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THE MEDIATOR EFFECT OF ETHICAL CLIMATE ON THE RELATION BETWEEN ORGANIZATIONAL JUSTICE AND ORGANIZATIONAL COMMITMENT 1

Mustafa Emre ÇIVELEK1, Murat ÇEMBERCI2, Hüseyin İNCE3, Deniz GÜNEL4

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Abstract: Organizational justice refers to how an employee perceives the decisions and the behaviors of the managers. Organizational justice consists of how to regulate the wages, punishments and promotions and how these decisions are made or how these decisions are told to employees. This research aims to contribute to the literature by emphasizing the importance of the organizational justice and ethical climate concepts in the perspective of the internal environment of an organization. For this purpose, a detailed definition of organizational justice, we investigated the effects of organizational justice and ethical climate on organizational commitment. In this paper, the mediator effect of ethical climate on the relation between organizational justice and organizational commitment analyzed. The hierarchical regression analysis method has been used to determine the mediator effect. As per the analysis results, the partial mediator role of ethical climate on the relation between organizational justice and organizational commitment is statistically significant.

Key Words: Organizational Justice, Ethical Climate, Organizational Commitment

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(1) Corresponding Author: Mustafa Emre ÇIVELEK, Istanbul Commerce University, Faculty of Business Administration, Istanbul / Turkey, ecivelek@ticaret.edu.tr Received: 14.09.2016 Accepted: 21.12.2016 Type of article (Research and Application) Conflict of Interest: None Ethics Committee: None
INTRODUCTION

The belief of the employees whether they are subjected to a fair practice or not by the employers during the functioning of an organization, which is about organizational justice, has influence on their organizational behavior. It has become an advantage in the competitive area that qualified employees are employed in organizations. This advantage is perpetuated if and only if the qualified employees are kept in the organization. Keeping the employees in an organization depends on fair behaviors of the managers to the employees, and employees perceiving the justice in this way (Cropanzano and Molina, 2015:380-381).

Employees pay great attention to the distribution of earnings, the decision process of the distributions, the way employees behave to them and the fairness of how much they are informed about these processes. The concept of organizational justice expresses that the employees perceive the processes, interactions and outputs in the organization as righteous (Kerwin, Jordan, & Turner, 2015: 387-388).

Justice is one of the building blocks of strong organizations and strong cultures. In organizations perceived as righteous; the perception of organizational identity, work quality and performance is high; the reconstruction of the organization and decision processes are easy; participation and collaboration behaviors are common; promotions and punishments are fair and organizational problems are rare (Levy & Norris-Watts, 2004: 733).

There have been many researches about organizational justice and the concepts it is related to. The main subjects of these researches consist of the relationship between job satisfaction through organizational justice and the intentions of quitting the work, organizational commitment, organizational citizenship, organizational trust and motivation. It is observed that the studies in recent years focus on organizational trust, organizational citizenship, motivation and job satisfaction (Bidarian & Jafari, 2012: 1623).

When it is considered in the extent of dimensions of organizational justice, it is seen that the connection between interactional justice perception and organizational justice is stronger. This result shows that there is an important relationship between organizational justice and interactional justice, which is a concept where the communication among the employees is important and individuals are valued (Nojani, Arjmandnia, Afrooz, & Rajabi, 2012: 2901).
BACKGROUND and HYPOTHESES

DEVELOPMENT

The notion of organizational justice is directly related to organizational culture. Whether the processes in an organization perceived as fair by the employees results from organizational culture. There are many studies about organizational culture in the literature. In the studies about organizational culture, it is stated that the concept of justice differs from culture to culture; it is determined that the employees’ justice perceptions depends not only on demographic features, but also on different cultures (Patterson, Cowley, & Prasongsukarn, 2006: 265).

The concept of organizational culture has been becoming more and more important during the administrative processes of organizations. There are many studies about organizational culture in the literature. In these studies, mostly its definition, dimensions and effects on the administrative processes in organizations are researched.

Colquitt and his friends (2001) states that culture may have an influence on justice, the judgement rules, the purposes of fair behavior, the preferences while applying principles, the process of creating justice and the effects of justice on the results (Colquitt, Conlon, Wesson, Porter, & Ng, 2001: 426). The studies that examine the connection between organizational justice and job satisfaction in the literature, analyze the relationship between the effects of dimensions of organizational justice on the results and demographic features of the employees. According to the findings of these studies, organizational justice perception emerges as one of the factors determining job satisfaction. In the scope of these studies, it is revealed that employees who completely receive the rewards of their efforts have a higher job satisfaction then the ones who do not. The overall arising results fit to Adams Equity Theory. Another result obtained from the researches about the relationship between the dimensions of organizational justice and job satisfaction is that the distribution justice perceptions of employees are more effective on job satisfaction (Lambert, Hogan, & Griffin, 2007: 646-647) (Ouyang, Sang, Li, & Peng, 2015: 149-150) (Nojani, Arjmandnia, Afroz, & Rajabi, 2012: 2902) (Lottfi & Pour, 2013: 2076).

Job satisfaction is used generally to express the gratification an employee finds in his job. Occurrence of job satisfaction in employees is related to the perception they build that, they are treated fairly, that their performance evaluations and promotion mechanisms are fair and equal. The more employees perceive an organization as fair, the higher their moti-
viation gets, the more pleasure they feel doing their job; this resulting situation will provide higher job satisfaction; and as a result, higher employee performances will improve organization performance. However, in case of low job satisfaction, the organization performance is influenced negatively. The decrease in job satisfaction brings about employees getting slower, lengthening the processes, being absent, leaving their jobs and an increase in conflicts in the organization (Alkassabi, Alsobayel, & Aleisa, 2015: 62-63).

Job satisfaction is considered as an important factor because of its effects on the employees and on organizations. The positive outcomes of increasing job satisfaction are revealed in many studies. In their study, DeConinck and Stiwell (2004) examined the relationship between the perception of the employees and job satisfaction; and concluded that there is a strong positive connection between the perception of the employees and job satisfaction. (DeConinck & Stiwell, 2004: 227-228).

It is believed that organizational environment affects the job satisfaction of employees more than it does by their personal roles. Greenberg (1987), assert that, in the long term, organizational justice is a fundamental requirement in terms of the operation of an organization (Greenberg, 1987: 11-12). Greenberg states that organizational justice perception as a function of administration policy and resulting working conditions may affect job satisfactions of the employees. Organizational justice affects job satisfaction in a direct and positive way; and at the same time, existing job satisfaction strengthens the organizational justice (Greenberg & Baron, 2008: 128-129).

Organizational trust is the belief that the organization is consistent about their promises and contracts when the employee faces an uncertain or a risky situation and their actual attitude in such a situation. Organizational trust is one of the most current topics of organizational justice concept. Trust towards decision-makers especially important because decision-makers are authorized to distribute resources and promotions (Fukuyama, 1995: 63-64).

According to Colquitt and his friends, there is a strong relationship between trust, distribution, and procedural justice that are a part of organizational justice dimensions. When managers make decisions by sharing information with employees in a clear, correct and consistent way, giving importance to the decisions of the employees, explaining the reasons of their decisions, it promotes trust towards managers in employees (Colquitt, Conlon, Wesson, Porter, & Ng, 2001: 428).
In the literature, there are researches, which claim job satisfaction; organizational trust and justice perception are related to each other. It is observed that an increase in organizational justice also enhances organizational trust (Bidarian & Jafari, 2012: 1624) (Celani, Deutch-Salamon, & Singh, 2008: 65) (Jafari & Bidarian, 2012: 1817-1818). The research model is shown in Figure 1.

Organizational commitment is also associated with organizational justice in the literature (Meyer & Herscovitch, 2001: 301-302) (Carmon, Miller, Raile, & Roers, 2010: 212-213) (Lambert, Hogan, & Griffen, 2007: 646-647) (Paolillo, Platania, Magnano, & Ramaci, 2015: 1699) (Gumusluoglu, Karakitapoglu-Aygun, & Hirst, 2013: 2271). In Greenberg’s opinion, it is important to determine the effect of justice perception of the employees on their commitment because employees cannot feel committed to an organization without justice; they cannot identify themselves with the organization. Low commitment addresses possible problems like employees ready to leave the organization at any moment. This situation results in more circulation of employees in the organization, hence a decrease in productivity (Greenberg J., Stres Fairness to Fare No Stres: Managing Workplace Stres by, 2004: 355-356). Because fair practices in an organization has an effect of increasing the commitment of employees, organizational justice has the power of promoting positive behaviors (Greenberg J., The Quest for Justice on the Job: Essays and Experiments, 1996: 39-40).

The concept of justice has been researched in many aspects. The roots of justice extend from religion to philosophy and political science. The concept of justice is used as an expression of legitimacy and rightfulness. In everyday language, the concept of justice is used to express the justness, rightfulness and honesty of a behavior or action (Greenberg J., Taxonomy of Organizational Justice Theories, 1987: 16) (Jafari & Bidarian, 2012: 1817-1818).

Organizational justice is a concept emerging from the investigation of justice in organizational life, and it is related to working con-

Figure 1. Conceptual Model

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Organizational justice is a concept emerging from the investigation of justice in organizational life, and it is related to working con-
Organizational justice can be defined as positive perceptions of the employees about their administrators’ decisions and actions about the organization and employees; how to manage wages, rewards, punishments and promotions; how these decisions are made and how they are conveyed to employees (Cropanzano & Greenberg, 1997:322-323) (Cropanzano & Molina, 2015: 382).

Although the notion of justice is one of the most researched concepts both in the field of economy and in the field of business management, Greenberg and Colquitt have examined it in four stages in the sense of modern management since 1949 until today. It is possible to list these stages in the following way (Greenberg & Colquitt, Handbook of Organizational Justice, 2005: 111-112):

- Fair distribution examined fair distribution of resources between 1950 and 1970.
- Fair process focused on distribution of rewards between 1970 and mid-1990s.
- Fair interaction has been studied since 1980s.

ditions which result in employee believes whether they are treated fairly or not. Early researches about organizational justice are stated to be “The Relative Deprivation Studies” by Stoufer and his friends, which were done during Second World War (Stouffer, Suchman, Devinney, Star, & Williams, 1949: 168-169). The notion of organizational justice was first mentioned by Greenberg in 1980 (Cropanzano & Greenberg, 1997: 320) (Greenberg J., Looking Fair versus being fair: managing impressions of, 1990a: 20-21) (Greenberg J., Organizational justice: yesterday, today, tomorrow, 1990b: 406-407). The basis of these studies about organizational justice is the equity theorem of Adams (Adams, 1963: 427) (Adams, Inequity in social exchange, 1965: 221). In contrast to philosophers suggesting thoughts about what justice is, administrative scientists and psychologist are interested in people’s beliefs about justice and how justice is applied in organizations. There are many definitions of organization justice expressed by academicians from various disciplines. The studies about organizational justice are the ones that study the perceptions of the employees about justice in an organization. Greenberg defined justice as its role in an organization (Greenberg J., Looking Fair versus being fair: managing impressions of, 1990a: 29-30). Organizational justice is about how employees perceive their administrators, subordinates, equals and organization as a whole in a financial sense.
• Integrating flow appeared in the 21st century and is stated as dimensions of justice.

Based on justice theories, the dimensions of organizational justice are grouped into three categories consisting of distributive justice, process justice and interaction justice.

Organizational distributive justice means justice in distributions of wages, rewards, social contributions for employees. Most of the studies of distributive justice are based on the Equity Theory developed by Adams (Adams, Inequity in social exchange, 1965: 232).

Employee evaluations are formed on their comparison of their gain with other employees’. Like it is explained in Equity Theory, the balance between the inputs they give to the organization and the outputs they receive gives them a feeling of equality. On the other hand, the perception of unfairness triggers anger, unhappiness, pride and guilt in the employees. Moreover, the criteria of distributive justice comparison and applied models are crucial.

Distributive justice is about the perception of employees about how fairly they are treated rather than how the earnings are actually distributed. The important part of the distributive justice is ensuring that employees think that they are getting what they deserve. Distributive justice is the fairness of the decisions; employees’ share on the rewards, punishments, wages, statues, promotions and their reactions to these.

they do not get their share of organizational rewards as much as they expect. This results in negative behaviors, particularly feelings of resentment (Beugre, 2002: 1096) (Beugre & Baron, 2001: 327) (Greenberg J., 1990b: 411).

While distributive justice is concerned with how outputs are distributed in an organization, procedural justice is about the fairness of processes determining these outputs. It implies that decision-making processes and reward processes must be perceived as fair by employees. It contains structural features of decision-making processes like employees’ right to speak, convenience of the evaluation criteria, objectivity in decision-making processes (Cropanzano & Greenberg, 1997: 322).

The concept of procedural justice is concerned with how decision-makers manage the distribution processes and whether they are being fair in their behaviors. Procedural justice can be defined as fairness of processes for determining the results.

Procedural justice influences perceptions of employees about fairness of processes and distribution of rewards. At the same time, procedural justice reflects fairness of processes of deciding the outputs like wages, rewards and promotion (Greenberg J., Taxonomy of Organizational Justice Theories, 1987: 18).

Procedural Justice Theory presents six processes in order to claim the fairness of a process (Greenberg J., Taxonomy of Organizational Justice Theories, 1987: 19):

1. The process of distribution decisions must be consistent.
2. Managers must stay away from prejudice during their decisions about distributions.
3. Decision-making processes must be based on true and valid data.
4. Distribution processes must allow employees to object to wrong decisions.
5. Decision-making processes must represent the opinions of employees and their values.
6. Processes must represent ethical and moral values.

Positive procedural justice perception leads to committed employees and high performance. Interpersonal and informational justice is making respectful and honest explanations to the employees about decision-making processes for distributions. Interpersonal and informational justice can also be defined as sharing justice processes with the employees.
in a right and effective way. Thus, Greenberg approaches interpersonal and informational justice as the social component of procedural justice (Greenberg J., 1990a: 31). The difference between interpersonal and informational justice and procedural justice first described by Greenberg and Colquitt. In their opinion, while the perception of fair interaction can be associated with the evaluation of the manager, fair process is associated with organizational system evaluation (Greenberg & Colquitt, Handbook of Organizational Justice, 2005: 125).

Greenberg organized these four elements into two groups. The first group, which is called interpersonal and informational justice, consists of the elements respect and impartialness; the second one, which is called Interpersonal and informational justice, contains the elements honesty and truth. Interpersonal and informational justices are justice perception of how distribution decision-makers tell the decisions to employees. When managers act in an unprejudiced and respectful way, employees perceive them as fair. On the other hand, interpersonal and informational justice states that employees should be informed of the distributions of the earnings and the decision-making processes of distributions (Greenberg & Colquitt, Handbook of Organizational Justice, 2005: 125).

Distribution of results often beyond the control of managers; but when employees find their managers fair, they will not be interested in processes and their justice perception will be high. For this reason, interpersonal and informational justice can be defined as the justice perceived by the employees. 

$H_1$: Organizational justice positively affects organizational commitment.

Sustainability of organizational success is related to organizational commitment. From past to present, organizational commitment has been a subject of many researchers. Organizational commitment and working relation, individuals having higher performance with organizational commitment, having impact on honest and right behaviors and so on, aroused considerable interest on researchers enough to lean on this topic. A research carried by Howard Becker in 1960 indicates that, employees with organizational commitment who quit their jobs with reasons such as personal interests lose benefits more than the ones without it. Another research suggests that organizational commitment is a psychological phenomenon. To obtain such commitment is only possible with an individual adopting the corporation and embracing the corporation values. There are many definitions on organizational commitment. Schermerhorn
defines it as “an individual having a positive relationship with the organization and feeling themselves as a part of the organization”. Another definition suggests that individual concretes with the organization and feeling powerful under that identity.

In terms of psychology, organizational commitment is defined as feeling leading the employees to embrace organizational goals. Organizational commitment improves performance level drastically. Causing this commitment is proportional only to the desire of working at the organization. Individual shows interest in embracing the corporation goals and purposes only if they want to work there. Organizational commitment is defined as an emotional devotion. There are three main elements that provides a healthy organizational commitment basis; overlapping interests of both individuals and organizations, the duties of an individual being done by them with desire, and being and staying as a member of the organization. An organizationally loyal employee shall rise faster than others, and be fully satisfied in terms of self-actualization.

Organizational commitment expresses an individual’s psychological relation to the corporation. There are many definitions of many researchers on this topic. Researchers have had approached to the subject with different disciplines since they all had different individual perspectives. According to a study carried by Etnozi in 1961, organizational commitment is an individual’s embracing of organization goals and purposes considering moral codes, and acting accordingly. Organizational commitment is integrating employees with the corporation.

According to them, individual should inherit the organization goals before all else, should work for those goals, and should maintain their commitment to the corporation. Many researchers conclude as organizational commitment is related to work commitment, since organization is the work environment of the individual. Which leads to the point; the necessity of a healthy work environment in order to yield organizational commitment from employees, who care about their duties, feeling the need to be sustainable for the corporation, thus staying motivated.

In order to measure the magnitude of organizational commitment, a five-question scale developed by Allen&Meyer (1993) is used.

The scale that explains the organizational commitment and more often used in the literature, is the Allen-Meyer scale. In Allen-Meyer scale, there are three dimensions of organizational commitment as defined as follows:
Affective Commitment can be defined the embracement of the employees to the organization’s objectives and values. It is the most powerful among the dimensions of organizational commitment. Affective Commitment appears as regarding the organization as an indispensable entity. This leads the employees not looking after their own interest if necessary.

Continuance Commitment can be defined as: There are various advantages of being in the organization for the employees. They think that they would be deprived of such advantages when they leave the organization. Therefore, they do not want to leave the organization. These advantages may be the wage, statute or the friendships with the colleagues in the organization.

Normative Commitment can be defined as: Sometimes the employees do not adopt the values of the organization and may show commitment as the requirement of ethical values. Such employees feel organization commitment as sense of mission.

\( H_2 \). Ethical climate positively affects organizational commitment.

Ethical climate implies that business and applications are done by taking account of ethical values in organization and there are several decisive factors play role on creating ethical climate. These factors are norm, culture, ethical standards and applications. Understanding, adopting, and applying the ethical values by the employees is a sign for that ethical value is accepted by the climate which adopted by employees. Acceptance of the ethical climate not only depends on ethical standards, but also it depends on various fixed factors such as individual's personal, cultural, moral and beliefs (Oğuzhan, 2015: 65). The ethical rules shared in organization should be the subject when it comes to organizational harmony. Personal behaviors should be influenced by ethical values (Schwepker, 2001: 43).

The determinants of the ethical climate are quality of the organization and personal behaviors. The correct evaluation of the ethical perception by the employees of the organization affects them to search for the solution of the problem. Individuals understanding the operational processes in the workplace and feeling the ethical climate is a result of the climate. Ethical climate is not independent from the organizational culture (Schminke, Ambrose, & Neubaum, 2005: 138-139).

In this study, a scale consists of seven questions and developed by Schwepker (2001) is...
used in order to measure the magnitude of ethical climate.

This research aims to answer the following research questions: Is ethical climate affected by organizational justice. Does organizational justice affect organizational commitment? Is organizational commitment affected by ethical climate? Does ethical climate have a mediator role in the relation between organizational justice and organizational commitment? To be able to analyze these questions, below hypotheses have been developed.

H1: Organizational justice positively affects ethical climate.

H2: Ethical climate has a mediator role in the effect of organizational justice on organizational commitment.

RESEARCH METHODS

Measures and sampling

In order to test the hypothesis, firstly, a questionnaire with Likert-5-scale has been formed. In the questionnaire, for organizational justice, the scale developed by Jason A. Colquitt (2001) has been used. In order to measure the ethical climate, Charles H. Schwepker (2001) scale has been used.

In addition, for organizational commitment, the scale developed by John P. Meyer, Natalie J. Allen, and Catherine A. Smith (1993) has been used. The sample of this research consists of 241 people working in public sector.

Construct Validity and Reliability

Principal Component Analysis has been conducted in order to assess validity and reliability of the measures. The result of the PCA Kaiser-Meyer-Olkin value is 0.827 which shows Principle Factor Analysis can be used. Bartlett’s Test of Sphericity test has a p value smaller than 0.05, which also means that the data is suitable for Principle Factor Analysis. Table 1. shows the Factor Analysis Results. Cronbach’s alpha values are well beyond threshold level (0.7). This shows the reliability of the constructs.
Table 1. Factor Analysis Results

<table>
<thead>
<tr>
<th>Factors</th>
<th>Items</th>
<th>Factor Weights</th>
<th>% V. Exp.</th>
<th>Reliability (Cronbach α)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PJ26</td>
<td>.826</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ28</td>
<td>.807</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ27</td>
<td>.792</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>PJ29</td>
<td>.787</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ30</td>
<td>.785</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ25</td>
<td>.721</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ32</td>
<td>.720</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PJ31</td>
<td>.686</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distributive Justice</td>
<td>DJ35</td>
<td>.827</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DJ34</td>
<td>.812</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DJ33</td>
<td>.701</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DJ36</td>
<td>.647</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Justice</td>
<td>IJ39</td>
<td>.924</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IJ37</td>
<td>.893</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IJ38</td>
<td>.887</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IJ40</td>
<td>.747</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational Justice</td>
<td>INJ43</td>
<td>.784</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INJ44</td>
<td>.757</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INJ45</td>
<td>.664</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical Climate</td>
<td>EC19</td>
<td>.871</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC20</td>
<td>.843</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC21</td>
<td>.831</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC22</td>
<td>.665</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC23</td>
<td>.653</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC18</td>
<td>.632</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Test of Hypotheses

The hypotheses have been tested by means of multiple linear regression analysis. The Baron and Kenny (1986) method has been used to test the mediator effect. Before conducting an analysis with Baron and Kenny method, there must be significant correlation among the variables. In Table 2, the correlation results according to Pearson correlation coefficient for all three main components can be seen. The results show that there is a significant correlation among the components. As correlation prerequisite is proven, Baron and Kenny analysis can be made. In order to make the analysis, 3 models with the below details have been tested.

Model 1: \( OC = \beta_0 + \beta_1.OJ + \epsilon \) (Hypothesis 1)
Model 2: \( EC = \beta_0 + \beta_2.OJ + \epsilon \) (Hypothesis 3)
Model 3: \( OC = \beta_0 + \beta_1.OJ + \beta_2.EC + \epsilon \) (Hypothesis 2 and 4)
Table 2. Correlations Among All Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Justice</th>
<th>Ethical Climate</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justice</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethical Climate</td>
<td>.464*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commitment</td>
<td>.280*</td>
<td>.346*</td>
<td>-</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.01 level (2-tailed).

Table 3. Coefficients

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJ → OC</td>
<td>0.280*</td>
<td>-</td>
<td>0.152*</td>
</tr>
<tr>
<td>OJ → EC</td>
<td>-</td>
<td>0.464*</td>
<td>-</td>
</tr>
<tr>
<td>EC → OC</td>
<td>-</td>
<td>-</td>
<td>0.276*</td>
</tr>
<tr>
<td>R²</td>
<td>0.078</td>
<td>0.215</td>
<td>0.138</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.074</td>
<td>0.212</td>
<td>0.131</td>
</tr>
<tr>
<td>F</td>
<td>20.293*</td>
<td>65.400*</td>
<td>19.068*</td>
</tr>
</tbody>
</table>

* Significant at 5% level

When the models are tested, below results are received: According to these results H1, H2 and H3 hypotheses are accepted. H4 hypothesis is partial accepted because value of the coefficient of organizational justice decreases. However, it is significant. Therefore this results show that ethical climate place a partial mediator role in the effect of organizational justice on organizational commitment.

As shown in the Table 3, difference between R² values of Model 1 and Model 3 was found as 0.06. This value is greater than 0.05. So explanatory power of Model 3 increases comparing with Model 1.
In order to make verify the Baron and Kenney results, the Sobel test has been conducted. Sobel test is one of the methods used for verifying the mediator role (Sobel, 1982: 29-31). The results of Sobel test verify the Baron and Kenney method results. Table 4 shows the Sobel test results. Therefore, the mediator role of ethical climate in the effect of organizational justice on organizational commitment is proven.

**CONCLUSION**

Organizational justice is employees’ positive perceptions of managers’ decisions and practices; how to organize wages, rewards, punishments and promotions; how these decisions are made and told to employees. This research aims to clarify the relation among organizational justice, ethical climate and organizational commitment, which are all a part of internal elements of an organization. For this purpose, alongside with a detailed definition of organizational justice, the effects of organizational justice and ethical climate on organizational commitment have been investigated. In this paper, the mediator effect of ethical climate on the relation between Organizational justice and organizational commitment has been analyzed. The hierarchical regression analysis method has been used in order to determine the mediator effect. As per the analysis results, the partial mediator role of ethical climate on the relation between Organizational justice and organizational commitment is statistically significant.

This study reveals that organizational justice has a positive effect on ethical climate and organizational commitment. Organizational commitment is also positively affected by ethical climate. When the partial mediator role of ethical climate in the effect of organizational justice on organizational commitment has been tested, the results show that the partial mediator effect of ethical climate is statistically significant. As a managerial implication, firms should improve the conditions of ethical climate in the organizations to increase the effect of organizational justice on organizational commitment. If firms do not establish ethical environment in their organizations, the effect of the organizational...
justice on organizational commitment cannot reach satisfactory level.

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Özet:


ÖRGÜTSEL ADALET İLE ÖRGÜTSEL BAĞLILIK ARASINDAKİ İLİŞKİ ÜZERİNE ETİK İKLİMİN MEDIATÖR ETKİSİ


Anahtar Kelimeler: Örgütsel Adalet, Etik İklim, Örgütsel Bağlılık
THE STUDY OF COMMUNICATION SKILLS IN ADOLESCENT STUDENTS ACCORDING TO SPORT ACTIVITIES AND SOME VARIABLES 1

Tamer KARADEMİR¹, Ünal TÜRKÇAPAR²

¹-² Kahramanmaraş Sütçü İmam University, School of Physical Education and Sport, Kahramanmaraş / Turkey

Abstract: The aim of this study is to determine how communication skills of students studying at different high schools form according to participation in sport activities and some variables. For this purpose, the study group includes, in all, 517 students in 14-18 age groups studying at different high schools, 225 of them are female, and 292 of them are male. “The Scale of the Evaluation of Communication Skills” is used to obtain the data from the study group. The Normality Test (Kolmogorow-Smirnov D Test) is applied to the data. As a result, the data has a normal distribution; therefore, parametric tests are used in analyses. Independent Sample t-Test for binary comparisons and ANOVA for multiple comparisons are used. When a difference is found between groups, LSD and Scheffe tests are used in order to identify the reason of the difference. The results of the study show that there are differences according to age, sex, friendship relations, family attitudes, income levels of families and participation in sport activities in the levels of communication skill of students studying at different high schools. However, there is no difference according to marital status of parents.

Key Words: Adolescents, Communication Skills, Sports, Education

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INTRODUCTION

Communication is a situation in contact with people and increases their importance gradually from the primitive man to this day. Therefore, in order to have successful social skills, it is important for the people living in a social environment to know well how to communicate with others (Coşkuner, 1994:238).

People become happy when they communicate in a successful and satisfying way; so, they need to learn social skills which are the way of the communication. Communication skills are addressed as one of the social skills. Social skills are learned behaviors accepted as social, which take positive reactions when people are with others and are used to escape from negative reactions. They perform as a mediator and are intended to purpose. Also, they may change according to personal and social connections. Social skills include both visible specific behaviors and cognitive-affective factors (Deniz, 2003:118).

Effective communication skills may be summarized as effective listening and reaction (Egan, 1994:78). According to Gordon (2004:49) effective communication skills are defined as passive silence, approval reactions, conversation hooks, and appeal to talking. According to Hargie (2011:24), effective communication fulfills a person’s rights, needs, satisfaction or responsibilities. Also, people communicate in a free and open way with effective communication skills without harming other people’s rights, needs and satisfaction. Cüceloğlu (2013:268) emphasizes listening in effective communication. He defines a good listener as a person who understands important points of utterances and contacts with people on the basis of this point of view. The process defined as a communication skill starts with listening skills (Özer, 2006:190). A person capable of a good communication realizes simultaneously verbal and non-verbal behaviors of the people with whom he communicates and clues about his inner world and tries to evaluate (Cüceloğlu, 2013:268).

People, from the birth, begin to recognize themselves by means of bodily movements. Play and sport activities are environments in which success and motivation that form the basis of people’s self-image are seen in the most concrete way. With these characteristic, sport activities addressing many abilities and interests keep people alive with this feeling ‘I can do.’ In this respect, sport activities provide people with the psychological and physiological satisfaction and enable them to experience various environments and to gain experience. Sport activities have an influence on a person’s having positive self-image. Therefore,
they provide an opportunity to grow up people who are able to establish healthy communication (Çamlıyer and Çamlıyer, 2001:26). Self-respect consists of views related to a person’s own personality and how we see ourselves. A person’s self knowledge affects interpersonal communication and interaction (Aşçı, 1999:7-35). Therefore, it may be stated that a person’s positive self-image is essential for interpersonal healthy communication (Cüceloğlu, 2013:268). Besides, researchers emphasize that playgrounds, gyms, in short, sport and movement provide a person with the chance to find their own world and people understand their own feelings with sport (Aşçı, 1999:7-35). Considering that the communication people establish with their environment starts in themselves, a person’s recognizing their own world and feelings gains importance (Dökmen, 2004:360).

There are many various sport activities addressing many abilities and interests. People with different abilities and interests are provided to develop these abilities with a good physical education programs and a good sport organization (Çamlıyer and Çamlıyer, 2001:28).

When analyzed other studies in literature about this topic, many researches are made in order to measure the efficiency of communication skills education programs prepared to develop communication skills (Demirci, 2002:112; Korkut, 2005:143-149). In these studies, it is seen generally that communication skills education programs develop communication skills. Also, scientific studies are performed in order to evaluate the level of communication skills of such communities as students at physical education and sport academy, teachers, adults and students at secondary education and to determine the effect of demographic factors on the level of communication skills (Bulut, 2004:443-452; McDowell, 1993; Tepeköylü et al, 2009:115-124). In a study performed on children, it is observed that aggressive children communicate in a low impact and high disruptive way (Dumas et al, 1994:347-358). Besides, it may be stated that people communicating with others negatively have behavioral disorders (Kim and Yang, 2008:55-63) Because of negative factors arising from ineffective communication, it may gain importance that children and teenagers need to develop communication skills (Tepeköylü et al, 2011:43-53).

The aim of this study is to determine how communication skills of students studying at different high schools form according to participation in sport activities and some variables. Thus, it is aimed at both contributing to the literature and guiding families and educa-
tors about behaviors and approaches to teenagers, especially in puberty, in which they experience some changes in psychological and social areas and in the process of identity formation.

**MATERIAL and METHOD**

**The Research Model**

With this research, a situation that exists is described and accordingly at what level variables are related to each other is investigated. The research is a descriptive one in the relationally scanning method obtained via comparison. In this research, communication skills of students are tried to be revealed as it is there with the help of a scale.

**The Study Group**

The study group includes, in total, 517 students in 14-18 age groups studying at different high schools, 225 of them are female, and 292 of them are male. These students have been educated at different schools, 95 of them are in Vocational High School, 82 of them are in Sports High School, 89 of them are in Science High School, 93 of them are in Anatolian High School, 72 of them are in Anatolian Teacher High School and 86 of them are in Private High Schools. Necessary permission is provided on the basis of volunteering.

**Data Collection Tools**

Two different forms are used to obtain the data. One of them is the personal information form developed by the researcher and describing personal information such as age, sex etc. Another of them is “The Scale of the Evaluation of Communication Skills.”

**The Scale of the Evaluation of Communication Skills:**

The Scale of the Evaluation of Communication Skills developed by Korkut (1996:18-23) and whose validity and reliability is made, is used in the study. The scale, at first, is prepared for students in high school and then, it is applied on college students and 61 adults. The scale is five likert-type one and consists of 25 questions. It consists of rated options including “Always (5 points), Frequently (4 points), Sometimes (3 points), Rarely (2points) and Never (1 point).” The point scored from the scale changes between 25 and 125. On the contrary, the high score obtained from the scale with no options means that people evaluate positively their own communication skills. The reason why this scale is used is that it is developed for especially high school students within the research. The Cronbach Alpha Value of the scale is found as 8.9.
Analysis of the Data

The data is analyzed using SPSS 2.1 Packed Program. Before statistical analyses are performed, the normality test (Kolmogorow-Smirnov D Test) is applied for the data. As a result, the data has a normal distribution; therefore, parametric tests are used. Independent Sample T-Test for binary comparisons and ANOVA for multiple comparisons are used. When there is a difference between groups, LSD and Scheffe tests are used in order to identify the reason of the difference. Statistical significance value is accepted as Alpha p<0.05.

**FINDINGS**

In the direction of the data obtained from the study group, taking variables into account, statistical analyses are shown as below in the table.

**Table 1. The Analysis Results of Communication Skills According to Age (ANOVA)**

<table>
<thead>
<tr>
<th>Communication Skill</th>
<th>Age</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>p</th>
<th>Difference Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a)</td>
<td>14</td>
<td>79</td>
<td>99,71</td>
<td>13,24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>15</td>
<td>106</td>
<td>98,43</td>
<td>13,65</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c)</td>
<td>16</td>
<td>108</td>
<td>98,51</td>
<td>12,78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d)</td>
<td>17</td>
<td>115</td>
<td>100,11</td>
<td>13,42</td>
<td>4,112</td>
<td>.005*</td>
</tr>
<tr>
<td></td>
<td>e)</td>
<td>18</td>
<td>109</td>
<td>101,27</td>
<td>12,89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0,05

According to Table 1, it is seen that there is a significant difference according to age between the level of communication skills of the study group \(F_{(4,52)}= 4,112; \ p<0.05\). In the test made in order to find the reason of the difference, this difference is stated to result from the study group whose ages are between 15(X=98,43), 16 (X=98,51) and 18(X=101,27). It is observed that there is no difference between other age groups.
Table 2. The Analysis Results of Communication Skills According to Sex (t-test)

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>292</td>
<td>98.23</td>
<td>12.64</td>
<td>-5.958</td>
<td>.000*</td>
</tr>
<tr>
<td>Female</td>
<td>225</td>
<td>102.21</td>
<td>12.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0.05

Table 2 shows that there is a statistically significant difference according to sex between the level of communication skills (t=-5.958; p<0.05). It is indicated that the level of communication skills of females is higher (X=102.21).

Table 3. The Analysis Results of Communication Skills According to Friendship Relations (ANOVA)

<table>
<thead>
<tr>
<th>Friendship Relations</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>p</th>
<th>Difference Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Bad</td>
<td>68</td>
<td>96.12</td>
<td>13.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Not good</td>
<td>97</td>
<td>97.88</td>
<td>13.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Medium</td>
<td>121</td>
<td>98.55</td>
<td>12.78</td>
<td>7,323</td>
<td>.000*</td>
<td>5&gt;1,2,3,4&gt;1,2</td>
</tr>
<tr>
<td>4. Good</td>
<td>144</td>
<td>100.85</td>
<td>13.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Very good</td>
<td>87</td>
<td>101.26</td>
<td>12.78</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0.05

Table 3 indicates that there is a statistically significant difference according to friendship relations between the level of communication skills (F=7,323; p<0.05). In the test made in order to find the reason of the difference, it is stated to be in favor of those evaluating friendship relations as good and very good.
Table 4. The Analysis Results of Communication Skills According to Variable Given Right to Speak in the Family (ANOVA)

<table>
<thead>
<tr>
<th>Communication Skill</th>
<th>Given Right to Speak in the Family</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>p</th>
<th>Difference LSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Yes</td>
<td>276</td>
<td>105.14</td>
<td>12.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. No</td>
<td>169</td>
<td>98.34</td>
<td>13.42</td>
<td>8.613</td>
<td>.000*</td>
<td>1&gt;2.3</td>
</tr>
<tr>
<td></td>
<td>3. Sometimes</td>
<td>72</td>
<td>100.17</td>
<td>12.57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0.05

According to Table 4, it is noted that there is a significant difference according to the variable given right to speak in the family between the level of communication skills of the study group (F(2,514)=8.613; p<0.05). In LSD test made in order to find the reason of the difference, it is seen to be in favor of those given right to speak in the family.

Table 5. The Analysis Results of Communication Skills According to Marital Status of Parents (t-test)

<table>
<thead>
<tr>
<th>Marital Status of Parents</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>37</td>
<td>99.21</td>
<td>13.56</td>
<td>-.898</td>
<td>.541</td>
</tr>
<tr>
<td>Married</td>
<td>480</td>
<td>99.82</td>
<td>12.96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 indicates that there is no statistically significant difference according to marital status of parents between the level of communication skills (t=-.898; p>0.05). Although the average score of those whose parents are married together is comparatively high, it is seen to be insignificant.
**Table 6. The Analysis Results of Communication Skills According to Family Income Level (ANOVA)**

<table>
<thead>
<tr>
<th>CommunicationSkill</th>
<th>Family Income Level</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>p</th>
<th>Difference Scheffe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Bad</td>
<td>58</td>
<td>96,25</td>
<td>13,25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Medium</td>
<td>185</td>
<td>98,34</td>
<td>12,11</td>
<td>7,121</td>
<td>000*</td>
<td>1&lt;3,4</td>
</tr>
<tr>
<td></td>
<td>3. Good</td>
<td>219</td>
<td>99,53</td>
<td>13,47</td>
<td></td>
<td></td>
<td>2&lt;4</td>
</tr>
<tr>
<td></td>
<td>4. Very good</td>
<td>55</td>
<td>101,06</td>
<td>13,01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0,05

According to Table 6, it is indicated that there is a significant difference according to the family income level of the study group between the level of communication skills (F \(3,313\)=7,121; p<0,05). In the test made in order to find the reason of the difference, it is detected that the level of communication skills of the study group forms a difference in favor of those stating family income level as very good. As the family income levels rise, the level of communication skills of students is also observed to rise.

**Table 7. The Analysis Results of Communication Skills According to Participation in Sport Activities (t-test)**

<table>
<thead>
<tr>
<th>CommunicationSkill</th>
<th>Participation in Sport Activities</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>372</td>
<td>102,54</td>
<td>12,74</td>
<td>5,507</td>
<td>000*</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>145</td>
<td>98,01</td>
<td>12,95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0,05

According to Table 7, it is observed that there is a significant difference according to participation in sport activities between the level of communication skills of the study group (t=5,507; p<0,05). The average score of the communication skills of those dealing with sports is seen to be high.
Alkaya (2004:130) states communication skills do not show a significant difference according to socio-demographic variables, and empathy skills of high school students in emotional dimension of high school students in 15-18 years of age is a period that physiological, psychological and social development are seen and the teenager experiences intensely communication problems with the family and social surroundings (Yavuzer, 2005:20-26; Basut, 2006:31-36) and that stating the communication skills in emotional dimension of high school students in 18 age group are higher than other age groups (Yıldırım, 2015:143). Also, in the study investigating the communication and empathy skills of high school students in terms of socio-demographic variables, Alkaya (2004:130) states communication skills do not show a significant difference according to age.

It is determined that there is a statistically significant difference according to sex between the levels of communication skills of the study group. The level of communication skills is compatible with the ones in the literature emphasizing that 15-18 years of age is a period that physiological, psychological and social development are seen and the teenager experiences intensely communication problems with the family and social surroundings (Yavuzer, 2005:20-26; Basut, 2006:31-36) and that stating the communication skills in emotional dimension of high school students in 18 age group are higher than other age groups (Yıldırım, 2015:143). Also, in the study investigating the communication and empathy skills of high school students in terms of socio-demographic variables, Alkaya (2004:130) states communication skills do not show a significant difference according to age.

Table 8 indicates that there is a significant difference according to types of sports between the level of communication skills of the study group ($F_{(2,514)}=5.259; p<0.05$). In the test made in order to find the reason of the difference, it is stated to be in favor of those dealing with individual and team sports.

**DISCUSSION and CONCLUSION**

This study, via the obtained data, is tried to determine how the level of communication skills of students, who continue high school education, forms according to participation in sport activities and variables discussed.

The data obtained from the study group shows that there are differences in the level of communication skills of students depending on age, between those in 18 age group and those in 15-16 age group (Table 1). This finding is compatible with the ones in the literature emphasizing that 15-18 years of age is a period that physiological, psychological and social development are seen and the teenager experiences intensely communication problems with the family and social surroundings (Yavuzer, 2005:20-26; Basut, 2006:31-36) and that stating the communication skills in emotional dimension of high school students in 18 age group are higher than other age groups (Yıldırım, 2015:143). Also, in the study investigating the communication and empathy skills of high school students in terms of socio-demographic variables, Alkaya (2004:130) states communication skills do not show a significant difference according to age.
skills of females is seen to be higher (Table 2). In studies conducted, it is indicated that female students perceive better communication skills compared to male ones and they are more successful at effective communication. This case is related to that female students are more social than male ones (Göloğlu and Karcı, 2010:23-40). Also, in another study applied on high school students; it is stated to have differences in favor of females (Gaskar and Özyazıcıoğlu, 2014:20-25). In research studied the subjective well-being and the level of communication skills of students at secondary education (Kartal, 2013:174) and investigated communication skills of adolescent, similar results have been observed (Karataş, 2015:53). The level of communication skills of female students is found to be higher in some studies applied on students at puberty. However, there are some studies showing this difference does not exist in higher age groups. In addition to studies on college students (Pehlivan, 2005:2; Yılmaz, 2007:113; Dölek, 2015:87; Görmüş et al, 2013:109-128), it is determined that communication skills do not change according to sex in the research on teachers and athletes in 19-25 age groups (Bulut, 2004:443-452; Ulukan, 2012:104). Therefore, it may be seen difficult to generalize about communication skills according to sex. Although communication skill is a learned and developed fact in the literature, it is emphasized that there are several differences between females and males in terms of communication skills, these differences appear in the process of socialization, and that social gender roles, not biological sex, are influential on the basis of the difference (Görmüş et al, 2013:109-128). Accordingly, change process of individuals, cultural and social factors are taken into consideration in the evaluation of communication skills according to sex.

It is stated that the level of communication skills of the study group is in favor of those evaluating relationship good and very good (Table 3). Effective communication is stated to be a key for every relation (Greenm考核, 2010:260-267). Peer groups develop children’s sense of trust, reduce their shyness and facilitate social adaptation. Children who have friends are more efficient socially compared to those with no friends. Children make friends with peers whose maturity and ability level is similar to them. Children perceiving their friends as supportive are seen to be more popular, more social and to have less behavioral problems (Deckard et al, 2002:571-588). Findings of the study support that students having high level of communication skills define friend-
ship relations as very good, which shows parallelism with these facts.

It is stated that there is a significant difference between the levels of communication skills of the study group as in favor of those given right to speak in the family (Table 4). Developmental psychologists indicate that wrong attitudes and behaviors in the family, poverty and apathy threaten children’s healthy socialization (Raver, 1997:1-2). There are many studies revealing that the attitude towards children of parents affects their adaptation. According to Onur (2000:335), family has an important effect on the child. Low level of education of the family, unqualified relations in the family may cause deficient and wrong practice in the child’s education. Personality traits and experiences in the family the child grows affect behaviors of the child. Because the child is affected by behaviors, he tries to imitate them. The family prepares a necessary environment for the child’s social acceptance. Parents form a model including accepted and appropriate behaviors in order to be able to learn socialization. They guide for the development of socially accepted behaviors and morals. The child finds solutions to the problems he experiences while he tries to adapt to his habitat. Parents help children acquire oral and social habits related to behaviors necessary for adaptation (Yavuzer, 2005:132-262). Thus, parents’ sensitive and right interaction with children is an important factor in the family in which the first basis of the communication is founded.

It is indicated that there is no significant difference according to marital status of parents between the levels of communication skills of the study group. Although the average score of those whose parents are married together is comparatively high, it is seen to be insignificant (Table 5). This situation can be explained by that parents of students in the study group accept that situation supporting their children and they spend a more troubles process. In the literature, strong family bond and efficient parentage support the adaptation of sensitive children against dilemmas. Family-child relationship that is safe, consistent and based on love is stated to be a reparative and protective process in several risky setting, for example, in a risky setting resulting from low socio-economic level (Raver, 1997:1-2). Therefore, this conclusion may result from personal traits of the study group and being less affected group.

In the study, it is recognized that there is a difference according to family income level between the levels of communication skill of the study group. As the family income level rises, the levels of communication skill of
students are also observed to rise (Table 6). Although results of present studies contradict with some studies (Köker et al, 2005:75-78; Tepeköylü et al, 2009:115-124), similar results are also seen in the research applied on high school students (Görür, 2001:70; Saygideğer, 2004:140) and athletes, which states that athletes having high income level may have higher communication skills as a result of their having more active social life (Ulukan, 2012:104). This difference in the studies applied on high school students is stated to result from the characteristics of their age period (Tepeköylü et al, 2011:115-124). Inasmuch as, in this period, cognitive development of adolescents, the maturation of their mental ability cause changes in the perception and comprehension of external world. On the other hand, changes observed in the expectation from the individual of the people in his environment begin to cause changes in social roles undertaken (Erden ve Akman, 2002:260). Also, in the literature, it is indicated that parents in low socio-economic level apply more physical punishment and strict discipline methods in raising children. In raising children, physical punishment, rejection, scanty love and inconsistent punishment methods may also cause development of aggressive behaviors in the child (Berk, 1991:67). Accordingly, they may create negative effects and unwanted behaviors in the development of communication skills.

The study shows that according to participation in sport activities, the group dealing with sports has higher levels of communication skill (Table 7). This finding is compatible with the results of many studies (İlhan and Gencer, 2009:94-101; Tozoğlu et al, 2014:68-74; Karataş, 2015:53; Yıldırım, 2015:143). Theoretical knowledge related to this topic in the literature asserts that the tendency towards communication of individuals dealing with sports is higher than those who do not make sports (Özerkan, 2005:11-30). In this situation, it may be possible to mention that the communication of teenagers dealing with sports in a group environment as a result of the interaction in the process of preparation and competition affects positively their levels of communication skill (Tepeköylü et al, 2011:115-124). Sport activities may provide psychological and physiological satisfaction and a chance to experience various environments and to gain experiences, which is efficient at having positive self image of a person. Consequently, sport activities provide opportunity to grow up individuals with whom we establish a healthy communication (Çamlyer and Çamlyer, 2001:26). In their studies, Arslan et al (2006:40-47) states that students dealing with sports amateur or pro-
professionally are more extrovert compared to those who do not make sports. People having a high extroversion are defined as individuals who are sociable, like communication and prefer to be with people rather than to be alone (Karancı et al, 2007:1-8).

While the study indicates that according to types of sports, there are similar findings between communication skills of those dealing with individual and team sports; it is determined there is a significant difference between those dealing with no branch of sports (Table 8). Related to this topic, there are similar views in the literature. In the study applied on high school students by Yüksel and Tepeköylü (2010:454-457), students’ dealing with either team sports or individual sports does not create a statistically significant difference in the levels of communication skill. In the research by Şahan (2012:13-16) applied on the communication skills of those dealing with individual and team sports in elite level, individuals making team sports have high level of communication skill; however, a significant difference does not appear. In studies applied on college students, a significant difference between those dealing with team sports and individual ones is not found (Çetin and Kuru, 2009:1-8; Tepeköylü et al, 2011:43-53). Asserting that communication skills may be explained by personality characteristics (Riggio et al, 2003:83-103), there are studies that the difference between athletes dealing with team sports and individual ones explains with various psychological aspects (Fulkerson et al, 1999:73-79; Nicholls et al, 2007:1521-1530; Tutkun, 2010:23-29; Zeng, 2003:28-34). In this respect, participation in sport activities, regardless of types of sports, in general, may have a positive effect on communication skills of a person. Inasmuch as, within sports, such features of a person as protecting his rights, respect for others, initiative, collaboration and communion, following the rules, being able to make a distinction between right and wrong have developed increasingly. From a psychological perspective, sport keeps alive the feeling of pleasure and happiness (Şahan, 2007:164).

Consequently, it is stated that communication skills of students studying at different high schools show differences according to age, sex, friendship relations, family attitudes, family income level and participation in sport activities. Especially in the period of adolescence in which identity seek and personality development continue, adolescents are necessary to support the participation in sport activities in and outside the lesson to develop their communication skills and as a result, to come true knowledge transfer (Karataş, 2015:53). Also, these activities should not be
seen by parents as a factor preventing school success. Teenagers should be supported in the participation in sport activities that have a role in the contribution to the social communication and the process of socialization and also in the relaxation psychologically. Inasmuch as sport fields causing to abreact, that is, the discharge of individuals are seen as a treatment place by psychiatrists (Türkel, 2010:124).

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ADÖLESAN ÖĞRENCİLERDE SPORTİF AKTİVİTE VE BAZI DEĞİŞKENLERE GÖRE İLETİŞİM BECERİLERİNİN İNCELENMESİ


Anahtar Kelimeler: Adolesan, İletişim Becerisi, Spor, Eğitim
PETROGLYPHS OF NORTH AZERBAIJAN (OF NAKHCHIVAN) AND SOUTH AZERBAIJAN (OF IRAN): ASSOCIATIONS OF ARTISTIC AND IDEOLOGY

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Abstract: Petroglyphs can be considered to be the artistic effects of human society. Countless numbers of rock paintings are left behind which are considered to be an inseparable part of human art. This art has been created with different methods on different surfaces like stones and rocks which are indicative of their creators’ livelihood, their relationships with their neighboring lands, their ideology, intellectual and artistic excellence of different human societies developed during many years. By studying rock paintings of Gamigaya in Nakhchivan (Azerbaijan) and northwest of Iran, we may discuss these cultural, ideological and artistic associations. The present article has been carried out through field studies and library reviews. Designs are analyzed and categorized in 4 groups which are: human’s and animal’s designs, symbolic and celestial signs.

Key Words: Petroglyphs, Southern Azerbaijan, Gamigaya, Nakhchivan

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INTRODUCTION

Ancient rock paintings, which humans have been drawn for different reasons, include an accumulation of the oldest and most reliable evidences which make anthropologists and archaeologists aware of the evolution of human cultures, artistic association and complicated structures of past societies (Tolstoy, 1389: 55). Rock paintings exist broadly over the world, and in most areas of Iran there are places where you can see such rock paintings as well (Vahdati, 1389: 9). During the most recent studies, rock arts have been categorized in four groups: petroglyph, pictograph, cupules designs, geoglyphs (Sinya, 1994:5). Researchers consider rock arts to be the most important and the most mysterious cognitive and historical archaeological monuments and they have recommended that for understanding human history, rock arts can be used as the “common language of humanity” and “alive archive of history and art” (Rustemova&Muradova, 2008: 31). Rock paintings arts have started commonly from prehistoric eras and today it continues among shepherds and nomads. It can seriously be claimed that rock arts have not occurred suddenly, but they have been shaped alongside the development and evolution of human societies (Conler, 1988: 2).

METHODOLOGY

In this study, we have tried to examine the rock paintings of both sides of Aras River which geographically have continuity but politically are apart. The conducted research on rock paintings of northwest of Iran and Gamigayin Nkhchivan, are based on field studies and library reviews. This research is descriptive and analytic. There are some uncertainties in the rock paintings’ chronology, but there has been an effort to set a relative dating through using comparative studies.

STUDY REGIONS

Azerbaijan and Northwest of Iran are located in an interlocking region, but Aras River has separated these two areas. With its strategic location, this region has connected Caucasus, the Iranian Plateau, Anatolia and Mesopotamia with each other; from prehistoric times until now, this region has been one of the most favorable geographic locations for housing and livelihood of humans. Archeological findings can testify the aforementioned claim. The most important of these findings are these rock paintings which have been found in this field(Fig. 1). Some of the studies conducted on the rock painting art of this region which can be mentioned are listed here: ArasbaranPetroglyphs (Sungun) (Rafifar,1381); ArasbaranPetroglyphs (Ibid, 1384); rock paint-
ANIMAL DESIGNS

Primitive humans usually have been busy only with manufacturing figurines of animals or depicting animals which were present in their usual livelihood and surroundings. With studying and observing rock paintings and designs of foretold regions, the aforementioned statement becomes clear. Because all of the engraved animals have been somehow connected to their daily lives, livelihood and hunting.

Figure 1. Area of Study (Authors)
The frequency and number of those animals can be categorized as following, of which we represent the most significant: 1- antelope (or goat) 2- deer 3- elk 4- wild animals 5- ram or cow 6- horse 7- unclear. The roles of animals in general modes are specified as inertia, walking, fighting each other, rowing behind each other, and in some cases as individually, pairs and sometimes as a combination of both of the previous modes. Different samples of them with different figures in neighboring regions like Anatoli (Eliyev, 1992: 66), northwest of Iran (Kazemi, 1939), the near east (Bahşeliyev, 2002: 42-44), Siberia (Oкладникова, 1981: 44-46) are visible. The most repeated picture belongs to antelope which has been depicted mostly as stylized and unusual. In combined pictures of figures of animals, different signs such as swastika, the tree of life, and humans are depicted (Müseyibili, 2004; Eliyev, 1992; Bahşeliyev, 2002). Indeed, in prehistoric eras, humans have considered goats as a natural element which is providing and profitable (Bakhtavartash, 1356: 9).

![Figure 2. Petroglyph Combination of Human and Animal in Northwest of Iran (Kazemi et al, 2016: 20)](image)

**HUMAN DESIGNS**

The followings are of the most important rock paintings found in the northwest of Iran which include pictures of humans: rock paintings of Garasu river basin with more than 10 regions (Kazemi, 1393; (Fig.2) rock paintings of Dovuzdağiin Garadağ (Kazempur et al, 2011: 387), (Fig.3); rock paintings of Zanjan’s Deve- Daşı in the south of Azerbaijan (Noorelahi, 1393: 24), (Fig.4); rock paintings of Arasbaran (garaDağ), (Rafifar, 1381); in Azerbaijan republic and Nakhchivanthese rock paintings can be mentioned: Gamigaya rock paintings (İsmayılizada, 2010, Bahşeliyev, 2006; Babayev et al, 2014) and Gobustan rock paintings (Farajova, 2011; Rüstemov, 1994).
GEOMETRIC-SYMBOLIC SIGNS

Signs and symbols can play a decisive role in determining the relative antiquity of ancient monuments and the antiquity of cultural and artistic relationships among various regions. They are cultural symbols with a certain philosophy and include a wide cultural and geographical range (BakhtirayShahri, 1388: 32). In rock paintings found and studied in these areas, there are signs which have been interpreted as the Secret of life or as Sun sign. Amongst them is design of Cruh and broken Cruh which researchers have interpreted as a sun dial and as a sign of nature’s element of profitability (BakhtoorTash, 1356: 27). Similar to these signs (sun design or dial) have been found in Deve-Daşı in Zanjan (Noorelahi, 1393) (Fig.5), and symbolic designs in the form of rectangular grids and etc. have been found in Sheikh Madi (Kazemi et al, 2016).
CHRONOLOGY and COMPARISON

One of the most fundamental problems in studying rock paintings is chronology and dating which can be approached through inter-disciplinary studies and sampling. Unfortunately in Iran, due to the lack of equipment and facilities in laboratory studies, exact dating is not possible, but a relative dating can be done through comparative studies (Mohamadifar and Hemati, 1393: 31). In such conditions the existence of archeological sites in areas which have been explored and have been given a precise chronology can be helpful in dating these data. Pictures of animals especially antelopes on potteries of ancient sites, which have been chronologized to Bronze and Iron age, have been found and retrieved in the following places: Dinkhah Tape (Muscarella, 1974: 60) (Fig.6); Goy Tapeh (Brown, 1951: 132) (Fig.7); Haftavan Tape (Edwards, 1983: 289); KurdlarTepe (Lippert, 1979:145); in the northwest of Iran and sites such as: Shahtakhti (Eliyev, 1977:144; Halilov, 2013: 209)(Fig.8), Yayji (Bahşeliyev, 2004: 111); in Caucasus and Azebaijan and Nizhny Gtashn site (Kushnareva, 1997: 100).

Figure 5. Sample of Geometric - Symbolic Designs (Kazemi, 1393)

Figure 6. Pottery Whit Horned Animals Design in Dinkhatepe (Muscarella, 1966: 27)

Figure 7. Deer Design in Göytepe (Northwest of Iran) (Brown, 1951: 132)
Figure 8. Animal Motifs in Şahtahtı, Nakhchivan (Aliyev, 1977: 144).

A group of discovered rock paintings in Iran and Azerbaijan which display the design of herds of goats, have specific characteristics like the direction of their movement which either is in the same or opposite directions. In both of these regions, the majority of rock paintings have a relationship with the religious beliefs, artistic and ideology of rancher-farmer tribes and they depict scenes of their livelihood and economy. Even in one of these rock paintings a cart dragged by two bulls is seen which indicates their livelihood activities (Fig.9)(Bahşeliyev, 2003: 68).

In comparative research between these two regions, one can point to straight and pointy horns which lack any types of twist of curve. The antiquity of such rock paintings of goats and deer with straight horns approximately dates back to the third millennium BC; because pictures of animals with straight horns can be seen on colored potteries which belong to Bronze Age in Urmia and Nakhchi-

van. This motifs express artistry and art ideas of their creators for us.

A group of rock paintings of goats and deer are discovered from these two regions can date back to second millennium and might belong to the Bronze age. One of the outstanding characteristics of this group is that the horns painted in them are not straight but in a semi-circular and spiral way point to the back of animal(Halilov, 2014:66). With reference to the archeological resources, such pictures of animals can be seen widely on the potteries of Khojali Gadebay culture. This culture belongs to the late second millennium and early first millennium B.C.(Гусейнова,1989:123).

Of the most attractive rock paintings are those related to the designs of animal hunting by humans. Pictures of individual or collective humans who are hunting with bow and arrow are represented (Fig.10) (Museyibli,2004:54). Rock paintings similar to the aforementioned samples can be found in the Iranian plateau and in the areas surrounding Lake Urmia, but it is the similarity of the form of bows and manner of drawing bows which draws attention. In more exact terms, in both designs the curves of the bows are very similar. In carried out researches on the semantics of rock paintings and their era, it is mentioned that in these samples, subjects relating to hunters are re-
felted. Bow and arrow have existed in Azerbaijan from Mesolithic era and in later eras have been used widely. In early Bronze age in Nakhchivan(KulTepe) the discovery of large amounts of bones which belonged to hunted animals such as goat, deer and elk indicates an increase in hunting of these animals with bow and arrow (Абыбуллаев,1982: 215).

Figure 9. Motifs of Bull and Cart in Gamigayagaya (Fatih et al, 2012: 216)

Figure10. Motifs of Animal Hunting in Gamigayagaya (Мюсебили, 2004: 312)

Of comparable cases in rock paintings of the North and South of Aras river, dancing designs in collective or individual modes can be mentioned in which people are depicted with their hands in each other hands. These pictures can be seen in sites of Deve Daşy(Kazemi, 1393) and Gobustan (Fig.12) (Джафарзаде,1973:165), but the pictures of the northwest of Iran run a lower resolution and quality. The main similarity between these pictures is in the form and position of humans. It is possible that these rock paintings belong to the third millennium B.C. there is a picture of a dancing human on one of the potteries found in Qizil Burun site (Fig.13) (Bahşalıyev, 2008: 85).

Figure 11. Ancing Designs in Gobustan (Рүстемов, 1994)

Figure 12. Dancing Designs in Gizilburun (Bahşalıyev, 2008: 84)

CONCLUSION

Cultural and ancient monuments of wide lands of the Northwest of Iran and the south of Caucasus(Azerbaijan) are so rich and in-
tact that they allow researchers to study in different scientific fields and achieve valuable results about human history. Surveying rock paintings of these regions is an introduction to some nomadic and animal husbandry-based concepts in archeology and sociology. It can be claimed that designs and paintings of Northwest of Iran have many similarities with rock paintings located in the north of Aras River specially Gubustan and Gamigaya in Azerbaijan. According to documents and previous studies, most of these similarities are based on a perspective associated with painting styles and motifs. According to archeological findings, rich habitation background of various human communities in these regions belong to human communities and groups who have experienced, evolved and survived through the progressive stages of life from nomadic and farming life to animal husbandry and then to a sedentary life. Therefore, it can be concluded that rock designs such as Shahryeri designs, Mashiran, DeveDeresi, ShaikhMadi, Dash and etc… are prehistoric memorials which in an imitative manner and with special characteristics have continued to exist till now.

The motifs of the investigated rock paintings contain pictures of humans, animals, geometric and portray scenes with topics about hunting, dancing, symbols and possibly ritual occasions. In all of the designs a person can see sceneries each of which have a certain symbol and yet it can be claimed that none of these designs have been painted accidentally or unintentionally. Scenes of ritual dancing have been portrayed in the most of rock designs of these regions which indicate the existence of humanity’s shared beliefs and common behaviors, and they highlight relationships and the influence that those communities had between one another. Antelope designs draw the most attention in the investigated rock paintings. These designs not only are far more than other animal designs, quantitatively talking, but also they matter greatly due to the great amount of principles of caution and care which is preserved in presenting them. Of these principles which draw attention more than anything else is the presentation of a silhouette view of antelope with long and crescent horns in various forms. This representation is always portrayed with unique beauty. In these rock paintings, portrayal of companionship between humans and animals such as deer, goat and etc… shows the importance of the roles these animals played in humans’ livelihood.

Goat and deer which were the main food resources and provided essential nutritional subsistence such as meat and dairy product, played an important role in the economy and
livelihood of ancient people, and yet they have had a place within the religious-ritual occasions. In several cases in these paintings, humans’ relationship with hunting scenes is reflected. Pictures of humans during hunting with bow and arrow, individually and collectively, are drawn. In researches done on the semantics of rock paintings and their era, it is claimed that in these samples a topic related to hunters is revealed. Bow and arrow have existed in Azerbaijan from Mesolithic era, but they have been used more widely in the next eras. According to drawing styles and their comparison with pottery samples retrieved from archeological exploration as well as chronologized samples found in the north of Aras River, the antiquity of the drawing of deer’s and goat’s rock paintings belong to Bronze and Iron Ages. It means that they are estimated to belong to sometime between first millennium to fourth millennium B.C.

One of the most important issues regarding the major rock paintings in Azerbaijan and North west of Iran is that they have a lot of artistic associations and motifs in common. These common elements could be attributed to sociopolitical relationships which once existed among the inhabitants of those regions and that we now may see depicted on potteries and rocks. These depictions represent their authors’ everyday concerns which have beautifully been reproduced in an artistic medium and handed over to modern man.

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KUZEY AZERBAYCAN (NAHÇİVAN) VE GÜNEY AZERBAYCAN’IN (İRAN) PETROGLİFLERİ: SANATSAL VE İDEOLOJİK BAĞLANTILARI

bazi belirsizlikler bulunmaktadır fakat karşılaştırmalı çalışmalar kullanılarak gereki bir tarih belirleme yönünde cabalar mevcuttur. **Sonuç:** Kuzeybatı İran ile güney Kafkasya’nın (Azerbaijan) geniş topraklarında bulunan kültürel ve tarihi abideler öylesine zengin ve el deformemiştir ki araştırmaciların farklı bilimsel alanlardaki çalışma yapmasına ve insanlık tarihi hakkında değerli sonuçlar elde etmesine olanak tanımaktadır. Bu bölgelerde bulunan taş resimlerine ilişkin yapılan inceleme, arkeoloji ve sosyolojideki bazı göcebe ve hayvancılık temelli kavramların giriş nitelikindedir. Kuzeybatı İran’daki bulunan şekiller ve resimlerin Azerbaycan’daki özellikle Göbustan ve Gamigaya’da Aras Nehrinin kuzeyinde yer alan taş resimlerle pek çok benzerliği bulunmaktadır. Mevcut belgelere ve daha önce yapılan çalışmalara göre bu benzerliklerin çoğu, resim stilleri ve motifleriyle ilişkilidir. Arkeolojik bulgulara göre bu bölgelerdeki çeşitli insan topluluklarının zengin yerleşim geçmişleri, göcebe ve çiftçilik hayatında hayvancılık ve daha sonra yerleşik hayata geçiş birçok şekilde süreçlerde deneyim kazanmış, evrilmış ve hayatta kalmış olan insan toplulukları ile gruplara aittir. Bu nedenle Shahryeri işaretleri, Mashiran, DeveDeresi, ShaikhMadi, Dash vb. gibi taş şekillerinin taklitçi bir şekilde ve özel karakteristik özellikler yönünden hala varlıklarını sürdürdüğü ve tarih öncesine ait anıtlar olduğu sonucuna varılabilirdir. İncelenen taş resimlerin motifleri avlanma, dans etme, sempoller ve muhtemelen törensel durumlar hükümdaki konulara insanların, hayvanların, geometrik şekillerin ve resmetme sahnelerinin resimlerini işlemekteydır. Tüm bu şekillerde birey, her birinin belirli bir sembole sahip olduğu görüntüler görevler fakat işaretlerin hiçbirinin kazara veya istemeden yapılmadığı öne sürülebilir. Bu bölgelerde taşlar üzerine yapılmış şekillerin çoğunda ritüel dans sahneleri resmedilmiş ve bu da insanlığın paylaşılmış inançları ve ortak davranışların varlığına işaret etmekte olup bu toplulukların birbirleriley olan ilişkilerini ve etkileşimlerini vurgulamaktadır. İncelenen taş resimlerinde en çok dikkat çeken de antilop şekilleridir. Miktarsal ölçülede konușacak olursak bu şekiller sadece diğer hayvan şekillerinden daha fazla olmakla kalmayıp onların sunumuş en sonunda korunmuş olan büyük bir dikkat ve özen ilkeleri nedeniyle de önem arz etmektedirler. Tüm bunlar arasında en çok dikkat çeken ilke de antilopların uzun ve hısal şekilde boynuzlarla çeşitli biçimlerde resmedilmiş siluetlerinin sunulmasıdır. Bu ifade her zaman eşsiz bir gazellikle resmedilmektedir. Taş üzerine yapılmış bu resimlerde insanlar ile geyik, keçi vb. hayvanlar arasındaki dostluğun resmedilmesi de, bu hayvanların insanların yaşamlarında oynadıkları rolün önemini göstermektedir. Temel gıda kaynağı olmakla kalmayıp et ve süt ürünleri gibi önemli gıda maddelerini sağ-

Anahtar Kelimeler: Petroglif, Güney Azerbaycan, Gamigaya, Nahçıvan
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Writing of different reference types in IRAJ-SHMS can be found in the following sections.

- **Journal Articles:**


- **Internet Sources:**


- **Book Sources:**


**FIGURES**

IRAJ-SHMS use digital publication technology in developing the journal. When your article is accepted for publication, certain special requirements on digital graphic format are needed to catch the best quality.

If the presented figures are not found appropriate, authors may be requested to prepare new figures, which often delays the publication of the study.

Original graphics should always be prepared to ensure that printed publications have quality resolution. If a study is accepted for publication, IRAJ-SHMS will request image files with high resolution for printing.

Programs which can create PDF files with high resolution should be used.

Figures should be prepared in sizes which will appear in journals (It should be printed with 1:1 proportion).

**Inclusion of Humans and Animals in Photos:**

- Human and animal photos can be published when it is necessary to illustrate a scientific mechanism or describe research findings. For personal photos, a signed consent form is requested from the relevant persons or legal authorities.

- When it is possible to use a diagram in illustrating a mechanism, the author should define the mechanism in methodology chapter of the study if finding an image is not possible.
- As in genetic modifications or developmental biology where photos are typically used, photos can be published to describe findings in cases where data are illustrated as image.

- With regard to other fields of science, issues regarding whether a photo is to be published or it is scientifically necessary to publish a photo are dependent upon decision of the editor.

**TABLES**

Authors are encouraged to use figures rather than tables as much as possible. Instead of general tables including subjective data obtained as a result of research, special tables indicating statistical values should be presented as much as possible. Long tables of data which are not presented in accordance with printed publication standards of APA may not be included and be omitted from the printed publication.

- Authors should not copy data stated in the text into the table.

- Each table should have a short title, explanatory notes should not be included in the title, but in the explanations section.

- Decimal places stated unmeaningfully in tabulated form in data should be omitted.

- Column titles should be abbreviated and if necessary, they should be explained under explanations.

- Statistical measurements (ss, sh, etc.) should be defined (e.g. such statements as ‘Values average has been stated as ± ss’ should be included).

- Table footnotes should be listed as they appear. For four and less footnotes *, †, ‡, § symbols and for five and more footnotes sequential lowercase letters should be used.

Statistics applied in tables which are used in writing the findings and statistical data should be presented in proper format. Which statistics the table includes should be stated before the table, and after the table, interpretations of data included in the table should be stated. Meaningfulness value should be particularly stated in interpretation in line with the presented statistics.

**Example Table:** Create the table in the following format according to the statistical analysis to be made (F / t or Variable / Group). Create it in descriptive statistics in the following format.

Table 1 indicates ............................................

Table 1. .................................................................results.

Variable / Group

N
*Meaningfulness Value

When Table 1 is analyzed, it is seen that .......... (Interpretation).
ETHICAL POLICIES AND PROCEDURES

Authorship:

Editors of IRAJ-SHMS expect that each author is closely knowledgeable about original data of his/her study and he/she makes substantial contributions to the study. They also expect that each author read his/her study completely and he/she will be held responsible when a devious case is determined in the whole research or some parts. Upon the request of an author, his/her name can be omitted from the study, but when a change is made on authorship (addition, omission, or change on the order of authors’ names), all the authors should sign the authorship modification.

Author’s Conflict of Interest:

All funding resources and institutional contacts which have contributed to the study should be declared in the study. During application to IRAJ-SHMS, authors of research studies should declare whether they have any potential conflict of interest and financial or other relations (consultancies, share partnerships, capital partnerships, patent-license regulations, lack of the right to access to data, lack of control on decision for publication, etc.).

Copy Publication, Plagiarism, Fraudulence:

IRAJ-SHMS accepts only original studies which have not partially been submitted to any other journal except for its short abstract. When a study is submitted to the editor for review, the author who makes correspondence should receive the copies of the study in the printing phase. Using a material from the study of another scholar and submitting it as if it has been created by own is accepted as plagiarism. It is also accepted as unnecessary publication or self-plagiarism and not permitted for an author to take and reuse materials from previous studies (tables, figures, data and passages). Reproducing a research report and modifying or hiding data regarding the results of another research study are accepted as fraudulence, and these also include modification practices on figures of a study such as addition, transfer, omission or hindrance.

Experiments on Humans and Animals:

Authors who use embryonic cells, embryos, foetal tissues, animals and humans in their study should comply with the rules specified within the scope of Helsinki Declaration.
**Ethical Procedure:**

IRAJ-SHMS referees are responsible for reporting plagiarism, fraudulence and suspected copy publications in studies made on humans and animals. A referee can report that he/she has served or still serves as the referee of a similar research study of the same author published in another journal. Readers can report that the same article has been published in another platform and authors do plagiarism. In such cases, the foremost duty of the editor is to notify the field editors about the situation with the copies of the concerned material and the non-judgemental draft letter to be requested from the correspondence author. Field editor should approve the procedure of correspondence prior to any correspondence with the author. If the explanation made by the author is not accepted and unethical cases is seen in the study, the Council of Publication will deal with the situation. As a result of evaluation, it will be decided that the author is banned from future application for article or notification is made to his/her institution. Decision should be approved by the management board of IRAJ-SHMS, and the author is entitled to explain his/her situation and object to decision on sanction.

If violation (offense) is minor, the editor sends a censure letter to the author, reminding the publication rules of IRAJ-SHMS. If the study has been published, the editor can request from the author to apologize to publish in the Journal so that correction can be made. If IRAJ-SHMS violates the copyright of another journal due to the author, the editor sends an apology letter to the concerned journal.

In serious cases which necessitates the withdrawal of the article due to fraudulence, information about withdrawal will be published in the Journal, and an online link will be added to the published article. Additionally, articles which have been published online will be marked as ‘withdrawn’ with the date of withdrawal.
FREQUENTLY ASKED QUESTIONS

1- Is the journal refereed and international?

1.1. The journal is a refereed international journal. It is indexed with and included in many international indexes.

2- Does the journal charge any publication fee?

2.1 Our magazine is a certain amount per article fee in exchange for some expenses.

3- Are the readers allowed to access to the issues and the articles without being a member of the journal?

3-1 All the issues in the journal can be downloaded in pdf format

4- What is the frequency of publication of the journal?

4-1 The journal publishes four times per year. At the end March, June, September and December, issues with the full texts are uploaded to the system.

5- Are the authors informed of the evaluation process?

5-1 The journal is web-based, and the information concerning the evaluation process can be obtained by the members of the journal. The authors will also be provided with the necessary information about the process.

6- How many referees evaluate a manuscript?

6-1 Manuscripts, which are evaluated by the field editors, are sent to the two referees, experts in the appropriate field. This process takes two months. If evaluation reports are not received in two months, the article is sent to the third referee. If there is not any progress, field referee, and the editors decide on the publication process.

7- Is any information concerning “the author and authors” confidential or not?

7-1 In this journal, and all the international refereed journals, information, concerning the author/authors is known only by the system editors, field editors, chief editor and...
assistant chief editors. This information is kept confidential. The referees or members of the journal are not allowed to access to the information about the authors.

8- Is there a certain number of article to be published in the journal?

8-1 There is not a certain number of article in the journal. Each article, approved by the referees and the editorial board, is accepted to be published in the journal without delay and sent for the layout process which is the final stage.

9- Is an author allowed to submit more than one paper in the same issue?

9-1 It is out of the question in terms of ethics. However, more than one manuscript of the same author can be published in the same journal or the following issues if the publication and editorial board approve the articles. But this situation is possible only for specific cases.

10- Are there sufficient referees in all the fields that the journal is seeking articles?

10-1 The journal consists of qualified, sufficient and successful referees, experts in their fields, who respect scientific qualities and terms and evaluate the manuscripts efficiently and voluntarily without pecuniary advantage. In the journal there is more than one referee in each field, eager to contribute to the development of science.

11- What is the duty of the science and advisory board?

11-1 The science and advisory board is composed of the chief editor and field editors who are responsible for solving the incompatibility problems that the referees experience; the board give the final decision independently, and they act actively to solve such problems. The decisions of the science and advisory board are accepted without questioning. Their decisions cannot be changed.

12- Is an author allowed to submit his/her paper to the science and advisory board in a negative situation?

12-1 This situation is out of question. It occurs in accordance with the will of the chief editor.

13- If an author submits his/her paper simultaneously to another journal for consideration, and the paper is accepted in that journal too, what kind of precautions are taken?

13-1 The editorial board gives the final decision in such cases. As the editorial board does not regard such attitudes as ethical, even if the paper has been published, it is removed from the system on condition that refutation is published, necessary institutions
are informed, and the rights are reserved. However, in order not to experience such problems, the guidelines for the authors should be read carefully and the appropriate papers should be submitted.

14- What is the language of the journal?

14-1 Publication of the journal language is English by the year 2016.

15- Is an author allowed to get information about the referee that is evaluating his/her paper?

15-1 It is out of question. The names of the referees will never be revealed to the authors even if they want to learn.

16- Is an author allowed to give a name of a referee that he/she does not want his/her paper to be evaluated by?

16-1 If such a problem occurs, and the referee is in the journal list, on condition that the process is confidential, the author should submit the necessary explanations and reasons in an official document to the chief editor. If this is approved by the chief editor, necessary steps are taken, otherwise, common procedures are carried out.

17- Is an author allowed to suggest a referee to contribute to the evaluation process?

17-1 It is out of question. The field and system editors decide on the issue. Authors cannot interfere in this process.

18- Are the authors to sign the transfer agreement or publishing transfer contract?

18-1 This situation is stated on the main page of the journal in the section titled publication principles. All the submitted papers are accepted to be transferred to the journal with exclusive rights. The author is not asked to sign the document concerning his/her paper. However, in some cases the author should sign the contract, required by the field editors or administrative board and submit it to the chief editor officially. Otherwise the paper will not be published.

19- Is an author allowed to withdraw his/her paper when he/she wishes?

19-1 If the evaluation process has started, papers cannot be withdrawn. The paper can only be withdrawn in case of plagiarism and scientific disqualification and if the author sends an official letter, explaining the situation to the chief editor. The journal acts unilaterally in this issue.