74 ± 0.91 and 3.84 ± 0.92, respectively.

The results of independent t-test indicated no significant correlations between emotional intelligence, communication skills, and conflict management strategies (control and non-confrontation strategies) in the married and single personnel (P > 0.05). However, a significant difference was observed in the problem-solving strategy between the single and married personnel (P < 0.05). The results of Pearson’s correlation-coefficient indicated significant correlations between the emotional intelligence, verbal communication, feedback, and overall communication skills in the personnel (P < 0.05). However, no significant association was observed between emotional intelligence and listening skills (P > 0.05) (Table 4).

According to the results of ANOVA, emotional intelligence, communication skills, and conflict management strategies had no significant correlations with the workplace (city) of the personnel (P > 0.05) (Table 5).

The results of ANOVA indicated no significant associations between emotional intelligence, non-confrontation, problem-solving, and control strategies with the education level of the personnel (P > 0.05). On the other hand, communication skills were significantly associated with the education level of the personnel (P < 0.05). Furthermore, the results of Scheffe’s test showed a significant difference between the personnel with bachelor’s and master’s degrees in this regard (Table 6).

The results of Pearson’s correlation-coefficient demonstrated significant associations between emotional intelligence, verbal skills, feedback, overall communication, and non-confrontation strategy, while emotional intelligence had no significant correlations with listening skills, problem-solving, and control strategies (Table 7).

According to the results of the present study, the mean scores of emotional intelligence, communication skills, and conflict management strategies of the environmental health personnel were relatively favorable. Individuals with high emotional intelligence are expected to listen attentively to others, accept others, and provide proper feedback in their interpersonal interactions. Moreover, the findings of the current research showed no significant difference in emotional intelligence of the male and female personnel. Nevertheless, the female personnel had a higher emotional intelligence, which is consistent with similar studies [14, 15].
In the current research, the significant, direct correlations between emotional intelligence and the two dimensions of verbal communication and feedback suggested that the individuals with higher emotional intelligence in their interpersonal relations understand the conveyed messages better and have higher listening skills and a deeper understanding of their social communications. In addition, the significant, direct correlation between emotional intelligence and feedback skills indicated that the higher level of emotional intelligence in the personnel was associated with the greater possibility of using feedback skills in communication [10, 16].

Among the conflict management strategies, problem-solving (score: 4.47 out of 7) was the predominant strategy adopted by the environmental health personnel, which is in congruence with the results obtained by Afzalur Rahim et al. (2002) [17], Fahim Diein (2004) [18], and Kalhor (2007) [19]. In the present study, the scores of the control and non-confrontation strategies were 3.82 and 3.68, respectively. Furthermore, the results of Pearson's correlation-coefficient indicated a significant, inverse correlation between the emotional intelligence of the managers and non-confrontation strategy. In other words, the increased level of emotional intelligence in the managers was associated with the lower likelihood of using this strategy and vice versa. This is inconsistent with the studies by Afzalur Rahim et al. (2002) [17] and Fahim Diein (2004) [18].

The findings of the current research demonstrated no significant correlation between the emotional intelligence of the personnel and selection of the problem-solving and control strategies. In general, the personnel or managers with high emotional intelligence cannot be indifferent to the feelings of their colleagues and employees or organizational issues. Consequently, they avoid non-confrontation strategies and seek a coherent solution for the conflicting parties [18].

The employees who adopt a control strategy to resolve conflicts often neglect and disregard the needs of the opposite party. In this strategy, one employee puts other employees under pressure, imposing their own views on the others; such emotional conflicts ultimately lead to anger and hostility, as well as organizational failure. Conversely, Gardner et al. (2009) have claimed that positive social relations and sympathy with others are among the prominent characteristics of the individuals with high emotional intelligence; in fact, these characteristics prevent the use of control strategies in conflict management [20].

The study by Goleman (1998) showed positive associations between emotional intelligence, age, and work experience. However, no significant correlation was observed between work experience and communication skills. Therefore, it could be inferred that the individuals with higher work experience do not necessarily have better communication skills, while the individuals with lower work experience may attempt to gain experience to stabilize and improve their position; as a result, they try their best to use communication skills.

The employees who adopt a control strategy to resolve conflicts often neglect and disregard the needs of the opposite party. In this strategy, one employee puts other employees under pressure, imposing their own views on the others; such emotional conflicts ultimately lead to anger and hostility, as well as organizational failure. Conversely, Gardner et al. (2009) have claimed that positive social relations and sympathy with others are among the prominent characteristics of the individuals with high emotional intelligence; in fact, these characteristics prevent the use of control strategies in conflict management [20].

The results of the present study indicated a significant, negative correlation between work experience and emotional intelligence; in other words, the increased work experience of the personnel was associated with higher emotional intelligence. However, no significant correlation was observed between work experience and communication skills. Therefore, it could be inferred that the individuals with higher work experience do not necessarily have better communication skills, while the individuals with lower work experience may attempt to gain experience to stabilize and improve their position; as a result, they try their best to use communication skills.

According to the results of the present study, gender had no significant correlations with emotional intelligence, communication skills, and conflict management. Furthermore, no significant differences were observed between the male and female personnel in terms of emotional intelligence, communication skills, and conflict management. Similarly, no significant associations were denoted between the education level of the personnel and their emotional intelligence and conflict management strategies. However, a significant correlation was observed between the education level of the personnel and use of communication skills. In general, the emotional intelligence and conflict management of the personnel did not improve relative to their academic education, and the personnel required targeted training in this regard.
4. Conclusion

According to the results, the mean scores of emotional intelligence, communication skills, and conflict management in the healthcare personnel were relatively favorable; the women had higher emotional intelligence, while the men had better communication skills. The findings also indicated that the personnel with higher emotional intelligence were more successful in effective communication.

The conflict management strategies were not used as a conscious strategy by the environmental health personnel. Considering the ranking results of the conflict management strategies, it could be concluded that the problem-solving and non-confrontation strategies had the highest and lowest application, respectively, indicating that the organization should create solutions to solve problems and conflicts, while also planning for appropriate solutions in the event of conflicts. As a result, policy-making in such cases could reduce the risk of conflicts.

Considering the fact that our sample population consisted of the environmental health personnel employed in the health centers affiliated to Qazvin University of Medical Sciences, establishing an empathic and positive communication with others and paying attention to their interests are essential for the personnel as they directly contribute to the health of the population and are often exposed to workplace conflicts. It is also important to train personnel on the proper use of conflict management strategies.

Authors’ Contributions

R.G.H., revised the manuscript, R.K., designed the study and performed the statistical analysis, and E.M., S.M., M.M., and S.N., performed the manuscript preparation and data collection. All the authors read and approved the final manuscript.

Conflict of Interest

The Authors declare that there is no conflict of interest.

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References

18. Fahim Diein H. Relationship between Emotional Intelligence and Communication Skills with Strategies to Manage Conflict between

Table 7: Correlations of Emotional Intelligence with Conflict Management Strategies

<table>
<thead>
<tr>
<th>Total emotional intelligence</th>
<th>Total Verbal skills</th>
<th>Listening skills</th>
<th>Feedback</th>
<th>Communication</th>
<th>Non-confrontation</th>
<th>Problem-solving</th>
<th>Control</th>
</tr>
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<tbody>
<tr>
<td>(two-tailed Pearson correlation)</td>
<td>Sig. (2-tailed)</td>
<td>0.449**</td>
<td>0.269**</td>
<td>-0.258**</td>
<td>-0.039</td>
<td>0.109</td>
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<tr>
<td>Total emotional intelligence</td>
<td>1</td>
<td>0.96</td>
<td>0.072</td>
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<td>0.004</td>
<td>0.005</td>
<td>0.676</td>
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