

EURASIAN JOURNAL OF EDUCATIONAL RESEARCH  
E Ğ İ T İ M A R A Ş T I R M A L A R I D E R Ğ İ S İ

A Quarterly Peer-Reviewed Journal, Year: 8 Issue: 32 / 2008  
Üç Ayda Bir Yayınlanan Hakemli Dergi, Yıl: 8 Sayı: 32 / 2008

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Printing Date / Basım Tarihi: 15.08.2008

Printing Address / Matbaa Adresi: Sözkese Mat. İ.O.S. Mat. Sit. 558 Sk. No:41 Yenimahalle-Ankara

Yayın Türü: Süreli Yayın

Cover Design / Kapak Tasarımı: ANI Publishing / Anı Yayıncılık

Typography / Dizgi: Ali Ertuğrul

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Dergide yayınlanan yazıların tüm sorumluluğu yazarlarına aittir

Eurasian Journal of Educational Research (ISSN 1302-597X) is a quarterly peer-reviewed journal published by Anı Yayıncılık

Eğitim Araştırmaları (ISSN 1302-597X) Anı Yayıncılık tarafından yılda dört kez yayınlanan hakemli bir dergidir.

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Eurasian Journal of Educational Research (EJER) is abstracted and indexed in;  
Social Science Citation Index (SSCI),  
Social Scisearch,  
Journal Citation Reports/ Social Sciences Editon,  
Higher Education Research Data Collection (HERDC),  
Educational Research Abstracts (ERA),  
SCOPUS database,  
EBSCO Host database, and  
ULAKBİM national index.



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## Comparative Study: Distance Education Institutes as Learning Organizations in North Cyprus and UK

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### Suggested Citation:

Aksal A., F., Birol, C., & Silman, F. (2008). Comparative study: Distance education institutes as learning organisations in North Cyprus and UK. *Egitim Arastirmalari - Eurasian Journal of Educational Research*, 32, 1-20.

### Abstract

*Problem Statement:* Continuous change and improvements for the quality of organizational development, communication flow and knowledge sharing are crucial within institutions. Recent studies have paid a great deal of attention to the importance of learning organisations and emphasize distance education practices as an innovative strategy. This study fills a gap in the literature by using a comparative study to examine the distance education institutes as learning organisations. The study is significant as it compares the performance of distance education institutes as learning organizations. It also helps to identify quality improvements of learning organisations and provides insights to evaluate the integration of sharing learning in higher education practices within different cultural contexts.

*Purpose of the Study:* The purpose of the study is to investigate the comparison between the performances of the distance education institutes in North Cyprus and the UK Higher Education Institutions. These institutes' performances as learning organizations give a competitive advantage to their higher education system.

*Methods:* The qualitative research method, including in-depth interviews, researcher observations and self-reports, were used to examine these institutes. Data were then analyzed thematically and triangulated. The participants from North Cyprus and UK were purposefully selected as a sample on a voluntary basis. The multiple data collection techniques were reviewed by experts from Turkey, UK and United States and piloted in order to increase the credibility of the research.

*Findings and Results:* Findings revealed that higher education institutions need to use distance education practices as an innovative strategy for

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continuous improvement. In addition, findings show that the distance education institute in the UK performs better as a learning organization than the distance education institute in North Cyprus, which has limited infrastructure and lacks a collective vision.

*Conclusions and Recommendations:* The research findings suggest that developing a learning organization with distance education practices provides an opportunity for the higher education system to extend its influence on external and multicultural environments. There is also an increasing need to provide strategic planning and evaluation of its effectiveness for the development of distance education institutes as learning organizations. In addition to the two cases examined, other comparisons could also be made considering the cultural dimensions. Furthermore, social interaction such as dialogue and inquiry can be explored using in-depth investigation to enrich other dimensions of learning organizations and improve organizational performance.

*Keywords:* Comparative study, distance education, higher education, learning organization

Strategic changes to managerial approaches may lead organisations to emphasize their role as “learning organizations.” An organization is defined as a unit wherein people continuously expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, collective aspiration is set free, and where people are continually learning how to learn together (Kiedrowski, 2006). Therefore, expanding capacity through organizational flexibility and adopting changes into the organizational vision require a learning cycle and the sharing of knowledge within organizations (Ismail, 2005; Örtenblad, 2004).

There is a need to look at organizations as learning organizations to continuously improve their performance (Kenny, 2006). Learning organizations can be defined as:

“A group of people who are continuously enhancing their capabilities to create what they want to create in organizational aspects and growth in an organization is essential by knowledge generation to have productivity and quality for continuous improvements.” (Senge, 1992)

“The growth and change of organizational knowledge, the process by which organization members develop knowledge about action outcome relationships and the effect of the environment on these relationships.” (Duncan & Weiss, 1979)

“An organization is able to sustain consistent internal innovation or learning with immediate goals of improving quality, enhancing customer or supplier relationships or more effectively executing business strategy, and the ultimate objective of sustaining profitability.” (Mills & Friesen, 1992)

In relation to the above definitions, learning organizations are established for different purposes. One is to create an inspiring philosophy of lifelong learning, “empowering” employees to reach their potential and find fulfilment. Another is to replace traditional train-and-transfer practices with a holistic approach to worker

development, and a third purpose is to become more flexible and responsive to performing as teams and to learn, grow, and develop with the collective goal of producing quality improvements (Foster & Akdere, 2006; Şişman, 2007).

In this respect, learning organizations are supposed to allow continuous improvement to increase quality in higher education practices within the competitive environment (Randeree, 2006). Although the literature pays much attention to the organizational design of learning organizations in business fields in the empirical studies (Addleson, 2000; Aksu & Ozdemir, 2005; Blackman & Henderson, 2005; Schianetz, Kavanagh, & Lockington, 2007), examination of higher education as learning organizations with its distance education practices for continuous improvements using qualitative research is rare (Hart, 2007; Zhao, 2003).

In addition, learning within an organization provides insights into the process of questioning and critiquing notions of "progress" and "success," it emphasizes self-reflection and transformation, and it allows for the construction of a shared vision of a "full, just and meaningful human existence." In this respect, Dawson, Burnett & O'Donohue (2006), Sohail, Daud & Rajadurai (2006), and Randeree (2006) emphasize the importance of knowledge within organizations that higher education institutions need to extend the market place based on learning to learn. According to Brandt (2003), examining the characteristics of learning organizations within an educational context is vital. These characteristics can be listed as: having an incentive structure that encourages adaptive behaviour, having challenging but achievable shared goals, having members who can accurately identify the organization's stages of development, and being "open systems" sensitive to the external environment, including social, political, and economic conditions. Furthermore, Retna & Tee (2006) examine the challenges of adopting a learning organization model within higher education. The study stresses the importance of dialogue to overcome the challenges of becoming a learning organization and puts an emphasis on the practical implications of learning organizations.

#### *Distance Education Institutes as Learning Organizations*

Distance education opens up a whole new range of business expansion and internationalization opportunities for many higher education institutions. In relation to quality improvements, learning organizations must ensure an institutional knowledge and processes for creating new ideas to have a supportive organizational culture. Learning organizations have an incentive structure that encourages adaptation to change with collective sharing among members. Distance education institutes in higher education as learning organisations create sufficient innovative strategies in competitive environments.

Review of the literature reveals that higher education institutions are beginning to have a dynamic organizational structure in order to adopt changes within a competitive environment. Therefore, "learning" and "improvement" are key elements of the organizational structure to upgrade their quality of performance (Meyer, 2002; Salmon, 2004; Temponi, 2005). McPherson & Nunes (2006) supported the idea that organizational issues and continuous improvement for quality in distance education institutes need to be addressed. Recent studies have paid attention to the features of learning organizations and the pedagogical aspects of

distance education in line with the quality efforts of universities. Although researchers focus on the concept of learning organizations and the practices of distance education based on its pedagogical aspects, less attention is paid to the dimensions of a learning organization within the organizational aspects of a distance education institute. Therefore, this study elucidates the organizational aspects of distance education institutes in different contexts in relation to Mugridge (1992) dual mode model. The model covers universities which practice both traditional and distance education applications (Kamau, 1999).

This research aims to provide a comparison of distance education institutes in the UK and North Cyprus as learning organizations. Critical dimensions of a learning organization; "professional growth;" "communication flow;" "collaboration and teamwork;" "creating a system to share learning;" "collective vision;" and "connecting the organization to its environment" were selected to examine the performance of distance education institutes as the strategic units of higher education institutions (Dymock & McCarthy, 2006). In addition, Morgan (1997) provided a theoretical framework to describe organisations by using metaphors for this research.

The study aims to answer the following research questions:

- Q1. How do people improve their professional skills within the distance education institutes?
- Q2. To what extent does this distance education institute promote dialogue and inquiry?
- Q3. What are the factors that enhance or limit social interaction in the distance education institute?
- Q4. How does the distance education institute create the environment of knowledge sharing?
- Q5. To what extent does the distance education institute empower people towards a collective vision through interdependency?
- Q6. How do members describe the distance education institute by metaphor?
- Q7. What are the similarities and differences between two distance education institutes as learning organizations?

### **Method**

The research was a comparative case study based on qualitative research investigating the complexity of social interactions and their meanings to participants in these interactions based on an inductive process. As the rationale of qualitative research stances on socially constructed meanings, this study explored the experiences and perceptions of distance education institutes' members by its qualitative nature as an inductive process in North Cyprus and UK (Marshall & Rossman, 1999). In respect to qualitative research, the case study approach was used as it is an examination of specific phenomena such as a program, an event, a person,

a process, an institution or a social group in relation to specific research focus (Yin, 1994).

In this study, distance education institutes of higher education institutions in North Cyprus and the UK were selected purposively as they represent critical cases in exploring the theory (Saunders, Lewis, & Thornhill, 2000). They are critical because they are well advanced in terms of adoption of technology in dual mode practices. In addition, since they have been practising dual mode over a number of years, they have managed to improve their practices based on quality improvements plan which was one of the reasons to select these institutes as cases. On the other hand, having lived experiences in this context as researchers provided in-depth insights about institutional quality practices and instigated another reason to conduct research in these institutes.

The study examined these two cases' performance as learning organizations in order to compare them and identify the critical success factors of being a learning organization. In other words, a comparison between the national context of the researchers and the global context was conducted to seek out critical success factors of learning organisations to aid quality improvements for higher education institutions (Hofstede, 2001). Self-reports, interviews, and participant observation by researchers were used in this research and data were triangulated to increase the credibility of research (Cohen, Manion & Morrison, 2000; Silverman, 2000; Yıldırım & Şimşek, 2005).

#### *Case I*

The distance education institute in North Cyprus began offering online education in 2000. The distance education institute has one director, one technical staff member, and fourteen tutors to lead online courses and programs. Online courses are offered in a two-year diploma program. The main mission of the program is to produce graduates who have excellent computer skills and know how to locate information using the Internet, to classify and convey information, and to use information efficiently. The distance education institute reflects the mission of higher education by creating opportunities in education.

#### *Case II*

The distance education institute in the UK focuses on events, projects, strategies, distance learning, publications, and evaluations. It provides instructions to students through WebCT and also provides facilities such as a media workshop, graphics, computer services, and a library to all higher education staff. The distance education institute in the UK has an institute head, a head of the media workshop, an educational development consultant, an educational developer, a learning technologist, a WebCT administrator and teaching staff.



### *Participants*

Although the distance education institute in North Cyprus has sixteen staff members and the distance education institute in UK has eight responsible staff plus teaching staff, twelve members from the distance education institute in North Cyprus and five members from the distance education institute in the UK participated in the research on a voluntary basis.

Researchers, in this respect, first contacted and invited those participants who had knowledge and experience in these research contexts in order to minimize bias in the research. For this purpose, a research booklet was prepared and presented to all members in both institutes in order to inform them about the research process, data collection techniques and procedures. An informed consent form within the booklet demonstrated sensitivity on ethics in the research and aimed to reach out to volunteer participants to increase the credibility of the research. Secondly, to ensure credibility during the data collection and analysis stages, the findings from each participant were validated by (1) comparing the information with the other participants, (2) comparing the emerging themes with the information obtained through observation and self-reports, (3) checking the validity of the choice of themes with selected participants, particularly with the insiders in the organisations.

### *Data Collection Methods and Analysis*

In-depth interviews were used to gain insights on the perceptions and experiences of participants concerning their distance education institute's structure. Interviews consisted of twelve questions in English and ran about sixty-five minutes. A structured observation form focused on twenty-three statements about the dimensions of learning organizations, including continuous learning opportunities, dialogue and inquiry, collaboration and team learning, creating systems to capture and share learning, collective vision, and the relationship between the organization and its environment. A self-report investigating the same twenty three dimensions of successful learning organizations was administered to the distance education institutes' staff members in order to gain insights into their experiences with the practices of the distance education institute as a learning organization.

The interview questions, structured observation, and self-report questions were reviewed by three experts experienced in qualitative studies from the UK, Turkey, and the United States and were piloted in order to increase the credibility of the research. The data from the interview, self-reports, and observations were analyzed using thematic coding. Coding categories for both cases were determined after a review of the relevant literature on "learning organizations." Furthermore, the use of multiple data collection methods provided triangulated data, resulting in credible research findings (Bogdan & Biklen, 1992; Saunders, Lewis, & Thornhill, 2000; Yıldırım & Şimsek, 2005).

## Findings and Results

The research study reveals that distance education institutes in North Cyprus and UK perform differently as learning organisations due to differences in context and culture.

### *Comparison of the Performances of North Cyprus and UK Distance Education Institutes by Learning Organization Dimensions*

**Professional growth opportunities dimension.** Based on interview findings, participants in North Cyprus emphasized that the institute provides insufficient ongoing education and growth through seminars, conference scholarships, and announcements. One participant stated: "I did not recognize any opportunity for ongoing growth. I attend seminars and conferences for my field as ongoing education, but these are not provided by my organization." However, one participant stated: "It provides the chance to learn anywhere and at any time to students who did not continue their education after high school or are in the workforce and want to learn about information technologies."

On the other hand, participants in the UK distance education institute stated that their organization offers independent opportunities by encouraging staff members to set targets for their continuous development. One of the participants stressed: "organization encourages staff to attend both general and specific courses designed to educate and update staff." Another participant stated that professional development is a strategic priority for the organization, as it is embedded in the annual performance appraisal system.

Observational findings support the interview findings that the distance education institute in North Cyprus provides less opportunities to participate in seminars and conferences, supports self-development and training, and its managers moderately view themselves as facilitators for the learning process. In addition to this, the staff members share little new information with each other about continuous learning opportunities. In contrast, the distance education institute in the UK provides opportunities to participate in seminars and conferences and completely supports self-development and training, and staff share new information with one another. However, managers in the UK view themselves as moderate facilitators for the learning process.

Furthermore, some of the participants in North Cyprus stated in the self-report that the institute does not provide opportunities to participate in seminars and conferences, and that staff members share little new information with each other. Moreover, participants in North Cyprus stressed that the institute moderately supports self-development and training. Managers view themselves as facilitators in the learning process moderately. On the other hand, participants in the UK agree that the institute provides many opportunities to participate in seminars and conferences, and staff members extensively share new information with each other. In addition, participants stressed that the organization supports self-development and training, and managers view themselves completely as facilitators in the learning process.

In terms of professional growth opportunities, distance education institute in North Cyprus has insufficient performance because of a weak information sharing climate and professional growth opportunities to the staff. Distance education

institute has sufficient performance because participants are satisfied with the opportunities provided by their institute.

*Dialogue and inquiry-communication flow dimension.* The participants from distance education institute in North Cyprus stressed that participants come together via meetings to orient the students. Factors limiting social interaction included the infrastructure of the system, lack of face to face contact, lack of an open door policy, a gap between learners and teachers, not understanding the nature and notion of distance education, time, isolation, and cultural barriers. Participants defined and discussed social interaction in many ways:

“In some sense, it is up to each individual’s interpretation; there is weak social interaction among staff and within the organization, but we can say that this situation comes from the structure of the system, context, and culture of the people.”

“We were having weekly meetings to discuss our problems, and now we are discussing with e-mail mostly.”

On the other hand, participants from the distance education institute in the UK stated that there is adequate dialogue and inquiry but less opportunities for social interaction for academic staff due to a change in organizational structure, flexible working hours and increased reliance on e-communication. Cultural barriers, heavy work loads, understanding the management objectives, and disagreement over organization policy are the factors limiting social interaction.

Furthermore, observational findings indicate that honesty, openness and respect within an organization allow everyone to feel confident expressing views and opinions for constructive change. Distance education institutes in North Cyprus and UK both have moderate informal learning networks for exchanging ideas. In North Cyprus, there is a limited inquiry-based work environment where everyone is somewhat encouraged to use problem solving skills and everyone feels somewhat free to inquire about and address each other’s assumptions. Distance education institute employees in the UK feel somewhat confident to express views and opinions for constructive change.

In terms of dialogue and inquiry-communication flow, participants in the North Cyprus distance education institutes stated by self-report that honesty, openness, and respect are important social and cultural elements of an organizational structure. Furthermore, participants emphasised that in their institute, everyone feels confident to express views and opinions for constructive change. There is an inquiry-based work environment, everyone is encouraged to use problem solving skills, everyone feels free to inquire about and address each other’s assumptions, and there are effective, informal learning networks for exchanging ideas. Two of the participants were less positive about the work environment, saying that they agree with the preceding statements only a little.

Self-report responses on dialogue and inquiry dimension were similar in both distance education institutes. Both institutes have dialogue and inquiry but there are factors limiting social interaction to have sufficient learning through dialogue and inquiry.

***Collaboration and team work dimension.*** Interview results from participants in North Cyprus revealed that the distance education institute provides teamwork activities, and, in some sense, an environment in which to come together. One participant described collaboration and team work within the institute as the following:

“Actually, to be honest, the organization provides teamwork activities. There is the opportunity and environment to come together, so I don’t know why we are not doing teamwork activities. So, I can say that there is an environment for the team activity but it is not functioning.”

Although there is an opportunity to come together within the institute, it is not utilised. On the other hand, one of the participants in the UK indicated “sub-groups are formed across different departments within the same school. For research, learning and teaching, people join one of these groups to contribute and to learn.” Participants in the UK stated that organized meetings and staff development training provide teamwork activities within their distance education institute.

These findings should motivate the distance education institute in North Cyprus to involve everyone in activities more frequently based on collaboration within the institute that is not currently well practiced. Cross-functional teams are rarely used to accomplish tasks, and rarely when teams are used are there enough committed people to accomplish work easily. At distance education institute in UK, everyone is frequently involved in activities based on collaboration within the institution, cross-functional teams are frequently used to accomplish tasks, and frequently, when teams are used, there are enough committed people to accomplish work easily.

Participants from North Cyprus stated in their self-report that everyone is sometimes involved in activities based on collaboration and cross-functional teams are sometimes used to accomplish tasks. Also, there are moderately enough committed people to accomplish work easily. On the other hand, UK participants reported in their self-report that all of the criteria for teamwork and collaboration was met completely for their institute.

Regarding the teamwork and collaboration, distance education in North Cyprus has insufficient performance on collaboration but distance education institute in UK has sufficient enough performance to be an example to the distance education institute in North Cyprus and encourage them to involve everyone in activities for improving quality.

***Creating a system to share learning dimension.*** Participants in North Cyprus believed that knowledge is shared by following contemporary standards and expressing needs and expectations. One of the participants stated that knowledge is valued by indicating: “Responses from alumni show that they are benefiting from the knowledge.” Participants emphasized that organizational structure, authority and financial expenditures limit the achievements of the system. One of the participants indicated: “When we have new ideas, we contribute these ideas to the management.” Furthermore, one of the participants mentioned a system to share learning as follows:

“In the technical area, when we are buying technical parts, computer accessories, video cameras, or electronic devices, the director asks us for our ideas and I saw that they bought the items I proposed. So I feel that my ideas are shared and valued.”

Participants in the UK stated that knowledge is shared and valued, and that they develop their expertise in the area of distance education. One of the participants stated that they develop their expertise “in writing with reports and papers, through academic venues such as conferences or seminars, verbally in meetings, or informally.”

Observation findings revealed that institutes use technology effectively to foster communication and learning. Each organization provides technology infrastructure for sharing information immediately, encourages staff members to share expertise, and promotes innovation. Furthermore, relevant information is shared among all people within each organization. Data from self-reports revealed similar findings.

Although institutes have the same performances on contemporary standards and suitable conditions to express needs and expectations, the distance education institute in the UK has a better infrastructure than the other one, which is a critical element to develop other dimensions of learning organisations.

*Collective vision dimension.* Participants in North Cyprus stated through their in-depth interviews that they have enthusiasm to act for a collective vision. Participants indicated: “EUA report helps to develop a new culture and way of the university for exploring a collective vision.” Although the majority of the participants believe that they have enthusiasm, some of the participants indicated: “There is no external motivation for me, I believe that there is intrinsic motivation inside of me to have collective vision. I feel internal motivation, which may be the factor of being part of the field.” On the other hand, participants in the UK stated that the vision of the organization is determined at the senior management level and that the distance education institute has the responsibility and freedom to help define aspects of higher education policy. Furthermore, researcher observation findings support interview findings that there are moderately distributed responsibilities and everyone within the organization moderately understands and supports the organization’s vision in North Cyprus distance education institute where these criteria demonstrate better performance than at distance education institute in UK.

In terms of having collective vision, participants in North Cyprus reported through the self-report that everyone within their organization moderately understands and supports collective vision, and that there are moderately distributed responsibilities based on reaching that vision. On the other hand, participants in the UK stated that everyone within the organization understands and supports the collective vision and there are distributed responsibilities aimed toward reaching that vision.

*Connecting the organization to its environment dimension.* One of the participants believed and stressed that the institute’s interaction with its environment was limited. The participant stated: “The organization’s interaction with its environment, I think, is limited. There is nothing that I am aware of but I am sure the management has interaction with outside because I heard that they are submitting papers and attending conferences outside the university.” One of the participants in North Cyprus indicated the following in an interview:

“The interaction with the environment in the distance education institute comes from graduates, industries, and also states by having common projects, by providing courses to different departments, and by offering courses to students.”

Participants agree that the organization’s interaction with its environment is limited and can be improved. Participants in the UK expressed that their distance education institute’s interaction with its environment is forward thinking and it is often driven by financial success. One of the participants stated: “We take a proactive approach when it comes to introducing new ways of teaching, identifying contemporary areas for research, and producing research that has potential to inform policy and practice.” Participants believed that their institute is actively interacting with its environment.

Furthermore, researcher observation findings support the conclusion that the organization in North Cyprus has a moderate number of international agreements. It also has moderate agreements and interdependency with the government. Furthermore, the organization has few external links to enrich financial support and provides few opportunities to obtain external resources from local enterprises. On the other hand, the distance education institute in the UK has substantial external international interaction. Also, it has many agreements and a large degree of interdependency with the government. Furthermore, the organization has many external links to enrich financial support and provides a number of opportunities to obtain external resources from local enterprises.

Based on the criteria of connecting the organization to its environment, most of the participants in North Cyprus reported that the organization has external links to enrich financial support, provides opportunities to obtain external resources from local enterprises, and has agreement or interdependency with the government only a little or not at all. They stated that the organization has a moderate number of external international agreements. One of the participants in North Cyprus stated that the organization has many agreements or much interdependency with the government. Participants in the UK stated that their organization has many external links to enrich financial support and provides opportunities to get external resources from local enterprises. Also, the organization has agreement and interdependency with the government.

#### ***Metaphoric Interpretation of the Distance Education Institutes in North Cyprus and UK***

Participants in North Cyprus described their distance education institutes using metaphors. One of the participants described the distance education institute as: “a little flower. There are risks for young flowers; maybe the sun will burn it. If social interaction cannot be enriched, if infrastructure cannot meet the level of the global standard.”

The distance education institute was described by one of the participants as multi-cultural diversity: “different students’ profiles, nationalities, and cultures are coming together in North Cyprus. It is like an international organization.” One of the participants stated: “I would like to say lonely. I think the cooperation within the distance education institute and outside the distance education institute is not emphasized as much as possible, this is the reason that I say lonely.” One of the

participants described distance education institute as larva which is summarized as the following:

"I think the image of larva relates to our distance education institute because our distance education institute is like a larva that is struggling to survive and it is not still reaching its potential."

Furthermore, one of the participants described the distance education institute as: "a growing child, but we are acting as if the child was a baby. We do not treat it like a child. We are acting as if it is a baby." Furthermore, other participants likened the distance education institute to the sun, technology, useful potential, instructions for taking medicine, a computer that has low storage capacity, an electronic instrument and a credit card. These metaphors reflect the extent to which the institute needs to be developed by evaluating the strengths and weaknesses of its practices.

Participants in the UK described their distance education institute using different metaphors. One of the participants described the distance education institute as a man in a rowboat at sea by exploring the metaphor in the following manner:

"The boat might capsize because the sea is rough and the boat is small and vulnerable. For long survival and growth, you need to row very hard to reach the ship like others are doing or have done. However, the boat needs to fight the strong current created by the natural environment and competitive environment from other boats."

Moreover, one of the participants described the institution as a world by indicating: "Its higher education community involves students and teachers from all over the world and its ambition is to influence human endeavours across a broad spectrum of disciplines and localities." One of the participants described it as: "a lion" by stressing that the institute wants to take the lead and dominate the market. Another of the participants described it as: "dynamic and innovative," demonstrated by the higher education logo of: "[a] lively, red, flying ribbon." These metaphors all reflect that the distance education institute is demanding and seizing strategic opportunities for the higher education institution to be successful in a competitive market.

Describing two institutes using metaphors demonstrated that the two institutes have different practices in distance education and different roles as learning organisations due to cross-cultural differences.

### **Conclusions and Recommendations**

Different cultural contexts, management, and communication flow lead to different practices of distance education. In this regard, this research confirmed that the performance of distance education institutes as learning organizations differs due to different cultural and contextual settings. In this way, this study opens an academic debate on institutional knowledge practices and the contextual and cultural differences that have an impact on sharing knowledge.

The study has an impact on institutional knowledge and practices by comparing North Cyprus and UK distance education institutes as learning organizations. The

research revealed the following conclusions based on dimensions of learning organisation which was adapted from Dymock & McCarthy (2006).

- Professional growth opportunities: Distance education institute in North Cyprus has insufficient performance because of a weak information sharing climate and professional growth opportunities to the staff. Distance education institute has sufficient performance because participants are satisfied with the opportunities provided by their institute.
- Dialogue and inquiry- communication flow: Both institutes have dialogue and inquiry but there are factors limiting social interaction to have sufficient learning through dialogue and inquiry.
- Collaboration and team work: Distance education in North Cyprus has insufficient performance on collaboration but distance education institute in UK has sufficient enough performance to be an example to the distance education institute in North Cyprus and encourage them to involve everyone in activities for improving quality.
- Creating system to share learning: Although institutes have the same performances on contemporary standards and suitable conditions to express needs and expectations, the distance education institute in the UK has a better infrastructure than the other one, which is a critical element to develop other dimensions of learning organizations.
- Collective vision: Distance education institute in North Cyprus moderately functions collective vision, and that there are moderately distributed responsibilities based on reaching that vision. On the other hand, institute in the UK that function based on the collective vision that there are distributed responsibilities aimed toward reaching that vision.
- Connecting organisation to its environment: Distance education institute in North Cyprus has external links to enrich financial support, provides opportunities to obtain external resources from local enterprises, and has agreement or interdependency with the government only a little or not at all. Institute in UK has many external links to enrich financial support and provides opportunities to get external resources from local enterprises. Also, the organization has agreement and interdependency with the government.
- Metaphors that participants used to describe their institutes provided to differentiate the two institutes as learning organizations.

In summary, the findings of this study have also revealed that the distance education institute in North Cyprus is not performing efficiently regarding the dimensions of a learning organization. Barriers such as the technical side of the system, the infrastructure of the system, face-to-face contact, the open-door policy, time, and culture limited the social interaction within the distance education institute. The distance education institute has limited continuous learning opportunities, collaboration, and team learning. Furthermore, there was a gap between learners, tutors, and managerial authority due to a weak awareness on the nature of distance education practices. In line with these results, metaphoric interpretations and observation indicated that the distance education institute



remains sensitive to adaptations required for becoming a learning organization. At the same time, becoming a learning organisation is an opportunity for the institute to broaden its capacity to appeal to multicultural environments in a collective vision.

On the other hand, findings revealed that the distance education institute in the UK functions as a learning organization with a strategic plan and a vision. The institute has its own organizational culture for increasing the capacity of online teaching and learning with enthusiasm in both pedagogical and organizational aspects. Distance education members are encouraged to be engaged in a wide range of training and development activities. In line with these results, metaphors emphasized that the distance education institute in the UK is aware of the dynamic power of online learning and teaching in quality. The institute has internal and external connections with its environments.

The following figure summarizes the current positions of distance education institutes as learning organisations. Dimensions are represented as: "professional growth (D1)," "communication flow (D2)," "collaboration and teamwork (D3)," "creating a system to share learning (D4)," "collective vision (D5)," "connecting the organization to its environment (D6)."

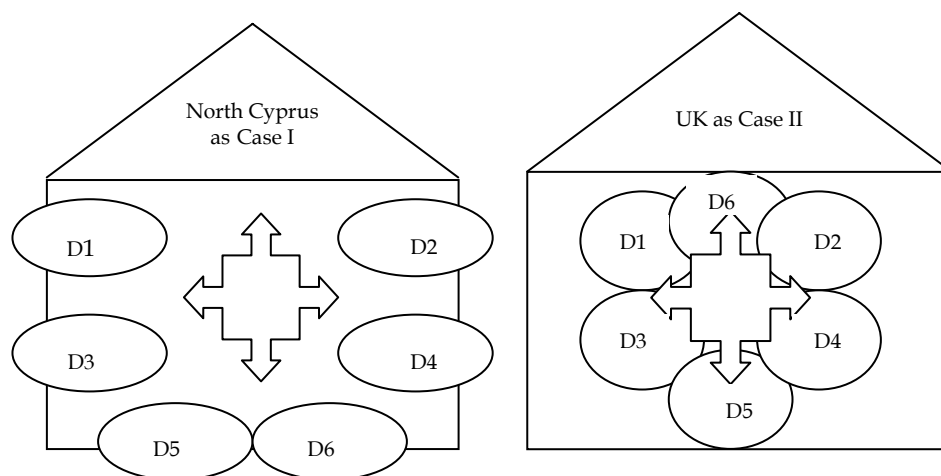


Figure 1. Current positions of distance education institutes

As figure 1 demonstrates, the lack of interdependency of the dimensions and connection with its environment inferred that North Cyprus, shown as Case I, can not perform as a learning organisation efficiently. On the other hand, figure 1 supports that the UK, shown as Case II, can perform as a learning organisation by fostering synergy among the dimensions involved in being a learning organisation using best practices.

This research proposes a model based on the comparison of the current positions of distance education institutes as learning organisations. Distance education institutes are the strategic units of higher education institutions due to their dynamic ability to cope with a competitive market. The following figure demonstrates the

synergy of the dimensions and the power of the connection with external environment for a learning organisation, thereby gaining a competitive advantage in the global agenda.

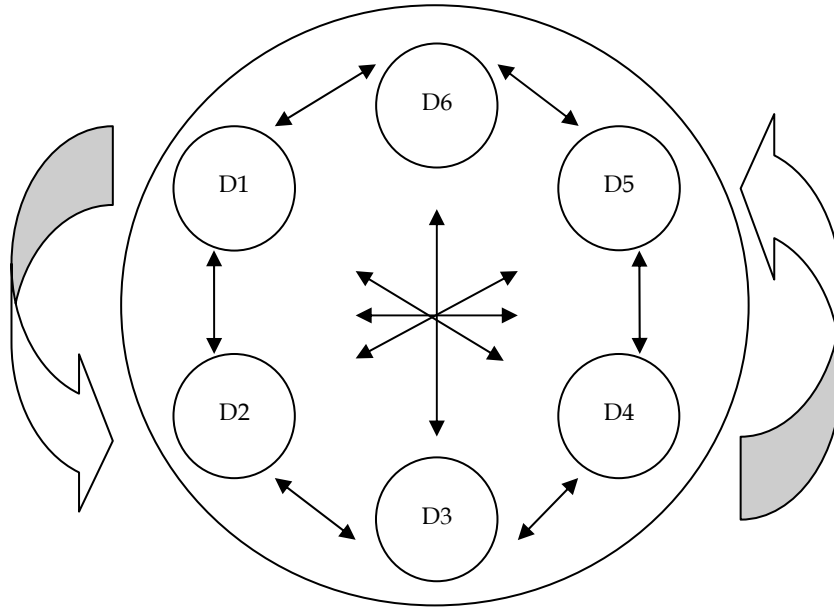


Figure 2. Model for distance education institute as a learning organisation

The research presented here compared the performances of the distance education institutes in both North Cyprus and the UK as learning organizations. This study reveals the need to gain insight by recognizing the distance education institute's role as a learning organization in the higher education system. The study provides also an initial perspective for the academic agenda regarding performance evaluation of distance education institute practices in higher education.

For future studies, there is an intense need to set strategic planning goals for distance education institutes as learning organizations and evaluate their effectiveness for development. In addition to the two cases examined, other cases could also be compared considering the cultural dimension. Furthermore, social interaction as dialogue and inquiry can be explored based on in-depth investigation that enriches other dimensions of learning organizations in higher education.

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## Karşılaştırmalı Çalışma: Öğrenen Organizasyon Olarak KKTC ve İngiltere Uzaktan Eğitim Kurumları

### (Özet)

*Problem Durumu:* Üniversiteler, birçok uluslararası faaliyetlerle, ülkenin sosyal ve ekonomik gelişimine katkıda bulunmakta ve toplumların bütünleşmesinde köprü görevi üstlenmektedirler. Bu bağlamda üniversiteler, küresel ortamın gereği olan değişim ve gelişimi vizyon edinerek, yeniliği ve kaliteyi kendi kurum yapılarına yansıtmaya çalışmaktadırlar. Bu nedenle, üniversitelerin tüm akademik bölümlerinin, değişim ve gelişim çerçevesinde dinamik bir yapıya sahip olması ve küresel ortama adapte olması için fırsatları yakalamaya çalışması gerekmektedir. Bu anlayışa bağlı olarak; üniversitelerin kendi organizasyon yapılarında teknolojik yapı ve işleyişin fırsatlarını kullanmaları, öğrenci merkezli öğrenme ve öğretme ortamları yaratmayı misyon haline getirmeleri ve bunları Avrupa normları ışığında gerçekleştirmeleri kaçınılmazdır. Bu çalışma, uzaktan eğitim kurumlarının, yüksek öğretimde stratejik bir unsur olduğunu vurgulamakta ve uzaktan eğitim kurumlarının, öğrenen organizasyon olma yoluyla değişim ve gelişime uyumlanabilmesinin kolay olabileceğini yansıtmaktadır. Aynı zamanda, araştırma; farklı kültürel kurumların öğrenen organizasyon yapısını ne ölçüde yansıttığını değerlendirmeyi temel almıştır.

*Araştırmanın Amacı:* Üniversitelerin girişimci ruha sahip olması ve rekabet gücü kazanmasında, uzaktan eğitim uygulamaları önemli bir stratejik unsur olmuştur. Bu nedenle, uzaktan eğitim uygulamalarında sadece eğitim-öğretim boyutu ele alınmamalı, bunun yanında organizasyon boyutu da ele alınarak kurum yapısında gelişim ve değişim gerçekleştirilmelidir. Organizasyon yapısının gelişimi sürekli değişimi takip etmek ve değişime uyum sağlamakla mümkündür. Bir başka deyişle, sürekli yenilikleri öğrenerek ve paylaşarak organizasyon yapısının geliştirilebileceği görülmektedir. Araştırmanın amacı, KKTC ve İngiltere'deki Uzaktan Eğitim Kurumlarının öğrenen organizasyon olma düzeyleri karşılaştırmalı durum çalışmasına bağlı değerlendirerek, farklı kültürel kurumların yapısını incelemektedir.

*Araştırmanın Yöntemi:* Farklı kültürel ortamlarda faaliyet gösteren uzaktan eğitim kurumlarının öğrenen organizasyon olma düzeyini ortaya koymayı amaçlayan bu çalışmada, kurumlarda etkin görev alan çalışanların bakış açıları ve deneyimleri göz önünde bulundurularak araştırmanın amacına yönelik bilgi oluşturulmaya çalışılmıştır. Bu çalışma, bireylerin bakış açılarına ve deneyimlerine yer vermesi nedeniyle nitel araştırma özelliği taşımaktadır. İki farklı ülkede bulunan üniversitelerin uzaktan eğitim kurumlarının, öğrenen organizasyon olarak ne kadar performans gösterdiklerini değerlendirmek için araştırmada karşılaştırmalı durum çalışmasına yer verilmiştir. Araştırmanın kuramsal temelinde; 'mesleki gelişim imkanları', 'iletişim akışı', 'işbirliği-takım çalışması', 'bilgi paylaşım sistemi', 'ortak vizyon', 'çevreyle etkileşim', öğrenen organizasyon boyutları olarak yer al-

maktadır. Buna bağlı olarak, iki farklı uzaktan eğitim kurumunun öğrenen organizasyon olması ve iki kurum arasındaki benzer ve farklı yönleri değerlendirmek amacıyla araştırmada; görüşme, kişisel görüş raporu ve gözlem gibi araştırma teknikleri kullanılmıştır. Böylelikle, çoklu veri toplama yöntemi ile çeşitlenmeden faydalanarak araştırmanın inandırıcılığı artırılmıştır. Araştırma tekniklerinden elde edilen veriler, öğrenen organizasyon boyutları temel alınarak temalar seçilerek değerlendirilmiştir. Bu nedenle, araştırmanın veri analizinde betimsel analiz kullanılmıştır. Araştırmayı gerçekleştirmeden önce, elde edilecek verilerin inandırıcılığını artırmak, araştırma etiğine uygun hareket edebilmek, böylelikle araştırmada katılımı artırmak için araştırma paketi hazırlanarak katılımcılara sunulmuştur. Bu pakette, araştırmanın amacı, önemi ve araştırma sorularına yer vererek, uzaktan eğitim kurumunda yer alan çalışanlara araştırma hakkında detaylı bilgi verilmeye çalışılmıştır. Aynı zamanda, bu pakette araştırma katılım ve izin formu yer almış, araştırma etiği açısından katılımcıların araştırma sürecinde kimliğinin korunması da vurgulanmıştır. Araştırmada kullanılan görüşme tekniği, kişisel görüş raporları ve araştırmacı gözlem formunun soruları; Türkiye, İngiltere ve ABD'deki uzmanlar tarafından değerlendirilmiş ve pilot çalışması yapılmıştır. Uzman görüşleri ve pilot çalışması ışığında, araştırmada; on iki sorudan oluşan, yaklaşık altmış beş dakika süren görüşme tekniği, öğrenen organizasyon boyutlarına bağlı yirmi bir etkinliği yansıtan kişisel görüş raporu ve araştırmacı gözlem formu kullanılmıştır. Araştırmada, uzaktan eğitim kurumlarının organizasyon yapısını derinlemesine analiz edebilmek için mecazlar araç olarak kullanılmıştır. Böylelikle, zengin veriler elde edilerek nitel araştırma ışığında; diğer çalışmalara ve kurumlara kendi kendilerini değerlendirebilmelerinde fikir verecek bir araştırma ortaya konulmuştur.

*Araştırmanın Bulguları:* Araştırmadan elde edilen veriler; uzaktan eğitim uygulamalarının stratejik bir yaklaşım olarak kabul edildiğini ancak buna rağmen, İngiltere ve KKTC'deki uzaktan eğitim kurumlarının organizasyon boyutunun yeterince dikkate alınmadığını ortaya çıkarmıştır. Aynı zamanda, araştırma bulguları; farklı kültürel ortamların öğrenen organizasyon olmada etkili olduğunu ve kurum yapısında farklılık yarattığını göstermiştir. Araştırma bulgularına göre; İngiltere Yüksek Öğretimde yer alan Uzaktan Eğitim Kurumu'nun öğrenen organizasyon boyutlarını yansıttığı ve böylelikle öğrenen organizasyon olarak etkin performans gösterdiği ortaya çıkmıştır. Ancak, KKTC'de bulunan Uzaktan Eğitim Kurumu'nun teknolojik altyapı ve ortak vizyon konusunda sıkıntı yaşamasının, öğrenen organizasyon olmasını kısıtladığı görülmektedir. Araştırmada; mecazlar yoluyla elde edilen bulgular, iki kurum arasındaki öğrenen organizasyon olma performans farklılıklarını vurgulamıştır.

*Araştırmanın Sonuçları ve Önerileri:* Araştırmada, uzaktan eğitim uygulamalarının üniversitelerin vizyon ve misyonu arasında yer alarak stratejik unsur olarak düşünülerek; 'mesleki gelişim', 'iletişim akışı', 'işbirliği-takım çalışması', 'bilgi paylaşımı', 'ortak vizyon', 'çevreyle etkileşim' boyutlarının değerlendirilmesi temel alınmıştır. Bu araştırma, öğrenme ve gelişimi vur-

guladığı, uzaktan eğitim uygulamalarının yüksek öğretimde stratejik unsur olduğunu ortaya koyduğu için özgün bir araştırma niteliği taşımaktadır. Buna ek olarak, araştırma; kültürün öğrenen organizasyon olmada etkin bir kriter olduğunu ve kurumların öğrenen organizasyon olma performanslarında farklılık yarattığını vurgulamakla önemli bir boyut taşımaktadır. KKTC Uzaktan Eğitim Kurumu, mesleki gelişim imkanları, 'iletişim akışı', 'işbirliği-takım çalışması', 'bilgi paylaşım sistemi', 'ortak vizyon', 'çevreyle etkileşim' öğrenen organizasyon boyutlarında ortak kurum kültürü olmaması nedeniyle etkin faaliyet gösterememektedir. Öte yandan, İngiltere Uzaktan Eğitim Kurumu, sahip olduğu kurum kültürü ışığında, güçlü ortak vizyon ve işbirliği-takım çalışmasının olması nedeniyle öğrenen organizasyon olma açısından diğer kuruma gelişimine katkı koyan bir kurum durumundadır. İleriki araştırmalarda, yüksek öğretimde bulunan her uzaktan eğitim kurumunun ve diğer fakülte, bölümlerinin aksiyon planları ışığında kurum kültür analizlerinin yapılması öngörülmektedir. Bunun yanısıra, kültür boyutu dikkate alınarak ikiden fazla kurumun karşılaştırılmasına yer verilebilir. Öğrenen organizasyon boyutlarından olan sosyal etkileşim ve iletişim akışı kurum performansını artırmak için daha derinlemesine yapılacak bir araştırma ile ele alınabilir.

**Anahtar Sözcükler:** Karşılaştırmalı çalışma, uzaktan eğitim, yüksek öğretim, öğrenen organizasyon

## Psychometric Properties of the Brief Fear of Negative Evaluation Scale: Turkish Form

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### Suggested Citation:

Bilge, F., & Kelecioğlu, H. (2008). Psychometric properties of the Brief Fear of Negative Evaluation Scale: Turkish form. *Eğitim Araştırmaları-Eurasian Journal of Educational Research*, 32, 21-38.

### Abstract

*Problem Statement:* The feeling of negative evaluation accompanying social anxiety is defined as being overly concerned with others' opinions, hiding from the negative feelings of their unfavorable impressions, avoiding situations where there is potential evaluation, and expecting others to have a low opinion of them. Social anxiety and fear of negative evaluation has been studied in various cultures. In order to measure the fear of negative evaluation dimension of social anxiety, the Brief Fear of Negative Evaluation scale (BFNE) was developed. The BFNE was adapted for use with Turkish university students.

*Purpose of Study:* The purpose of this study is to adapt the BFNE to Turkish high school students.

*Methods:* The construct validity, internal consistency, and test-retest reliability of the scale were investigated. Three different groups were used in the analysis process. The participants included private and public high school students in Ankara, the capital city of Turkey.

*Findings and Results:* As a result of the data analysis, it was seen that BFNE has two factors (straight-forward subscale-S and reverse-scored subscale-R) and 11 items. The coefficient alphas were as follows: .82 (total), .84, and .63, respectively. The 4-week test-retest reliability coefficients for the scores on the 11-item BFNE, BFNE-S, and BFNE-R were as follows: .56, .65, and .32, respectively. BFNE-S and BFNE total scores significantly correlated with all measures of the TAI, RADS, SS, and LSAS. BFNE-R correlated lower but significantly with the RADS. It significantly correlated with none of the other measures of the four scales.

*Conclusions and Recommendations:* The internal consistency of BFNE was high for the total score and moderate for BFNE-S and BFNE-R. The test-retest reliability of the scale was moderate for the total score and BFNE-S and low for BFNE-R. In the future, divergent validity studies can be con-

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ducted with variables such as life satisfaction, happiness, self-confidence, and self-esteem.

**Keywords:** FNE, BFNE, ODKÖ, psychometric properties, confirmatory factor analysis

Social anxiety is characterized by blushing, sweating, trembling, and a fear of doing something wrong in public (Leary & Kowalski, 1995; Öztürk, 1994). It is a disorder that causes the individual to think that he or she is being watched and judged while in public or in situations that require performance. This disorder is accompanied by a fear of humiliation and intense anxiety (Arikan, 1999; Berksun, 2002; Den Boer, 1997). The feeling of negative evaluation accompanying social anxiety is defined as being overly concerned with others' opinions, hiding from the negative feelings of their unfavorable impressions, avoiding situations where there is potential evaluation, and expecting others to have a low opinion of them (Watson & Friend, 1969). Thus anxiety, social anxiety, and the fear of negative evaluation are closely associated concepts.

A diagnosis of social phobia requires evasive behavior that causes social and functional disorder. Generally avoiding social situations, the social phobic feels closely watched and examined by others. Children and adolescents with social phobia generally fear situations such as examinations, through which they will be indirectly judged by others. This leads to test anxiety or low class participation and thus a general decrease in school success (Karacan, Şenol & Şener, 1996). All of these negatively affect adolescents' psychological health. Approximately 12 to 22% of underage children and adolescents need psychological health services. Around 7.5 million children and adolescents in Turkey are estimated to have one or more psychological disorders (Gökler, 2003).

While struggling with such difficulties of adolescence, many high school students in Turkey also have to prepare for the university entrance examination. The results of this examination largely determine adolescents' future employment, and therefore this exam causes depression in high school students (Ergene & Yıldırım, 2004; Mutlu, 2003; Yıldırım, 2004). Many studies have shown that the depression adolescents experience is related to test anxiety, anxiety, social phobia, desperation for academic success, and other relevant variables (Ağargün, Kara, Bilgin & Kınar, 1995; Francis, Last & Strauss, 1992; Last, Perrin, Hersen & Kazdin, 1992; Öy, 1995; Schneier, Johnson, Hornig, Liebowitz & Weissman, 1992; Solmaz, Gökalp & Babaoğlu, 1999).

Adolescents' concern for how they are judged by others has a limiting effect on their social interaction. It is also believed that their perceptions of how others perceive and judge them have an effect on the anxiety they experience (Leary & Kowalski, 1995; Rapee & Heimberg, 1997).

In order to measure the fear of the negative evaluation dimension of social anxiety, Watson and Friend (1969) developed the Fear of Negative Evaluation scale (FNE). Leary (1983) later shortened the scale, which came to be known as BFNE. The reliability coefficient of the long version of FNE was found to be .92, and that of the

BFNE was .90. The brief 12-item version of the FNE appears to be a workable alternative to the 30-item scale developed by Watson and Friend. According to Leary, the BFNE has the advantage of requiring less time for administration than the original FNE. It is widely used for the evaluation of social anxiety, shyness, and social phobia in university students, adults, and clinical samples (Collins, Westra, Dozois & Stewart, 2005; Duke, Krishnan, Faith & Storch, 2006; Gaudiano & Herbert, 2003; Mansell, Clark & Ehlers, 2003; Musa, Kostogianni & Lepine, 2004; Weeks et al., 2005). BFNE has attracted researchers as it is valid, reliable, and user-friendly.

Social anxiety and fear of negative evaluation has been studied in various cultures (Duke et al., 2006; Erkan, 2002; Garcia-Lopez, Olivares, Hidalgo, Beidel & Turner, 2001; Köydemir & Demir, 2007). Some of these studies have been cross-cultural comparative studies (Jackson, Flaherty & Koshut, 2000; Mesquita & Frijda, 1992; Sakuragi, 2004; Van Dam-Baggen, Kraaimaat & Elal, 2003). Köydemir and Demir adapted BFNE for use with Turkish university students. This study is an attempt to adapt it for use with Turkish high school students. The aims of the study include determining (a) the factor structure of BFNE for Turkish high school students, (b) the internal consistency and determination of total and sub-scale scores, and (c) convergent validity with trait anxiety, depression, social anxiety, and shyness.

## Method

### *Participants*

Three different groups were used in the analysis process. The participants included private and public high school students in Ankara, the capital city of Turkey.

**Group 1.** A sample of 476 adolescents from a high school in Turkey participated in the study. The sample consisted of students from grades 9 through 11. Of the participants, 193 (40.6%) were male and 283 (59.6%) were female. There were 68 (14.3%) grade 9 students, 180 (37.8%) grade 10 students, and 228 (47.9%) grade 11 students in Group 1.

The Brief Fear of Negative Evaluation scale (BFNE), Trait Anxiety Inventory (TAI), and Reynolds Adolescent Depression Scale (RADS) were applied to Group 1. This data was used to investigate the internal consistency, construct validity, and convergent validity with TAI and RADS of BFNE.

**Group 2.** Participants were 126 students from a high school in Turkey. The sample consisted of students from grades 9 through 10. The gender and grade dispersions of the sample were as follows. Of the participants, 73 (57.9%) were male and 53 (42.1%) were female. There were 65 (51.6%) grade 9 students and 61 (48.4%) grade 10 students in Group 2. BFNE, Shyness Scale (SS), and Liebowitz Social Anxiety Scale (Fear-Avoiding) (LSAS) were applied to Group 2. Convergent validity of BFNE with LSAS and SS were investigated with this data.

**Group 3.** Participants were 122 students from a high school in Turkey. The sample consisted of students from grades 9 through 11. The gender and grade disper-

sions of the sample were as follows. Of the participants, 27 (22.1%) were male and 95 (77.9%) were female. There were 52 (42.6%) grade 9 students, 36 (29.5%) grade 10 students, and 34 (27.9%) grade 11 students in Group 3. BFNE was applied twice at an interval of four weeks on Group 3 to obtain test-retest reliability.

### **Research Instruments**

**Brief Fear of Negative Evaluation scale (BFNE).** BFNE (Leary 1983) is a 12-item version of the original 30-item FNE scale (Watson & Friend, 1969) and measures the degree to which people experience anxiety or apprehension at the prospect of being evaluated negatively. BFNE was scored on a 5-point Likert-type scale ranging from 1 (not at all characteristic of me) to 5 (extremely characteristic of me), and scores were summed with higher scores reflecting greater levels of anxiety or fear. BFNE demonstrated both high internal consistency (.90 and .91) and 4-week test-retest reliability ( $r = .75$ ) in undergraduate samples. BFNE scores also correlated with Social Avoidance and Distress Scale and Interaction Anxiousness Scale scores, providing some evidence of convergent validity (Leary, 1983; Miller, 1995).

**Trait Anxiety Inventory (TAI).** TAI was developed by Spielberger, Gorsuch, and Lushene (1970). It is a 4-point Likert-type scale ranging from 1 (almost never) to 4 (almost always). Öner and Le Compte (1985) adapted it to Turkish and undertook its reliability and validity studies. TAI is composed of 20 items with higher scores indicating a higher level of anxiety. Test-retest reliability coefficients of the original form ranged between .86 and .92; the test-retest reliability coefficients ranged between .73 and .86 (Öner, 2006). Criterion validity was tested with the emotion adjective list, and significant correlations were found. Internal consistency coefficients of the Turkish version ranged between .71 and .86, and Cronbach's alpha was between .83 and .87.

**Reynolds Adolescent Depression Scale (RADS).** Reynolds (1986) developed RADS, and Oskay (1997) adapted it for use with Turkish middle and high school students. It is composed of 30 items and scored on a 4-point Likert-type scale ranging from 1 (never) to 4 (almost always), and scores were summed with higher scores reflecting greater levels of depression. The internal consistency coefficient was .75. The 4- and 6-week test-retest reliability coefficients were found to be .88 and .72, respectively. Criterion validity was tested with the Beck Depression Inventory and found to be .53.

**Liebowitz Social Anxiety Scale (Fear-Avoidance) (LSAS).** Liebowitz (1987) developed the LSAS, which assesses fear and avoidance in social interaction (11 items) and performance situations (13 items). While the scale's fear and avoidance scores range from 0 (none and never) to 3 (severe and usually) in the original scale, the Turkish adaptation scores range from 1 (none and never) to 4 (severe and usually) (Eren Gümüş, 1997, 2002). The Cronbach's alpha results for Fear, Avoidance, and total score were .84, .75, and .88, respectively. The test-retest reliability for Fear, Avoidance, and total score were .81, .80, and .78, respectively.

**Shyness Scale (SS).** Güngör (2001) developed the SS for university students, and Gökçe (2002) adapted the SS for high school students. It comprises 20 items scored on a 5-point Likert-type scale ranging from 1 (not at all characteristic of me) to 5 (extremely characteristic of me). The Cronbach's alpha was .91, and the test-retest reli-

ability was .83 for university students. The Cronbach's alpha of this form was .87, and the test-retest reliability was .81.

### *Procedure*

The permission to translate the brief version into Turkish was obtained from the author. Then the BFNE was translated from English to Turkish by four different language experts. Also, one of these experts held a master's degree in psychological counseling and guidance, and the other three held doctoral degrees in the same field. Items that all experts agreed on appeared as they were in the scale. Items on which there was disagreement were screened by the researchers, and the best translation was chosen. Expert opinion was consulted once again for these items to ensure consensus, and thus the Turkish form of the scale was drawn. The Turkish form of BFNE (the Turkish name is Olumsuz Değerlendirilme Korkusu Ölçeği-ODKÖ) was implemented for students in grades 9, 10, and 11 in Group 1 with the Turkish-adapted TAI and RADS and in Group 2 with LSAS and SS.

### *Data Analysis*

In the context of the research aim, (a) exploratory factor analysis was first performed, allowing for an exploration of BFNE's factors; (b) confirmatory factor analysis was then performed, allowing for examination of the factor structure of BFNE in Turkish high school students; and (c) the internal consistency and test-retest reliability of BFNE total and subscale scores were examined. Additionally, (d) the correlations between BFNE total and subscale scores and TAI, LSAS, RADS, and SS were examined to assess convergent validity of BFNE scores.

## **Findings and Results**

### *Exploratory Factor Analysis*

Prior to conducting the EFA, two indicators were examined to determine whether the sample was appropriate for this analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy index was .88, and Bartlett's test of sphericity was significant,  $\chi^2_{(66, N = 476)} = 1507.68, p < .0000$ , indicating that the sample and correlation matrix were appropriate for the analysis. Principal components analysis with a varimax rotation was performed on the scores of the 12-item BFNE. There was no limitation on the factor numbers, because one of the aims of this study was to determine the dimensions of BFNE. The factors were considered to see which eigenvalues were over 1. The analysis showed that BFNE had two dimensions. Items should preferably weigh greater than .40 on the relevant factor and less than .40 on all other factors (Stevens, 2002). Of the 12 items, one was dropped from subsequent analyses (namely, the fourth item, "I rarely worry about what kind of impression I am making on someone") because its factor loadings were less than .40 for all factors. These procedures resulted in an 11-item instrument that accounted for 51.16% of the variance in BFNE scores.

The factor loadings, means, and standard deviations of the measured variables are presented in Table 1. The first factor consisted of 8 items, was labeled "straight-

forward" (BFNE-S), and accounted for 37.8% of the variance. The first factor contained items of all straightforwardly worded items. The second factor consisted of 3 items, was labeled "reverse-scored" (BFNE-R), and accounted for 13.4% of the variance. The second factor contained all reverse-scored items.

**Table 1**

*Rotated Factor Loadings for the BFNE, Communalities ( $h^2$ ), Means, and Standard Deviations*

Items	Factor 1	Factor 2	$h^2$	M	sd
<b>Factor 1: Straight-forward (S)</b>					
8. When I am talking to someone, I worry about what they may be thinking about me.	<b>.75</b>	.16	.587	2.54	1.32
9. I am usually worried about what kind of impression I make.	<b>.74</b>	.20	.590	2.60	1.28
6. I am afraid that people will find fault with me.	<b>.73</b>	.08	.537	2.40	1.30
12. I often worry that I will say or do the wrong things.	<b>.70</b>	.11	.498	2.68	1.39
3. I am frequently afraid of other people noticing my shortcomings.	<b>.64</b>	.11	.417	2.33	1.29
1. I worry about what other people will think of me even when I know it doesn't make any difference.	<b>.63</b>	.27	.471	2.39	1.18
5. I am afraid others will not approve of me.	<b>.62</b>	-.14	.405	2.59	1.33
11. Sometimes I think I am too concerned with what other people think of me.	<b>.57</b>	.25	.388	2.80	1.42
<b>Factor 2: Reverse-scored (R)</b>					
2. I am unconcerned even if I know people are forming an unfavorable impression of me.	.10	<b>.79</b>	.626	3.76	1.33
7. Other people's opinions of me do not bother me.	.28	<b>.73</b>	.604	3.44	1.45
10. If I know someone is judging me, it has little effect on me.	.02	<b>.71</b>	.508	3.61	1.27

Note: Factor loadings with values of .40 or greater are in bold.

### *Confirmatory Factor Analysis*

Confirmatory factor analysis was used to test the stability scores from the two-factor, 11-item BFNE, using LISREL 8.7 (Jöreskog & Sörbom, 2001). The hypothesized two-factor model identified in EFA consisted of two latent variables representing two subscales. The straight-forward factor had eight indicators, and the reverse-scored factor had three, but there was no theoretical base of S and R factors. The reverse-scored factor is used to detect acquiescent response biases (Brown, 2003; Rodebaugh et al., 2004; Weeks et al., 2005). That is why reverse-worded items form a separate factor. In the current study, we tested one-factor and two-factor models, as Weeks et al. (2005) and Rodebaugh et al. (2004) did. A confirmatory structural model with 11 BFNE items serving as an indicator of two correlated latent factors was tested and compared with a single-factor model. Tests revealed two correlated measurement errors (between items 5 and 6 and items 8 and 9) in the two-factor model. It appears reasonable that the error covariants should be re-specified as freely estimated parameters. They yielded a large chi-square result and represented correlated errors among subscale items of the same measuring items. For this reason, both the two-factor model and one-factor model were re-specified with these freely estimated parameters.

Multiple indices provide a comprehensive evaluation of model fit (Schumacher & Lomax, 1996). The traditional chi-square fit index was examined. For the four models, the chi-square index is significant because the statistics depend on sample size (Bentler & Bonet, 1980), and the ratio of chi-square/df can be considered. When this ratio is lower than 5, this shows the model is well fit (Sümer, 2000). In addition to the chi-square, the other fit indices were also examined: (a) comparative fit index (CFI), (b) Bentler-Bonnet normed fit index (NFI), (c) Bentler-Bonnet nonnormed fit index (NNFI), (d) incremental fit index (IFI), (e) goodness of fit index (GFI), (f) adjusted goodness of fit index (AGFI), and (g) root mean square error of approximation (RMSEA). A value of .90 for CFI, NFI, NNFI, IFI, GFI, and AGFI is considered to be well fit. RMSEA values of less than .05 indicate a good fit (Anderson & Gerbing, 1984; Marsh, Balla & McDonald, 1988; Schumacher & Lomax, 1996; Sümer, 2000). The path diagram of the final hypothesized two-factor model is presented in Figure 1.

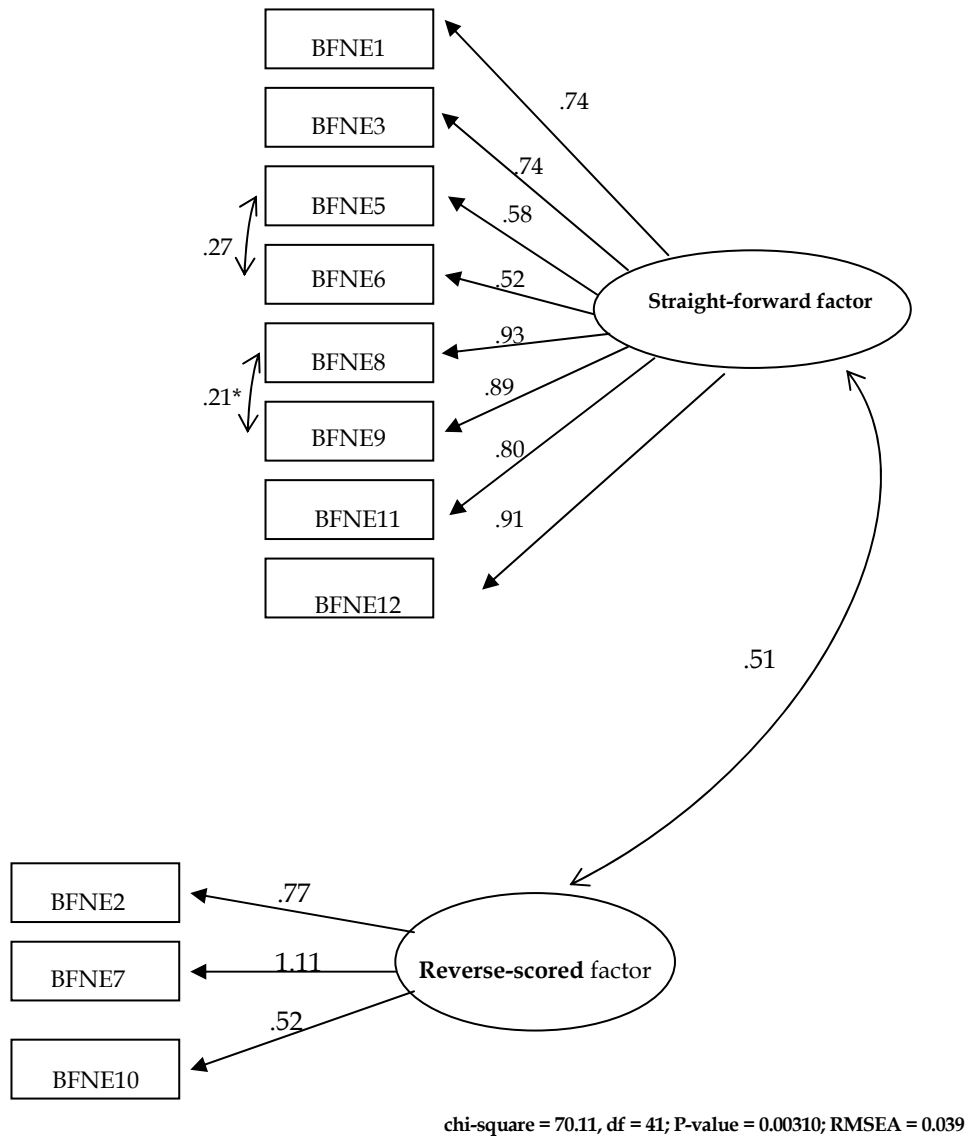


Figure 1. Completely standardized solution of modified hypothesized two-factor model

Fit indices for unmodified and modified models are presented in Table 2. The results indicate that the modified two-factor models present a good fit to data, with all fit indices indicating a good fit. The results of confirmatory factor analyses provided further support for the factor structure of the BFNE scores established in EFA.

**Table 2**

*Summary of Fit Indices from Confirmatory Factor Analysis*

Model	$\chi^2$	df	CFI	NFI	NNFI	IFI	GFI	AGFI	RMSEA
Unmodified hypothesized two-factor model	179.70*	44	.90	.87	.87	.90	.94	.90	.08
<b>Modified hypothesized two-factor model (5-6, 8-9)</b>	<b>70.11*</b>	<b>41</b>	<b>.98</b>	<b>.95</b>	<b>.97</b>	<b>.98</b>	<b>.97</b>	<b>.96</b>	<b>.04</b>
Unmodified one-factor model	259.11*	44	.86	.84	.83	.86	.91	.86	.10
Modified one-factor model	118.74*	42	.94	.92	.92	.94	.96	.93	.06

\* $p < .01$

Note: CFI: comparative fit index; NFI: Bentler-Bonett normed fit index; NNFI: Bentler-Bonett nonnormed fit index (also known as the Tucker-Lewis index); IFI: incremental fit index; GFI: goodness-of-fit index; AGFI: adjusted goodness-of-fit index; RMSEA: root mean square error of approximation.

### *Internal Consistency and Test-Retest Reliability*

The coefficient alphas for the 11-item BFNE, the straight-forward subscale, and the reversed-scored subscale were as follows: .82, .84, and .63, respectively. Leary (1983) found the Cronbach's alpha was .90 for the 12-item BFNE. Weeks et al. (2005) investigated the internal consistency of BFNE for three samples (patients, nonanxious, and overall group). They found the Cronbach's alpha values for the total score were .89, .67, and .81 respectively; for BFNE-S they were .92, .90, and .96, respectively, and for BFNE-R they were .92, .90, and .96, respectively, for three samples. In the Turkish sample the internal coefficients for BFNE were found to be lower than the studies mentioned above. The total score and the BFNE-S score demonstrated strong internal consistency, but the BFNE-R score demonstrated marginally adequate internal consistency for the Turkish sample. However, Cronbach's alpha is sensitive



to sample size, and a shorter scale may exhibit lower internal consistency than longer scales. The study of Weeks et al. found the internal consistency of BFNE-R is lower than the internal consistency of the BFNE total and BFNE-S. One of the reasons for the lower internal consistency of BFNE-R is that item numbers are decreased from 4 to 3.

The 4-week test-retest reliability coefficients for the scores on the 11-item BFNE, BFNE-S, and BFNE-R were as follows: .56, .65, and .32, respectively. Leary (1983) found the 4-week test-retest reliability was .75. The BFNE and BFNE-S scores demonstrate marginally adequate test-retest reliabilities, but the BFNE-R scores demonstrated quite lower test-retest reliability for the Turkish sample.

#### *Convergent Validity*

TAI, RADS, SS, and LSAS were used to provide estimates of convergent validity for the BFNE scale scores. It was expected that the scores on the 11-item BFNE, BFNE-S, and BFNE-R would be positively correlated with scores from TAI, RADS, SS, and LSAS scores (see Table 3).

**Table 3**

*Correlations Between Scores from BFNE, TAI, RADS, SS, and LSAS*

	BFNE-S	BFNE-R	BFNE
<b>Scales</b>			
TAI (n = 476)	0.37*	0.02	0.33*
RADS (n = 476)	0.34*	0.16*	0.36*
SS (n = 128)	0.47*	0.01	0.40*
LSAS-Fear (n = 128)	0.34*	0.13	0.34*
LSAS-Avoidance (n = 128)	0.33*	0.10	0.31*

\* $p < .01$

Note: TAI: Trait Anxiety Inventory; RADS: Reynolds Adolescent Depression Scale; SS: Shyness Scale; LSAS: Liebowitz Social Anxiety Scale.

BFNE-S and BFNE total scores significantly correlated with all measures of the four scales. BFNE-R correlated lower but significantly with the RADS. It significantly correlated with none of the other measures of the four scales.

### Conclusions and Recommendations

This was an adaptation study of the BFNE scale for use with Turkish high school students. The construct validity, criterion validity, internal consistency, and test-retest reliability of the scale was examined. In order to test construct validity, exploratory and confirmatory factor analyses were used. The two-factor model displayed by the exploratory analysis was confirmed through confirmatory analysis as well. The items on the scale were found to be grouped as straight-forward (BFNE-S) and reverse-scored (BFNE-R) items. One of the reverse-scored items was removed from the scale as it did not fall under any group in the factor analysis. As a result, the BFNE high school questionnaire for the Turkish sample consisted of a total of 11 items, 8 of which belonged to BFNE-S and 3 to BFNE-R. The internal consistency of BFNE was high for the total score and moderate for BFNE-S and BFNE-R. The test-retest reliability of the scale was moderate for the total score and BFNE-S and low for BFNE-R.

In BFNE studies conducted with university students, graduate students, and individuals with social anxiety, the items have been grouped as S and R (Köydemir & Demir, 2007; Rodebaugh et al., 2004; Weeks et al., 2005). Additionally, the existence of scales with dimensions based on S and R scoring has been reported (Baumgartner & Steenkamp, 2001; Lam, 1998; Marsh, 1996). In a study by Weeks et al., BFNE-S and BFNE-R correlated with each other to a moderate level. In the same study, BFNE-R correlated weaker than BFNE-S with both the patient group and with social anxiety measurements. However, it has been stated that none of these results can be interpreted, because S and R items bring different definitions to the same structure. Still, as the internal consistency and the criterion validity of BFNE-R were found to be low, it was offered as a valid measure for fear of negative evaluation.

In this study, moderate correlation ( $r = .51$ ,  $p < .01$ ) was found between BFNE-S and BFNE-R, and the latter yielded rather low correlations in the criterion validity analysis. Further, moderate internal consistency of BFNE-R and low test-retest reliability also confirm that these items cannot constitute a valid criterion for the fear of negative evaluation.

As expected, the criterion validity studies of BFNE total scores and S scores have a high correlation with scores obtained on trait anxiety, depression, shyness, and social anxiety scales. However, R scores had a weak but meaningful relationship only with depression points. It can be said that the psychometric properties of BFNE and BFNE-S are stronger when compared to BFNE-R. Relying on the results of this study, BFNE-R can be suggested to stay on the scale to reduce biased scoring but excluded from scoring due to its psychometric properties. Despite the findings pertaining to BFNE-R, it is clear that BFNE validly measures the fear of negative evaluation and can be used with high school students.

Despite the conclusion that BFNE is a viable scale for use with high school students, the study presents several limitations. To begin with, the study group was chosen by paying attention to the type of school (public and private schools) and

class properties. However, random sampling was not used, which makes it impossible to generalize the findings to all high school students around the country. Secondly, this study focused on the relationship of the fear of negative evaluation to depression, shyness, and anxiety. In the future, divergent validity studies can be conducted with variables such as life satisfaction, happiness, self-confidence, and self-esteem.

BFNE was designed for use with university students (Leary, 1983). The psychometric properties of BFNE have therefore generally been analyzed in studies of university students and clinical groups, and the results have been higher than those obtained in this study. For this reason further studies are required to investigate the psychometric properties of the BFNE scale for use with high school students.

The low psychometric properties of reverse-scored items may be due to participants not being able to understand them. Consequently, in recent studies using the BFNE scale, the statements on BFNE-R have been changed to allow positive scoring (Carleton, Collimorer, Norton & Asmundson, 2007; Carleton, McCreary, Norton & Asmundson, 2006; Collins, et al., 2005), and the psychometric properties of the revised BFNE have been found to be high. Therefore, reverse-scored items may be transformed into straight-forward items in order to investigate the psychometric properties of BFNE in high school students.

This study found meaningful relationships between the fear of negative evaluation and depression, anxiety, social anxiety, and shyness. Thus it may be claimed that the fear of negative evaluation may decrease students' class participation and academic achievement while increasing their levels of test anxiety. A future study may therefore investigate the relationship between the fear of negative evaluation, class participation, school success, and test anxiety. Experts working in counseling services at schools may take this dimension into consideration when evaluating school success and test anxiety and arrange their prevention and intervention programs accordingly.

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## Olumsuz Değerlendirilme Korkusu Ölçeği - Türkçe Formunun Psikometrik Özellikleri

### (Özet)

*Problem Durumu:* Sosyal kaygı toplum içinde otururken, konuşurken yada herhangi bir eylemde bulunurken yüzde kızarma, terleme, titreme, yanlış bir şey yapma korkusudur. Sosyal kaygıya eşlik eden olumsuz değerlendirilme korkusu, başkalarının değerlendirmelerini göz önünde bulundurma, onların olumsuz değerlendirmelerinin verdiği sıkıntı ve değerlendirilme ortamlarından kaçınma ve başkalarının kendisini olumsuz değerlendireceği beklentisi olarak tanımlanmaktadır. Kaygı, sosyal kaygı ve olumsuz değerlendirilme korkusu kavramları birbirleri ile yakından ilişkilidir.

Türkiye’de bir yandan ergenlik döneminin zorluklarıyla mücadele eden lise öğrencileri, bir yandan da üniversiteye giriş sınavına hazırlanmaktadır. Böylesine kritik bir dönemde toplumsallaşmaya çalışan ergenler yoğun bir biçimde başkaları tarafından nasıl değerlendirildikleri endişesini yaşamaktadırlar. İnsanların

başkaları tarafından nasıl algılandıkları ve değerlendirildikleri ile ilgili algılama düzeylerinin, yaşadıkları kaygı üzerinde etkili olduğu ileri sürülmektedir.

Sosyal kaygı ve olumsuz değerlendirilmekten korkma konusu farklı kültürlerde değerlendirilmektedir. Literatür incelemesinde Olumsuz Değerlendirilme Korkusu Ölçeği'nin (Fear of Negative Evaluation Scale - FNE) sıklıkla kullanıldığı görülmüştür. Başlangıçta 30 madde olarak geliştirilen FNE daha sonra 12 maddeye indirilerek kısaltılmıştır (Brief Fear of Negative Evaluation Scale - BFNE). FNE'nin güvenilirliği .92, BFNE'nin güvenilirliği ise .90'dır. Türkiye'de Olumsuz Değerlendirilme Korkusu Ölçeği (ODKÖ), üniversite öğrencilerine uyarlanmıştır. Gerek ölçeği geliştiren kişiden edinilen bilgiye gerekse ülkemizde yapılan taramalara dayanılarak lise öğrencilerine yönelik herhangi bir çalışmanın yapılmadığı sonucuna varılmıştır.

*Araştırmanın Amacı:* Bu çalışmada BFNE'nin lise öğrencileri için Türkçe'ye uyarlama çalışması yapılmıştır. Araştırmanın amaçları, BFNE'nin (a) Türkiye'deki lise öğrencileri için faktör yapısının nasıl olduğunun belirlenmesi, (b) toplam ve alt ölçek puanlarının iç tutarlılığının ve kararlılığının belirlenmesi, (c) sürekli kaygı, depresyon, sosyal kaygı ve utangaçlık ile uyum geçerliğinin belirlenmesidir.

*Araştırmanın Yöntemi:* BFNE'nin çevrilmesi aşamasında dört uzmandan yardım alınmıştır. Bu uzmanların biri psikolojik danışma ve rehberlik alanında yüksek lisans, üçü de aynı alanda doktora derecesi almıştır. Uzmanlar arasında görüş birliğinin sağlanması sonucunda ölçeğin Türkçe formu (ODKÖ) oluşturulmuştur. Ölçeğin lise öğrencilerine uygulanması aşamasında ise üç öğrenci grubundan yararlanılmıştır. Grupların sayısı sırayla 476, 126 ve 122'dir. Birinci gruba ODKÖ, Sürekli Kaygı Envanteri ve Reynolds Depresyon Ölçeği uygulanmıştır. İkinci grupta ODKÖ, Liebowitz Sosyal Kaygı Ölçeği ve Utangaçlık Ölçeği kullanılmıştır. Testin tekrarı güvenilirlik çalışmasında ise ODKÖ üçüncü gruba dört hafta ara ile uygulanmıştır.

*Araştırmanın Bulguları:* Ölçeğin yapı geçerliği, ölçüt geçerliği, iç tutarlılığı ve test tekrar test güvenilirliği incelenmiştir. Yapı geçerliğinin belirlenmesi için açıklayıcı ve doğrulayıcı faktör analizi uygulanmıştır. Açıklayıcı faktör analizinde iki faktörlü olarak ortaya çıkan yapı, doğrulayıcı faktör analizinde desteklenmiştir. Ölçek maddelerinin düz puanlanan (ODKÖ-D) - ters puanlanan (ODKÖ-T) maddeler olarak gruplandığı görülmüştür. Ters puanlanan 4. madde, faktör analizinde hiç bir boyuta girmediği için ölçekten çıkarılmıştır. Sonuçta ODKÖ lise formu, Türkiye örneği için ODKÖ-D'de 8, ODKÖ-T'de 3 olmak üzere toplam 11 maddeden oluşmuştur. ODKÖ'nün iç tutarlılığı toplam puan ve ODKÖ-D için yüksek, ODKÖ-T için orta düzeyde bulunmuştur. Ölçeğin test-tekrar test güvenilirliği, toplam puan ve ODKÖ-D için orta düzeyde, ODKÖ-T için düşük bulunmuştur. ODKÖ'nün ölçüt geçerliği çalışmaları toplam puan ve D puanlarının beklenildiği gibi sürekli kaygı, depresyon, utangaçlık ve sosyal kaygı ölçeklerinden elde edilen puanlarla yüksek korelasyon gös-



termiştir. Ancak, T puanları sadece depresyon puanlarıyla düşük ama anlamlı bir ilişki vermiştir.

*Araştırmanın Sonuçları ve Önerileri:* Bu çalışmada BFNE'nin Türkiye'deki lise öğrencileri üzerinde uyarlaması yapılmıştır. Uyarlama çalışmasında ölçeğin yapı geçerliği, ölçüt geçerliği, iç tutarlılığı ve test tekrar test güvenilirliği incelenmiştir. Yapı geçerliğinin belirlenmesi için açıklayıcı ve doğrulayıcı faktör analizi uygulanmıştır. Açıklayıcı faktör analizinde iki faktörlü olarak ortaya çıkan yapı, doğrulayıcı faktör analizinde de desteklenmiştir. Ölçek maddelerinin düz puanlanan (D) -ters puanlanan (T) maddeler olarak gruplandırıldığı görülmüştür. Sonuçta ODKÖ lise formu, Türkiye örneği için ODKÖ-D'de 8, ODKÖ-T'de 3 olmak üzere toplam 11 maddeden oluşmuştur.

BFNE üniversite öğrencileri üzerinde geliştirilmiştir. BFNE'nin psikometrik özellikleri çoğunlukla üniversite öğrencileri ve klinik grup üzerinde çalışılmış ve elde edilen sonuçlar, bu çalışmadakilerle karşılaştırıldığında daha yüksek bulunmuştur. BFNE'nin psikometrik özelliklerinin lise öğrencileri üzerinde araştırıldığı başka çalışmalara ihtiyaç vardır.

Ters puanlanan maddelerin psikometrik özelliklerinin istenen düzeyde olmaması, bu maddelerin anlaşılmasının güçlüğünden kaynaklanabilir. Bu gerekçeden yola çıkarak son yıllarda BFNE üzerinde yapılan araştırmalarda BFNE-R maddelerinin ifadesi, olumlu puanlanabilecek şekilde değiştirilmiştir. Yapılan analizlerde, ölçeğin psikometrik açıdan güçlendiği sonucuna varılmıştır. Ters puanlanan maddeler düz puanlanan maddelere dönüştürülerek lise öğrencileri üzerinde ODKÖ'nün psikometrik özelliklerine bakılabilir.

Bu çalışmada olumsuz değerlendirilme korkusunun depresyon, utangaçlık ve kaygı ile ilişkisine bakılmıştır. Başka bir çalışmada yaşam doyumu, mutluluk, özgüven ve özsaygı gibi değişkenlerle ayırt edici geçerlik çalışması yapılabilir.

Araştırmada, olumsuz değerlendirilmekten korkma ile depresyon, kaygı, sosyal kaygı ve utangaçlık arasındaki ilişkiler manidar bulunmuştur. Bu sonuçtan yola çıkılarak, olumsuz değerlendirilme korkusunun öğrencilerin derse katılımını ve okul başarısını düşürebileceği; sınav kaygısını artırabileceği ileri sürülebilir. Yeni bir çalışmada, olumsuz değerlendirilme korkusunun, öğrencinin derse katılımı, okul başarısı ve sınav kaygısıyla arasındaki ilişkiye bakılabilir. Okul rehberlik servisinde çalışan uzmanlar okul başarısını ve sınav kaygısını değerlendirirken bu boyutu dikkate alabilir; önleme ve müdahale amaçlı programlarını buna göre düzenleyebilirler.

**Anahtar Sözcükler:** FNE, BFNE, ODKÖ, psikometrik özellikler, doğrulayıcı faktör analizi

## An Examination of the Opinions of Preschool Teachers about Preschool Learning Settings in their Schools

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### Suggested Citation:

Durmuşođlu, M.C. (2008). An examination on the opinions of preschool teachers about the preschool learning settings in their schools. *Eđitim Arastirmalari-Eurasian Journal of Educational Research*, 32, 39-54.

### Abstract

*Problem Statement:* Preschool educational institutions have important roles in terms of maximizing children's development and creativity potential. Preschool educational institutions should provide students with high-quality learning settings by taking into consideration factors such as age, development level, interests and needs.

Current research shows that physical conditions, learning settings, equipment and curricula of preschool educational institutions have great impact on the quality of education given to children. To ensure the provision of a high-quality education by preschool educational institutions, learning settings should be regularly monitored to determine their condition and to immediately resolve any problems. This requires the implementation of studies on preschool educational institutions. Such an implementation was a starting point for this paper.

*Purpose of Study:* The aim of this study was to evaluate the opinions of preschool teachers working in formal preschools in Turkey's Ankara Province under the Ministry of National Education about learning settings in their schools.

*Methods:* A descriptive method was used for this study. The study universe was composed of teachers who worked in the official preschools in the Ankara Province of Turkey during the 2005-2006 academic year. The sample group consisted of 180 teachers randomly selected from the study universe. Two tools, the "Personal Information Form" and the "Preschool Learning Setting Check List," formed the data collection tools of the research.

*Findings and Results:* Most of the teachers stated that the learning settings of the preschools where they worked were sufficient in terms of lighting, heating and ventilation systems; hand basins and WCs; height of tables and chairs; damp-free classrooms and healthy flooring. While the teachers found the size of the outside play area to be partially sufficient, they deemed the school garden insufficient in terms of play equipment. A majority of the teachers stated that science and nature,

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music, and puppet centers were partially sufficient but that the water and sand games and quiet centers were insufficient.

*Conclusions and Recommendations:* Steps should be taken to improve the science and nature, and water and sand games centers. Organizations involved in the improvement of the physical conditions of the formal preschool classrooms should cooperate with each other to speed up improvements. Formal preschools should be allocated a garden used only by preschool students.

*Keywords:* Preschool, learning setting, teaching tools and materials, learning centers, learning environment

The period of preschool education, which starts at birth and ends at the age of 7, is a critical period for children. During this time social, emotional, cognitive, psychomotor, language and self-care skills develop at a rapid pace, and personalities acquire shape. Teachers and preschool educational institutions, as well as parents, have serious responsibilities in well-evaluation during this period and in bringing children's performance in developmental fields to the highest level. After the family, preschool educational institutions have the greatest opportunity to prepare the child for elementary education and a future social life. In preschool educational institutions, preschool learning settings covering environmental arrangements equipped with proper educational programs and rich stimuli must be offered. As Katz (1999) illustrated in her study regarding the learning environment, the younger the children are, the more informal it should be. Informal learning environments encourage spontaneous play during which children engage in available activities that interest them, such as various types of play and construction.

Piaget suggested that children always want to see and hear new things. He emphasized that the mental development of children is positively affected when such environmental opportunities and situations are available. Maria Montessori stated that, when provided with an environment well-equipped with concrete experiences and well-designed materials, students can achieve a high-level of learning (Sueck, 1991; Hohmann & Buckleitner, 1992, cited by Kildan, 2007).

Children learn many new things during their interaction with the physical environment and while discovering their surroundings. Children are exposed to more learning opportunities when the environment is rich and attractive. A good physical environment provides multiple opportunities and well-defined settings where children can discover and structure their environment alone or in groups. Special care should be paid to design an environment that will facilitate child development, as the environment can be a factor that can increase or limit the experiences of children (Dodge, 1995, p. 1180; Bredekamp, Knuth, Kunesh & Shulman, 1992). The following section discusses factors that should be taken into consideration when preparing preschool educational environments.

#### *Characteristics of Preschool Learning Settings*

The concept of "learning settings" refers not only to classrooms but also to any setting where teaching-learning activities and interpersonal interactions take place (Ry-

deen, 2005). Learning settings in preschool educational institutions can be evaluated in terms of the characteristics of outdoor, indoor, and learning settings.

Outdoor settings are composed of the location of the school building, the school building itself and the school garden (Ömeroğlu Turan, 2000, p.59-70). Indeed, the school garden is one of the most important parts of a preschool's outdoor setting. Outdoor games have an important role in the development of children. Therefore, the playground should be well-designed and well-equipped, with grassy areas, firm soil spaces and a sandpit where children can play. While planning outdoor playgrounds, it should be kept in mind that the area should provide children with development and learning opportunities by giving them the chance to make searches and observations, to develop problem-solving skills and to adopt a trial and error approach.

Indoor settings consist of parent waiting rooms, administrative areas, observation rooms, dressing rooms, doctor's offices, washrooms, storage areas, toilets, dining halls and kitchens. Hand basins and toilets should take into consideration the physical characteristics of children. In addition, they should be easy to access and directly open to playrooms (Poyraz & Dere, 2001, p. 59; MoNE, 2006, p. 73-74).

Learning settings are the playrooms and learning centers of a preschool facility. Carefully- and well-designed learning settings play an important role in the successful implementation of the preschool curriculum. The concept of "well-planned learning settings" refers to safe, multi-functional and aesthetic learning settings that are appropriate for child development, provide the opportunity of free movement, improve problem-solving skills, encourage the activation of imagination capacities to support creativity, and enable individual and group activities (MoNE, 2006; Oktay, 1999, p.192).

Learning centers, artistic activities and the play tools and materials to be used in these centers are of great importance in the organization of learning settings. Learning centers are, in a sense, a set of open exhibition units full of materials supporting a specific game or addressing a specific interest area. These centers are organized by taking into consideration the age, development and growth characteristics, skills and interests of students as well as the relationship between the centers. The basic learning centers in preschool educational institutions are house play, play blocks, music, science and mathematics, library, manipulative toys/table toys and artistic activities centers (MoNE, 2006; Homann & Weikart, 2000, p.119).

According to Dodge and Bickart (2002), a well-organized environment should provide learning centers that have the following characteristics:

- The play-blocks corner should be equipped with play blocks in different sizes and shapes. A symbol and information should be provided on each play-block to show its shelf.
- Different materials should be provided in house play and drama centers to enable students to play different roles.
- The art center should contain paints, pastels, chalks, glues, scissors, Play-Doh and cleaning materials.
- The table-games center should be equipped with puzzles and various games (matching games, etc).

- The sand and water games center should provide activities to show children why some objects float while the others sink.
- The library corner should enable children to examine books and listen to music or stories from audio equipment.
- The music and activity center should provide the opportunity of making movements according to the music made with musical instruments or that is played on audio equipment.

In preschool learning settings, sound and silent activity centers should be organized away from each other to ensure that the children active in each of these two corners focus on what they are doing. While organizing learning settings, any in-class and out-of-class area deemed appropriate should be utilized by taking into consideration the curriculum objectives, general education principles, facilities provided by the environment and the cultural experiences of the school environment. The next section discusses the characteristics that should be considered in the selection of teaching tools and materials to be used in classrooms when developing high-quality learning settings.

#### *Characteristics of Educational Tools and Materials*

Learning settings can only be enriched with the use of appropriate educational tools and materials. These materials should be safe, durable, partially structured and multi-dimensional, so that children using them are able to create their own products. Such materials should also be able to be used for many activities; easily obtained from the natural environment; made by teachers, children or other people in the locality; useful for both individual and group activities; designed to address personal learning styles and the differences in developmental phases; and appropriate for the cultural environments of children. Montessori emphasized the importance of providing learning settings with non-structured educational tools and materials so as to enable children to structure such tools and materials themselves (Boegehold, 1977; Cited by: Oktay, 1999, p.193; Sueck, 1991; Hohmann & Buckleitner, 1992, p.8).

The tools and materials provided in the hobby corners in learning settings should be easy to carry, safe, durable, easy to use, multi-purpose, semi-structured or non-structured and appropriate for the development levels of children. They should address the interests and needs of children, be made of natural materials and wastes that are not bad for health and ensure efficient learning of the subject by the children.

To provide a high quality education, preschool educational institutions should be regularly monitored to assess their current condition, determine any problems and seek solutions for these problems. The current study, carried out in the light of this requirement, examined the opinions about learning settings of preschool teachers working in formal preschool educational institutions located in the Ankara Province of Turkey under the Ministry of National Education. The research question was defined as, "What are the opinions of preschool teachers working in official preschools of the Ministry of National Education about learning settings?"

## Method

### *Research Design and Sample*

A descriptive method was applied in the study. The study universe was composed of teachers working in official preschools located in Ankara Province of Turkey and operating under the Ministry of National Education during the 2005-2006 academic year. The sample group consisted of 180 teachers randomly selected from the study universe. The teachers forming the sampling were selected from among preschool teachers working in formal elementary schools that were selected from eight county centers in Ankara via a sampling method and within which there was a preschool classroom. Of the teachers participating in the research, 64 were selected from Çankaya, 32 from Keçiören, 28 from Yenimahalle, 18 from Mamak, 16 from Altındağ, 11 from Sincan, 8 from Etimesgut, and 3 from Gölbaşı.

### *Research Instruments*

The research data was collected by using two instruments, the "Personal Information Form" and the "Preschool Learning Setting Check List," both developed by the researcher. The "Personal Information Form" gathered information about the teachers, including their age, sex, the department from which they graduated, their educational status, and their professional experience. The "Preschool Learning Setting Check List" consisted of 40 items that gathered information about the characteristics of the preschool learning settings, learning centers and teaching tools and materials as well as sub-dimensions of these three factors. Internal consistency for the check list is .96.

The teachers evaluated the learning setting where they worked within the scope of general properties in terms of size, safety, illumination, heating, ventilation, noise, cleanliness, and healthiness; layout of interest areas within the classroom; appropriateness of the dimensions of the tables, chairs, washbasins and toilets for children; size of the school garden; and the adequateness of the number of garden playing tools and their appropriateness for the children. The teachers also evaluated the learning materials in their schools in respect to number, variety, appropriateness to the development of children, solidity and endurance, healthiness, reliability, quality, easy-cleaning and -transporting, and multi-purpose use. The teachers evaluated the interest corners and the materials at these corners, the water-sand games, the silent corners and the corners requiring rotation, according to their existence in the education institutions where they worked. The scale used included the options of 0=No, it's not adequate, 1=it's partially adequate, or 2=Yes, it's adequate, in respect to the existence of the abovementioned features and their adequateness.

The opinions of five field experts and one measurement-evaluation expert were taken regarding the data collection tools. These opinions were analyzed and used to complete the tools' missing parts and re-arrange the control list. Some of the experts stated that items such as "appropriateness of the preschool learning settings for different setting arrangements within the classroom in terms of its features" and "existence of personal areas for adults" should be added. One expert put forth that an additional item about the interest corners such as "other corners requiring rotation" should be added to the control list.

The validity and reliability of the analyses in the check list is found as .96 (Cronbach Alpha) as a result of a pilot study. The data obtained from the two forms were analyzed using percentiles and frequencies.

### Findings and Results

This section presents the findings obtained from the statistical analysis of data collected by using the data collection tools described above. It also includes the interpretation of the findings. Table 1 lists the distribution of personal data provided by the teachers who participated in the study. Tables 2, 3 and 4 present the percentage distributions of the opinions of the preschool teachers about learning settings, teaching tools and materials, and learning centers, respectively.

#### *Personal Information about the Teachers*

The distribution of preschool teachers on the basis of variables such as age, sex, the department from which they graduated, educational status, professional experience and the number of students in their classrooms is given in Table 1.

**Table 1**

#### *Personal Information about the Teachers*

Personal Information	Personal Information Categories	f	%
<b>Sex</b>	Male	2	1.1
	Female	178	98.9
<b>Age Range</b>	21-25	21	11.7
	26-30	34	18.9
	31-35	37	20.6
	36-40	40	22.2
	41-45	29	16.1
	46 or older	19	10.6
<b>Program/Department from which They Graduated</b>	Girls' Vocational School	5	2.8
	Pre-License	70	38.9
	Preschool Teaching Department	53	29.4
	Child Development Department	48	26.6
	Primary School Teaching Department	1	0.6
	Other Teaching Departments	3	1.7
<b>Education Status</b>	Secondary School (Vocational High School)	5	2.8
	Pre-License	70	38.9
	License	96	53.3
	Post-Graduate	9	5.0
<b>Professional Experience</b>	0-5 years	35	19.4
	6-10 years	45	25.0
	11-15 years	22	12.2
	16-20 years	59	32.8
	21 or more years	19	10.6
<b>Number of Students per Class</b>	10-15 children	29	16.1
	16-20 children	75	41.7
	21-25 children	50	27.8
	26-30 children	24	13.3
	31 or more children	1	0.6
	Not given	1	0.6

Almost all of the preschool teachers who participated in the study (98.9 %) were female, with only two men. 69.4 % of the study group were over 31 years old and 30.6 % were in the 21-30 age range. Nearly a third (29.4 %) of the teachers were Pre-school Teaching graduates, while just over a quarter (26.6 %) were Child Development-Education graduates. It can be seen that, according to their graduation programs, 53.3 % of the teachers had BA degrees while 38.9 % had two-year degrees. In terms of their professional seniority, 19.4 % of the teachers had professional experience of 0-5 years, 25 % of them had professional experience of 6-10 years, and 32.8 % had experience of 16-20 years. The number of children in the classrooms of 41.7 % of the teachers was 16-20.

**Table 2**

*The Distribution of Teacher Opinions about Characteristics of the Learning Settings*

Characteristics of Learning Settings	Sufficient		Partially Sufficient		Insufficient	
	f	%	f	%	f	%
1. Size of classroom/playroom	84	46,6	48	26,7	48	26,7
2. Security measures taken in the classroom	109	60,6	57	31,7	14	7,8
3. Lighting system	143	79,5	30	16,7	7	3,9
4. Heating system	151	83,9	23	12,8	6	3,3
5. Ventilation system	140	77,8	34	18,9	6	3,3
6. Classroom is free from noise	111	61,7	53	29,4	16	8,9
7. Classroom is free from damp	145	80,5	31	17,2	4	2,2
8. Cleaning and flooring of the classroom	127	70,6	41	22,8	12	6,7
9. Location of learning centers in the classroom	123	68,3	44	24,4	13	7,2
10. Classroom enables different setting layouts	80	44,4	57	31,7	43	23,9
11. Tables and chairs are appropriate for the height of children	177	98,3	3	1,7	-	-
12. Classroom is provided with hand basins and WCs appropriate for the height of children	135	75,0	45	25,0	-	-
13. Classroom is provided with personal areas for adults (cabinet, table, WC, hand basin, etc.)	111	60,7	57	31,7	12	6,7
14. Size of the garden of preschool classroom	33	18,3	83	46,2	64	35,5
15. Playground is equipped with sufficient number of appropriate garden toys	48	26,7	24	13,3	108	60,0

Examining Table 2, it can be concluded that nearly half of the teachers (46.6 %) found their classes sufficient in size, 26.7 % found them to be partially sufficient and the remainder found them to be insufficient. 60.6 % of the preschool teachers found the security measures taken in the classroom to be sufficient. It can also be understood from Table 2 that preschool teachers found their classrooms sufficient in terms of lighting (79.5 %), heating (83.9 %) and ventilation (77.8 %), tables and chairs in the classroom (98.3 %), being free from damp (80.5 %) and having healthy classroom flooring (70.6 %).



According to Yazıcı et al. (2003) and Prakash (2005), an ideal preschool educational institution should be airy and well-lit and should provide areas where children can move freely. The 19<sup>th</sup> and 20<sup>th</sup> century studies carried out on ideal classroom settings emphasized that air, ventilation, temperature, being healthy, sound insulation, lighting and appearance are the most important criteria for an ideal classroom setting (Rydeen, 2005). In the study carried out by Güler (2001), teachers and managers working in preschool educational institutions found the classrooms sufficient or partly sufficient in terms of general factors such as heating, illumination, ventilation, enabling different setting layouts, having healthy classroom floorings, and being equipped with tables and chairs appropriate for the height of children. The findings of Güler's study partially support the findings of the present study.

75 % of the preschool teachers who participated in the study stated that the size of the hand basins and toilets in the classrooms were appropriate for the height of children. In a study carried out by Çaltık (2004), the appropriateness of hand basins and toilets for the height of children was examined. It was found that hand basins and toilets in formal nurseries were deemed more sufficient than those in formal preschool educational institutions. The same study also examined the hand basins and toilets for each classroom and revealed that 55.1 % of the classrooms in formal nurseries were equipped with hand basins and toilets belonging only to that classroom while this rate was 61.6 % for the classrooms in formal preschool educational institutions. The results of Çaltık's study partially agree with the findings of the present study. Providing each classroom in a preschool educational institution with hand basins and toilets appropriate for the height of children is of great importance in helping children to gain good personal hygiene habits and develop self-care skills.

More than half of the preschool teachers (61.7 %) found their classes sufficient in terms of being free from noise. Examining the teacher opinions about classrooms' allowing different layouts, 44.4 % of the classrooms were found sufficient and 31.7 % partially sufficient. The existence of personal places for the adults in a preschool classroom (such as a cupboard, table, toilet, hand basin, etc.) was also examined. It was found that a majority of the teachers (60.7 %) found their classrooms sufficient in terms of such personal places.

Teacher opinions about the size of the preschool classroom gardens showed that 46.2 % of the teachers found the size of the school garden, play area or playground partially sufficient while 35.5 % found it to be insufficient. Regarding whether the preschool classroom gardens are equipped with a sufficient number of appropriate garden outdoor play items, 60 % of the teachers deemed gardens insufficient in terms of such tools. A study conducted by Gündoğan (2002) pointed out problems of preschool classrooms, such as the necessity to share the same garden with primary education students and an inappropriate or insufficient number of garden toys. Çaltık's study (2004) revealed that 96 % of primary education institutions do not have a separate garden for preschool students, that the same garden is shared by both primary education and preschool education students and that such conditions negatively affect preschool students (Gündoğan, 2002; cited by İlknur, 2004, p.145).

**Table 3*****The Distribution of Teacher Opinions about Characteristics of Educational Tools and Materials***

Characteristics of Educational Tools and Materials	Sufficient		Partially Sufficient		Insufficient	
	f	%	f	%	f	%
1. There are a sufficient number of tools and materials to be used by all students	99	55.0	52	28.9	29	16.1
2. They are diverse enough and comply with the characteristics of child development	118	65.5	54	30.1	8	4.4
3. They are diversified enough and comply with the interests and needs of children	107	59.4	60	34.4	13	7.2
4. They are durable	130	72.2	47	26.1	3	1.7
5. They are healthy and safe	125	69.4	52	28.9	3	1.7
6. They are made of high-quality materials	123	68.3	43	23.9	14	7.8
7. They are produced using harmless paints	122	67.8	47	26.1	11	6.1
8. They attract the attention of children	116	64.4	57	31.7	7	3.9
9. They are easy to clean	133	73.9	47	26.1	-	-
10. They are easy to carry	145	80.5	33	18.3	2	1.1
11. They are located in a place within the reach of children	162	90.0	12	6.7	6	3.3
12. They are placed in such way as to enable different layouts	98	54.4	55	30.5	27	15.1
13. They are multi-functional	96	53.3	64	35.5	20	11.1

From Table 3, it can be concluded that the preschool teachers who participated in the study found the educational tools and materials in the classrooms sufficient in terms of being a number sufficient to be used by all students (55.5 %), being diversified enough and complying with the characteristics of child development (65.5 %), being diversified enough and complying with the interests and needs of children (59.4 %), being placed in such way as to enable different layouts (54.5 %) and being multi-functional (53.3 %). In addition, the majority of the teachers found educational tools and materials in their classrooms sufficient in terms of being durable (72.2 %), being healthy and safe (69.4 %), being made of high-quality materials (68.3 %), being produced using harmless paints (67.8 %) attracting the attention of children (64.4 %), being easy to clean (73.9 %), being easy to carry (80.5 %) and being located in a place within the reach of children (90.0 %).

In the study carried out by Kasalı (2002) to determine the current situation of educational tools and materials in nurseries and preschool classrooms, it was found that hobby corners were average or insufficient in terms of both quality and quantity. The results of the study also showed that the gardens of preschool educational insti-

tutions were insufficient in size and were not equipped with most of the required play tools. In a study carried out by Güler (2001), it was revealed that preschool educational institutions were insufficient in terms of the diversity of the educational tools and materials that should be provided in the learning centers of the classrooms.

**Table 4**

*Distribution of Teacher Opinions about Learning Centers in the Classrooms*

<i>Learning Centers</i>	<b>Sufficient</b>		<b>Partially Sufficient</b>		<b>Insufficient</b>	
	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>
1. Concept Center	90	50.0	70	38.9	20	11.1
2. Home-Play /Drama Center	110	61.1	65	36.1	5	2.8
3. Science/Science and Nature Center	66	36.7	84	46.7	30	16.6
4. Music Center	82	45.5	78	43.4	20	11.1
5. Play-Blocks Center	105	58.3	53	29.4	22	12.2
6. Artistic Activities Center	92	51.1	71	39.4	17	9.4
7. Puppet Center	87	48.4	73	40.5	20	11.1
8. Library Center	114	63.3	53	29.4	13	7.2
9. Table Games Center	104	57.8	49	27.2	27	15
10. Water-Sand Games Center	31	17.2	33	18.3	116	64.5
11. Quiet Center (where children can be alone)	53	29.4	45	25.0	82	45.6
12. Other Centers (corners requiring rotation on the basis of the subject)	76	42.2	44	24.4	60	33.3

On examining Table 4, it can be seen that preschool teachers found concept centers (50.0 %), home-play/drama centers (61.1 %), play-block centers (58.3 %), artistic activities centers (51.1 %), libraries (63.3 %) and table games centers (57.8 %) sufficient. The science and nature centers in the preschool classrooms were found to be sufficient by 36.7 % of the teachers and partially sufficient by 46.7 %.

In the study carried out by Ayvaci, Devocioğlu and Yiğit (2003) on the “determination of teacher competence about scientific and natural activities” it was revealed that most of the teachers were not competent enough to plan and implement scientific and natural activities at the desired level. In addition, it was also pointed out that teachers could not develop original tools and materials and that they were not aware of or did not use effective teaching methods in carrying out activities. In line with the findings obtained from other studies that took the above-mentioned study as a basis and from the current study, it is suggested that in-service training seminars should be organized for teachers on, for example, teaching methods and techniques, activity types, and material development with the aim of ensuring the preparation of more effective science and nature centers.

45.5 % of the preschool teachers found the music center sufficient and 43.4 % found it partially sufficient. 48.4 % of teachers found the puppet center sufficient while 40.5 % found it partially sufficient. Moreover, 64.5 % of teachers expressed that they deemed the water and sand games center insufficient. 45.6 % found the quiet center insufficient. 42.2 % found other centers in the preschool classrooms (i.e., the centers requiring rotation on the basis of subject) sufficient and 33.3 % found them to be insufficient.

In a study carried out by Güler (2001), home play, table games and play-block centers were found to be the most sufficient centers while profession and water-sand games centers were found to be the most insufficient ones. The reason behind the insufficiency of science-nature, profession and water and sand games centers could be the fact that preschool teachers are not well-informed about the importance of science-nature, occupation, water and sand games centers and about the equipment that should be provided in these centers. The provision of learning centers with the necessary equipment is as essential as the development of such learning centers in the classroom.

### Conclusion

This study examined the opinions of preschool teachers working in formal preschools located in Turkey's Ankara Province and operating under the Ministry of National Education about preschool learning settings in their schools. The following results were obtained.

Nearly half of the preschool teachers who participated in the study found the size of the classroom sufficient. More than half of the teachers found the security precautions taken in the classroom to be sufficient. Most found their classrooms sufficient in terms of lighting, heating and ventilation systems; being equipped with hand basins and toilets appropriate for the height of children; being free from damp; and having healthy flooring. Nearly all participating teachers found the tables and chairs in the classroom sufficient in terms of their appropriateness for the height of children.

The preschool teachers generally found their classrooms sufficient or partially sufficient in terms of enabling different layouts. More than half of the teachers expressed that personal places allocated for adults (cupboard, table, toilet, hand basin, etc.) were either sufficient or partially sufficient. Regarding the size of preschool classroom gardens, nearly half of the teachers found the garden size partially sufficient, while a significant number of the teachers (35.5 %) found it to be insufficient. The majority of teachers deemed preschool gardens to be insufficient in terms of the appropriateness and numbers of the garden toys provided in the gardens.

More than half of the preschool teachers found educational tools and materials sufficient in terms of being at a number sufficient enough to be used by all students, diversified enough and complying with the children's interests and needs, healthy and durable, made of high-quality materials, produced with harmless paints, able to attract the attention of children, easy to clean, placed in such way as to enable differ-

ent layouts and multi-functional. Also, most of the preschool teachers found educational tools and materials sufficient in terms of being easy to carry and located in a place within the reach of children. Regarding the opinions of preschool teachers about the sufficiency levels of learning centers, the majority found concept, home-play/drama, play blocks, artistic activities, libraries and table games centers sufficient, while they found the science and science and nature centers in the preschool classrooms either partially sufficient or insufficient. In this context, studies should be carried out to find ways of developing science and nature centers.

Nearly half of the preschool teachers found the music and puppet centers either sufficient or partially sufficient. Most of the teachers expressed that they found the water and sand games center and the quiet center insufficient. Teachers found other centers (those that require rotation on the basis of the subjects) sufficient or partially sufficient.

### **Recommendations**

On the basis of the results obtained in the present study, the following suggestions are presented as measures that can be taken to improve preschool learning settings:

1. The architectural design of a preschool educational institution should take into consideration the physical environment and the cultural elements of the locality. The facility should be built in a quiet part of the area. Measures should be taken to ensure good sound insulation.
2. Physical and psychological precautions should be taken for the children.
3. Classrooms should be equipped with technological tools and devices such as computers, videos, overhead projectors, VCD and DVD players that will address the interests, needs, numbers and development levels of the children.
4. Children should be provided with opportunities that will enable them to adopt different approaches and methods of accessing information and to learn by doing.
5. Learning settings should be equipped with sufficient numbers of various tools and materials, and learning centers that can change on the basis of selected themes. Steps should be taken to improve science and nature and water and sand games centers.
6. The preschool environment should be equipped with movable desks to ensure effective and efficient use of the classroom space and to enable various layouts that are ergonomic and functional.
7. Preschool learning settings should be designed in such way as to provide children with the opportunities of making searches and observations, problem-solving, examining, decision-making, using the imagination, expressing in different ways what s/he does and others do, presenting the products s/he produces, and working individually and in groups.

8. Organizations involved in the improvement of the physical conditions of formal preschool classrooms should cooperate with each other to speed up improvement.

9. Formal preschools should be allocated a garden used only by preschool students. Preschool gardens should have the resources necessary for preschool students and should be equipped with a sufficient number and quality of game tools.

10. Regular in-service training should be organized for preschool teachers. Steps should be taken to ensure teacher participation in such training, which will inform preschool teachers about new information, technology developments and materials that can be used to improve learning centers.

11. Preschool managers and inspectors should be informed about the preschool educational environment.

12. An assessment should be made to determine the Turkey-wide needs and problems of learning settings. An improvement program should be initiated.

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## Anasınıfı Öğretmenlerinin Çalıştıkları Okul Öncesi Eğitim Ortamlarına İlişkin Görüşlerinin İncelenmesi

### (Özet)

*Problem Durumu:* Okul öncesi eğitim döneminde, çocuğun gelişim alanlarını ve yaratıcılık potansiyelini en üst düzeye çıkarmak açısından okul öncesi eğitim kurumlarına önemli görevler düşmektedir. Okul öncesi eğitim kurumları çocuklara onların yaşları, gelişimleri ilgi ve ihtiyaçları doğrultusunda kaliteli eğitim ortamları sunmalıdır. Literatür taramaları sonucunda yapılan çalışmalar okul öncesi eğitim kurumlarının fiziksel koşulları, eğitim ortamı, donanımı ve eğitim programlarının çocuklara verilen eğitimin kalitesini etkilediğini göstermektedir. Okul öncesi eğitim kurumlarında kaliteli eğitim-öğretim yapılabilmesi için bu eğitim ortamların düzenli olarak izlenip mevcut durumlarının belirlenmesi ve sorunlarının çözülmesi gerekmektedir. Bunun nedenle okul öncesi eğitim kurumları ile ilgili çeşitli araştırmaların yapılmasına gereksinim duyulmaktadır. Bu gereksinimden hareketle Araştırmanın Problemi "Milli Eğitim Bakanlığı resmi anasınıflarında çalışan anasınıfı öğretmenlerinin eğitim ortamlarına ilişkin görüşleri nedir?" olarak belirlenmiştir.

*Araştırmanın Amacı:* Yapılan çalışmada Türkiye Milli Eğitim Bakanlığı Ankara ili resmi anasınıfı öğretmenlerinin çalıştıkları okullardaki eğitim ortamlarına ilişkin görüşlerini incelemek amaçlanmıştır.

*Araştırmanın Yöntemi:* Araştırmada betimsel yöntem kullanılmıştır. Çalışmanın evrenini 2005-2006 öğretim yılında Türkiye'nin Ankara ilindeki resmi anasınıflarında görev yapan öğretmenler, örneklemini ise evrenden random yoluyla seçilen 180 öğretmen oluşturmaktadır. Veri toplama araçları araştırmacının uzman görüşleri olarak geliştirdiği "Kişisel Bilgi Formu" ve "Anasınıfı Eğitim Ortamı Kontrol Listesi"dir. "Kişisel Bilgi Formu" öğretmenle ilgili cinsiyet, yaş, mezun olduğu program, öğrenim durumu, mesleki deneyim vb. demografik bilgileri kapsamaktadır. "Anasınıfı Eğitim Ortamı Kontrol Listesi" ; anasınıfı eğitim ortamı özellikleri, anasınıfı ilgi köşeleri ve anasınıfı eğitim materyalleri özellikleri alt boyutlarından ve 40 maddeden oluşmaktadır. Her madde 0: Hayır, yeterli değil; 1: Kısmen Yeterli ve 2: Evet Yeterli şeklinde kendi içinde değerlendirilmektedir. Veri toplama araçları geliştirildikten sonra beş konu alanı uzmanı ve bir ölçme değerlendirme uzmanından uzman görüşü alınarak bu görüşler doğrultusunda kontrol listesi yeniden düzenlenmiştir.

*Bulgular ve Sonuçlar:* Araştırmaya katılan anasınıfı öğretmenleri sınıflarının büyüklüğünü, alınması gereken güvenlik önlemlerini yeterli bulmuşlardır. Öğretmenlerin çoğunluğu eğitim ortamının; aydınlatma, ısınma ve havalandırma sistemleri ile lavabo ve tuvaletlerle, masa ve sandalyelerin çocukların boyutlarına uygunluğunu, sınıfın rutubetsiz olması ve sınıf zemininin sağlığa uygunluğunu yeterli bulduklarını ifade etmişlerdir. Anasınıfı bahçesinin büyüklüğünü kısmen yeterli bulduklarını belirtmişlerdir. Bahçenin bahçe oyuncaklarıyla düzenlenmiş olma durumunu çoğunlukla yetersiz bulmuşlardır. Öğretmenlerin yarıdan çoğu



eğitim materyallerinin; sınıftaki tüm çocukların yararlanabileceği sayıda olması, çocukların gelişim özelliklerine, ilgi ve ihtiyaçlarına uygun çeşitlilikte olması, sağlam ve dayanıklı olması, sağlığa uygun ve güvenilir olması, kaliteli malzeme ile üretilmiş olması, kolay temizlenebilir, taşınabilir, çok amaçlı kullanılabilir olması açısından yeterli bulduklarını belirtmişlerdir. Anasınıfı öğretmenlerinin ilgi köşelerinin yeterliğine yönelik görüşleri incelendiğinde, öğretmenlerin çoğunluğunun kavram köşesi, evcilik-dramatizasyon köşesi, blok köşesi, sanat etkinlikleri köşesi, kitap köşesi ve masa oyunları köşesini yeterli buldukları, fen ve doğa köşesini ise çoğunlukla kısmen yeterli, en az oranda yeterli buldukları saptanmıştır. Bu bağlamda Fen ve Doğa köşelerinin geliştirilmesine yönelik olarak çalışmalar yapılması gerekmektedir. Öğretmenlerinin çoğunluğu müzik köşesi ve kukla köşesini yarıya yakın oranda yeterli ve kısmen yeterli görmüşlerdir. Öğretmenlerinin büyük çoğunluğu su ve kum oyunlarının oynandığı köşeyi ve sessiz köşeyi yetersiz gördüklerini belirtmişlerdir. Anasınıfı öğretmenlerinin konuya göre rotasyon gerektiren diğer köşeleri çoğunlukla yeterli ve kısmen yeterli gördüklerini belirtmişlerdir. Sonuç olarak okul öncesi eğitimde ele alınan fiziksel koşullar, çocuğun gelişimi ile fiziksel çevrenin özellikleri arasında oldukça sıkı bir ilişki olduğunu göstermektedir.

*Araştırmanın Sonuçlar ve Öneriler:* Araştırmanın bulguları doğrultusunda eğitim ortamlarının iyileştirilmesi ve tespit edilen yetersizliklerle ilgili önlemlerin alınması konusunda anasınıfı yöneticileri ve öğretmenleri için bazı önerilerde bulunulmuştur. Okul öncesi eğitim kurumunun mimari yapısı binanın bulunduğu fiziksel çevreye ve içinde yaşanan kültürel öğelere göre güdültüden uzak ortamlarda planlanmalı, binanın ses yalıtımı ile ilgili önlemler alınmalıdır. Çocuklar için gerekli fiziksel ve ruhsal güvenlik önlemleri alınmalı, daha sonra fiziksel açıdan çocukların sayısı, gelişim düzeyi, ilgi ve ihtiyaçlarını karşılayacak şekilde bilgisayar, video, tepegöz, VCD, DVD gibi teknoloji araçları ve yeterli araç gereç donatılmalıdır. Eğitim ortamında eğitim durumlarında belirlenen temalarla ilişkili olarak değişebilen, yeterli sayı ve çeşitlilikte materyal, araç-gereç ve ilgi köşeleri bulunmalıdır. Fen ve Doğa, su ve kum oyunları köşelerinin geliştirilmesine yönelik olarak çalışmalar yapılması gerekmektedir. Okul öncesi eğitim ortamı, sabit olmayan sıralar; alanın etkili ve verimli bir şekilde değişikliğe uğratılabildiği, ergonomik ve fonksiyonel düzenlenmelere fırsat vermelidir. Çocukların gözlem ve inceleme yapma, araştırma, keşfetme, problem çözme, sorgulama, karar verme, hayal gücünü kullanma, kendini ve yaptıklarını farklı şekillerde ifade edebilme, yaptığı ürünleri sergileme, bireysel ve grup çalışmaları yapma konusundaki becerilerini geliştirebilecekleri fırsatlar sunabilecek şekilde hazırlanmalıdır. Resmi anasınıflarında fiziksel koşulların düzeltilmesi için gerekli birimlerin işbirliği yaparak iyileştirme çalışmalarına hız verilmelidir. Resmi anasınıflarının kendilerine ait bahçelerinin olması gerekmektedir. Anasınıflarının bahçeleri okul öncesi çocuklar için aranan nitelikleri taşınmalı ve gerekli oyun araç-gereçleriyle donatılmış büyüklükte olmalıdır. Okul öncesi eğitim öğretmenlerinin alanlarıyla ilgili yeni bilgi, teknoloji ve ilgi köşelerindeki materyalleri takip edebilmeleri amacı ile düzenli aralıklarla hizmet- içi eğitim çalışmaları planlanmalı ve bunlara katılımları sağlanmalıdır.

*Anahtar Sözcükler:* Okul öncesi, eğitim ortamı, eğitimsel materyal, öğrenme merkezleri, öğrenme ortamı

## Dating Anxiety in Adolescents: Scale Development and Effectiveness of Cognitive-Behavioral Group Counseling

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### Suggested Citation:

Kalkan, M. (2008). Dating anxiety on adolescents: Scale development and effectiveness of cognitive-behavioral group counseling. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 32, 55-68.

### Abstract

*Problem Statement:* The understanding of adolescents' dating anxiety is important for the clinical and developmental process. Several studies indicate that dating anxiety is related to social skills, depression, loneliness, substance abuse, and marital anxiety. The studies using cognitive-behavioral techniques have been quite successful for individuals with dating or social anxiety.

*Purpose of Study:* The study was conducted in two discrete parts. The aim of the first study was to develop a dating-anxiety inventory for adolescents, and the aim of the second study was to investigate the effectiveness of cognitive-behavioral group counseling in decreasing the level of dating anxiety in adolescents.

*Methods:* Four hundred and forty adolescents were selected randomly from students in their first to third year of high school. The students were evaluated using the Dating Anxiety Inventory-Adolescent Form (DAI-A) and Shyness Scale. For the phase of group counseling, twenty adolescents with dating anxiety determined by the DAI-A were randomly assigned to experimental (n=10) and control (n=10) groups. In the data analysis of scale development, the Pearson correlation coefficient, principal component factor analysis, and Cronbach's alpha coefficient for internal consistencies were applied by using the SPSS. The Mann-Whitney U Test and the Wilcoxon Signed Rank Test were used to determine whether there were any differences between the measures of the pre- or post-test scores for members on the experimental and control groups.

*Findings and Results:* Factor analysis with varimax rotation was conducted on the item responses of the inventory. Three factors, the eigenvalues of which are greater than 1.00, accounting for 50.26% of the total variance, were chosen. For the concurrent validity, the correlations were computed

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between the scores of the DAI-A and the Shyness Scale. The DAI-A and Shyness Scale total scores correlated strongly ( $r=.72$ ). Cronbach's alpha coefficients were .96 for the total DAI-A, .94 for the first subscale, .90 for the second subscale, and .88 for the third subscale. The results of the Mann-Whitney U Test on the DAI-A total and subscales showed that the differences between the post-test scores of the experimental group and control group were significant. The results of the Wilcoxon Signed Rank test on the DAI-A total and subscales showed that the differences between the pre- and post-test scores of the experimental group were significant.

*Conclusions and Recommendations:* The psychometrics properties of the Dating Anxiety Inventory-Adolescent Form are found to be satisfactory and may be used to assess dating anxiety. In addition, the cognitive-behavioral group counseling decreases the dating-anxiety level of adolescents significantly.

**Keywords:** Dating anxiety, adolescent, cognitive-behavioral approach, group counseling

Romantic relationships emerge for the first time in adolescence, which is a critical period in social development (Connolly, Craig, Goldberg & Pepler, 1999). Adolescents report greater closeness with dating partners than best friends, parents, and siblings by late adolescence (Laursen, 1996).

Dating relationships as a reflection of adolescents' search for identity may be a means of status grading and may also contribute to adolescents' belonging in their peer crowd. Furthermore, dating relationships may help to establish interpersonal skills (Duvall, 1964; Feiring, 1996; Feldman, Rosenthal, Brown & Canning, 1995; Skipper & Nass, 1966). These relationships might provide an important source of support and contribute in positive ways to adolescents' mental health during adolescence (La Greca & Harrison, 2005). However, the relationships can be stressful. The stress and anxiety in dating relationships sometimes result in avoidance, causing the development of dysfunctional patterns of behavior (Allen, Bourhis, Emmers-Sommer & Sahlstein, 1998).

Within the clinical literature, a variety of terms, such as heterosocial anxiety, low frequency dating, and communication apprehension have been used in places of dating anxiety (Kugeares, 2002). Dating anxiety is defined as "worry, distress, and inhibition experienced during interactions with dating partners or members of the opposite sex" (i.e. potential dating partners) (Glickman & La Greca, 2004, p.567). Several studies indicate that dating anxiety is related to physical attractiveness and social skills. Individuals who are anxious about dating situations are rated as less attractive and have inadequate social skills compared to non-anxious individuals (Kugeares, 2002; Larsen & Shackelford, 1996; Zakahi, Duran & Adkins, 1994). Furthermore, a connection exists between dating anxiety and an increased risk of having other problems including depression, loneliness, and substance abuse (Davies & Windle, 2000; Rizzo, Daley & Gunderson, 2006). In addition, adolescents' dating experiences are believed to play an important role in the development of adult romantic relationships (Shulman & Scharf, 2000). The adults with social phobias have a lower percentage of getting married than the adults without social phobias

(Schneier, Heckelman, Garfinkel, Campeas & Fallon, 1994). These research projects emphasize that understanding adolescents' dating anxiety is important for the clinical and developmental process.

Glickman and La Greca (2004) assert that a self-reporting measure for understanding adolescents' dating anxiety should be developed. According to them, dating anxiety is differentiable from social anxiety; therefore, dating anxiety must be measured by a specific dating-anxiety scale. Some scales have been devised to measure adolescents' dating anxiety. Calvert, Moore, and Jensen (1987) developed the Dating Anxiety Survey (DAS); and Glickman and La Greca (2004) developed the Dating Anxiety Scale for Adolescents (DAS-A). Yet, these scales are especially designed to measure the level of dating anxiety of individuals in Western cultures. There is scant information available concerning the assessment of dating anxiety in developing and traditional countries, such as Turkey. Thus, the primary goal of this study is to develop a dating-anxiety scale for adolescents.

Several recent studies using cognitive-behavioral techniques in group counseling or group therapy for individuals with dating anxiety or social anxiety show promising results. Seventy-one children with anxiety were treated with 10 group sessions using cognitive-behavioral techniques. The results suggested that the program is an effective treatment for clinically anxious children (Shortt, Barrett & Fox, 2001). Baer and Garland (2005) treated adolescents with social phobia with 12 sessions of cognitive-behavioral group therapy; this resulted in an improvement in the severity of the phobia after the treatment. More recently, a study by Fogler, Tompson, Steketee, and Hofmann (2007) shows that close relationships affect the outcomes of the treatment as a result of cognitive-behavioral interventions for social phobia. In addition, most of the studies indicate that group counseling or training programs are effective in reducing dating anxiety (Christensen & Arkowitz, 1974; Christensen, Arkowitz & Anderson, 1975; Curran & Gilbert, 1974). Yet, these studies are investigated outside of Turkey. An extensive literature review by the researcher showed that there is no study concerning the effectiveness of group counseling for dating anxiety in Turkey.

The above-mentioned studies using cognitive-behavioral techniques have been quite successful in treating social anxiety in children or adolescents. Therefore, the second aim of this study is to examine the effectiveness of cognitive-behavioral group counseling to decrease the level of dating anxiety of adolescents.

These studies have indicated that the development of the scale for understanding dating anxiety that causes mental problems and behavioral disorders is functional in terms of clinical and theoretical studies. The answers to the following questions were sought to accomplish the above-mentioned aim:

1. What are the psychometric properties of the DAI-A?
2. Would there be any significant differences between the pre-test and post-test scores within each group (experimental and control groups) in terms of dating anxiety?

3. Would there be any significant differences between the post-test scores of the experimental and control groups in terms of dating anxiety?

In short, the study was conducted in two discrete parts. Study 1 presented the development and psychometric properties of the Dating Anxiety Inventory-Adolescent Form. In study 2, the effectiveness of cognitive-behavioral group counseling in decreasing the level of dating anxiety of the adolescents was examined.

## **Study 1** **Method**

### *Sample*

The study of the scale development was carried out at three high schools representing three different socioeconomic statuses in Samsun. The sample of 440 adolescents (n= 236 females, n= 204 males) was selected randomly among first- to third-year high school students. The adolescents ranged from 15 to 18 years old (M= 16.8, S= 1.1). With respect to dating behavior, 30% of the adolescents declared that they had not dated, and 41.4% stated that they had dating experience; further, 28.6% stated that they were in an ongoing dating relationship.

### *Research Instruments*

*The shyness scale.* The scale was developed to measure the shyness level of adolescents and adults by Balcı and Kalkan (2002). It consists of four subscales—emotional, behavioral, cognitive, and physiological symptoms—with a total of 35 items. A 5-point Likert-type scale ranging from 1= I strongly disagree to 5= I strongly agree was used. The Shyness-Scale scores range from 35-175 with higher scores indicating higher levels of shyness. Cronbach's alpha internal consistency coefficient was .92 for the total scale. Convergent validity was examined by assessing the correlation between the scores of the Shyness Scale and the scores of the "Rathus Assertiveness Inventory" (Voltan-Acar, 1980) and "The Guilt and Shame Scale" (Şahin & Şahin, 1992). The correlation between the Shyness Scale and the Rathus Assertiveness Inventory was -.46; and the correlation between the Shyness Scale and the Guilt and Shame Scale was .76. The construct validity of the Shyness Scale was investigated through factor analysis. In the analysis of that investigation, it was observed that four factors accounted for 43.19% of the total variance. The Shyness Scale is a reliable and valid scale to measure the shyness level of the Turkish population (Balcı & Kalkan, 2002).

*Participant demographics.* Participants provided demographic information including age, sex, dating status, and relationship duration.

### *Procedure*

The participants were randomly selected from three public high schools representing three different socioeconomic statuses in Samsun. The students completed the questionnaires during a class meeting. It took approximately 25 minutes to complete the questionnaires.

On the first phase of the scale development, a clear definition of the construct of dating anxiety, the extensive theoretical and empirical researches that have been conducted on the construct of anxiety, and existing anxiety scales were reviewed. A pool of items was formed in the second phase. Fifty-seven items were written for the initial item pool. Items with low corrected item-total correlations were eliminated. The final version of the inventory contained 46 items. All items were designed in accordance with a 5-point Likert-type rating scale, ranging from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me).

#### *Data Analyses*

In the data analyses of the scale development, the Pearson correlation coefficient, principal component factor analysis, and Cronbach's alpha coefficient for internal consistencies were applied by using the SPSS program; and  $p < 0.05$  was accepted as a reference point to be statistically significant.

## Findings and Results

#### *Validity Findings*

**Construct validity.** A series of principal component factor analysis with varimax rotation was conducted on the item responses of the DAI-A. Three factors, the eigenvalues of which are greater than 1.00—accounting for 50.26% of the total variance—were chosen. The results of the factor analysis are shown in Table 1.

**Table 1**

*The Results of the Factor Analysis of the Dating Anxiety Inventory Adolescent Form*

Items	Factor Loadings		
	I	II	III
1		.670	
2		.593	
3		.595	
4		.494	
5		.571	
6		.668	
7		.625	
8		.630	
9		.456	
10		.546	
11		.575	
12		.613	
13		.429	
14		.500	
15		.576	
16	.642		
17	.744		
18	.665		

19	.442		
20	.550		
21	.627		
22	.659		
23	.563		
24	.567		
25			.370
26			.678
27			.613
28			.689
29			.721
30			.572
31			.589
32			.784
33			.751
34			.717
35			.669
36	.727		
37	.737		
39	.718		
39	.576		
40	.668		
41	.443		
42	.580		
43	.595		
44	.579		
45	.599		
46	.515		
Total Variance	50.2	35.1	19.8

As seen in Table 1, 46 items with factor loading from .37 to .78 were loaded on one of the three factors. Factor 1 accounted for 19.86% of the variance and contained 20 items. This factor was named “being disliked thoughts” (BDT). Factor 2, consisting of 15 items, was entitled “communication anxiety” (CA). This factor accounted for 15.24% of the variance. The final factor labeled “physiological symptoms” (PS) consisted of 11 items accounting for 15.15% of the variance.

**Concurrent validity.** For the concurrent validity, the correlations were computed between the scores of the DAI-A and the Shyness Scale. The DAI-A and Shyness Scale total scores correlated strongly ( $r=.72$ ). The BDT, CA, and PS subscales of the DAI-A also correlated strongly with the Shyness Scale ( $r=.70, .69, .53$ ). All correlations were significant with  $p<.01$ . These results provide support for the concurrent validity of the DAI-A. Although the two instruments were correlated, the DAI-A was more strongly related to adolescents’ dating experiences. The t-test results showed that dating anxiety of adolescents who had not dated was higher than adolescents who had dating experience or were in an ongoing dating relationship ( $t=$

3.52,  $p < .001$ ). There is no significant difference between adolescents' dating experiences with respect to shyness ( $t = .375$ ,  $p > .05$ ).

### *Reliability Findings*

The internal consistencies of the three DAI-A factors as well as the total were calculated using Cronbach's alpha coefficient. Alpha coefficients were .96 for the total DAI-A, .94 for the first subscale, .90 for the second subscale, and .88 for the third subscale. Thus, all scales had high internal consistency.

## **Study 2**

### **Method**

#### *Sample*

The purpose of the study was described to the adolescents at their schools. The students interested in the project completed the Dating Anxiety Inventory-Adolescent Form and Participant Information Form. Originally, approximately 60 adolescents expressed interest, and 40 students returned the questionnaires. Among these students, the top groups were ranked according to the scores they received from the Dating Anxiety Inventory-Adolescent Form. Twenty adolescents with dating anxiety (ages 16-17) were randomly assigned to experimental ( $n=10$ ) and control ( $n=10$ ) groups.

*Dating anxiety inventory-adolescent form (DAI-A).* The Dating Anxiety Inventory-Adolescent Form that was developed in Study 1 was used in this study.

*Participant demographics.* Participants provided demographic information including age, sex, and dating status.

#### *Procedure*

In this study, pre-test and post-test scores with the control group design were applied. The independent variable was the cognitive-behavioral group counseling. The dependent variable of the study was dating anxiety. The Dating Anxiety Inventory-Adolescent Form was given pre- and post-test. Those in the control group participated in the pre-test assessment. Then, they were informed that they had been placed on a waiting list. The participants of the control group were given no expectation of group counseling and simply completed the assessments. The participants in the experimental group took part in weekly 90-minute sessions involving cognitive-behavioral counseling during 8 weeks. The researcher conducted group counseling.

Group counseling was structured around cognitive-behavioral approaches that have previously been shown to be useful with social anxiety or dating anxiety with adolescents and young children (Barrow & Hayashi, 1980; Curran, Wallander & Fischetti, 1980; Overholser, 2002). The counseling included social skills training, relaxation training, and cognitive restructuring. Session 1 and 2 introduced a cognitive-relaxation coping rationale and trained adolescents to use relaxation coping skills like deep-breathing cued relaxation and relaxation imagery. Homework included self-



disclosure, self-monitoring of anxiety, and relaxation practice. Session 3, 4, and 5 focused on cognitive restructuring skills to identify, challenge, and re-formulate automatic thoughts and beliefs that perpetuate dating anxiety. Homework added cognitive components to self-disclosure, self-monitoring, and relaxation. Sessions 6, 7, and 8 involved the application of social skills to reduce dating anxiety. At the end of the final session, the group-counseling members were given opportunities to share what they had acquired from the group experience. Group members also received feedback from the others in the group.

#### *Data Analyses*

The Mann-Whitney U Test was used to determine whether there were any differences between the measures of the pre- or post-test scores for members in the experimental and control groups. The Wilcoxon Signed Rank Test was used to determine whether there were any differences between the pre- and post-test scores of the experimental or control groups.

### **Findings and Results**

The means and standard deviations for the scale measures are presented in Table 2.

**Table 2**

*Means and Standard Deviations Measures*

Measures	Experimental Group		Control Group	
	Pre-	Post-	Pre-	Post-
DAI-A	179.90 (15.45)	123.00 (9.09)	182.60 (16.05)	184.90 (18.73)
BDT	81.60 (6.63)	46.90 (6.43)	82.90 (7.21)	83.80 (8.05)
CA	56.20 (5.73)	35.20 (5.22)	57.00 (6.99)	56.50 (8.87)
PS	42.10 (4.97)	28.00 (3.65)	42.70 (4.59)	43.20 (4.91)

*Note: DAI-A Dating Anxiety Inventory-Adolescent Form, BDT Being Disliked Thoughts, CA Communication Anxiety, PA Physiological Symptoms*

The Mann-Whitney U Test was applied to examine the differences between the measures of the pre-tests for the adolescents in the experimental and control groups. The results of the analysis showed that the differences between the pre-test scores for the DAI-A total ( $z=-.605$ ,  $p>0.05$ ), the BDT ( $z=-.575$ ,  $p>0.05$ ), the CA ( $z=-.379$ ,  $p>0.05$ ), and the PS ( $z=-.228$ ,  $p>0.05$ ) of the experimental group and control group were not significant. The results of the Mann-Whitney U Test on the DAI-A total ( $z=-3.781$ ,  $p<0.001$ ) showed that

the differences between the post-test scores of the experimental group and control group were significant. For the BDT subscale ( $z=-3.782$ ,  $p<0.001$ ), the comparison between post-test scores for the experimental group and the control group revealed significant differences. For the CA subscale ( $z=-3.710$ ,  $p<0.001$ ), the differences of the post-test scores for the experimental group and the control group were significant. For the PS subscale ( $z=-3.787$ ,  $p<0.001$ ), the comparison between post-test scores for the experimental group and the control group revealed significant differences.

The results of the Wilcoxon Signed Rank Test on the DAI-A total ( $z=-2.803$ ,  $p<0.01$ ) showed that the differences between the pre- and post-test scores of the experimental group were significant. The comparison between pre- and post-test scores for the BDT subscale ( $z=-2.805$ ,  $p<0.01$ ), CA subscale ( $z=-2.809$ ,  $p<0.01$ ), and PS subscale ( $z=-2.810$ ,  $p<0.01$ ) of the experimental group revealed significant differences. In regard to the control group, the comparison between pre- and post-test scores for the DAI-A total ( $z=-1.327$ ,  $p>0.05$ ), BDT subscale ( $z=-1.087$ ,  $p>0.05$ ), CA subscale ( $z=-.522$ ,  $p>0.05$ ), and PS subscale ( $z=-1.406$ ,  $p>0.05$ ) revealed no significant difference.

In conclusion, the results illustrated the dating-anxiety levels of adolescents in the control group were significantly higher than those of the adolescents in the experimental group. Therefore, it may be said that cognitive-behavioral group counseling decreases the dating-anxiety levels of adolescents significantly.

### Conclusions and Recommendations

The purpose of this study was to develop the dating-anxiety scale and to evaluate the effectiveness of cognitive-behavioral group counseling on adolescents with dating anxiety. This is the first study to report the development of a measure of dating anxiety for adolescents in Turkey. In general, the results provide support for the validity and reliability of the DAI-A.

The results of the factor analysis suggest that there are three factors in the DAI-A: (a) being disliked thoughts (BDT), (b) communication anxiety (CA), and (c) physiological symptoms (PS). The BDT subscale reflects feelings of nervousness about one's physical appearance and some features of one's personality. The CA subscale reflects feelings of nervousness about one's verbal and nonverbal communication skills in dating situations with the opposite sex. The PS subscale measures physiological concomitants of dating anxiety (e.g. loss of appetite, dry mouth, etc.). The findings from this study further suggest that dating anxiety is related to shyness (on the Shyness Scale). This result provides the support for the concurrent validity of the DAI-A. Although the two instruments were correlated, the DAI-A was more strongly related to adolescents' dating experiences (dating or not dating). The reliability study shows that the whole scale and subscale internal consistencies are at acceptable levels.

The present study has some limitations. First, data were collected from high school students. For that reason, the results may not be applicable to adolescents of the same age who do not have a high school education. The psychometric properties of the scale may be investigated in further studies by collecting data from adolescents with lower educational backgrounds. Second, the validity of the scale was evaluated using construct validity and concurrent validity. The discriminant validity could not be used. Additional

studies may be conducted with clinical groups. Thus, the data could be provided to support the use of the DAI-A in clinical groups.

Several meaningful implications for school counselors, psychological counselors, and family practitioners can be derived from the findings of this study. In developing personal-social training programs or guidance programs to meet adolescents' attitudes and needs, the DAI-A could be used to assess adolescents' dating anxiety in the domain of personal-social development. The inventory could provide useful feedback for outcome evaluation of training or guidance programs. The DAI-A may provide valuable information for adolescents to understand their dysfunctional behaviors, attitudes, and thoughts in romantic relationships. This would improve adolescents' social development.

Finally, the Dating Anxiety Inventory-Adolescent Form demonstrates good psychometric properties and holds promise for the use in the research investigating the dating anxiety of adolescents.

The second part of this study reports the effectiveness of cognitive-behavioral group counseling to decrease the level of dating anxiety of adolescents. In this study, the pre- and post-tests were given to the experimental and control groups. The sessions lasted for 8 weeks for the experimental group. The results of the Mann-Whitney U test indicate significant differences between the dating-anxiety levels of the subjects in the experimental and control groups. According to this, the cognitive-behavioral group counseling decreases the dating-anxiety levels of adolescents significantly. This study supports the evidence that cognitive-behavioral approaches are effective for the intervention of adolescents with dating anxiety.

This study has several limitations. First, it is a study with a small group, and therefore, the scope of the study is limited. Thus, further studies with larger groups would provide more detailed information about the effectiveness of group counseling. Second, data were analyzed with nonparametric methods. Further studies need to be conducted to determine the interaction effect with ANOVA. Third, the subjects in this study were constituted based on self-report. The groups in further studies might also be selected based on behavioral observations or clinical findings. Lastly, in this study, pre-test and post-test design was applied without follow-up. Further studies involving a follow-up would be more informative about the effectiveness of the cognitive-behavioral group counseling for adolescents with dating anxiety.

The implications for clinicians, counselors, and researchers can be derived from the findings of this study. This study may help family practitioners and counselors in order to provide training programs and to plan appropriate counseling programs at psychological counseling centers and counseling services for schools.

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## Ergenlerde Flört Kaygısı: Ölçek Geliştirme ve Bilişsel-Davranışçı Grup Danışmasının Etkililiği

### (Özet)

*Problem Durumu:* Sosyal gelişim için kritik bir dönem olan ergenlik, arkadaşlık ağının genişlemesi ve romantik ilişkilerin ortaya çıkmasıyla sosyal gelişime katkı sağlar. Ergenler için kimlik arama çabalarının bir yansıması olan flört ilişkileri, bireylerin birbirlerine uyum sağlamayı ve uygun etkileşim becerilerini öğrendikleri bir sosyalleşme şekli olabileceği gibi, arkadaş grubu içinde statü kazanma aracı da olabilir. Ayrıca, ergenlerin bir gruba ait olmalarını kolaylaştırırken, kişilerarası ilişkilerin kurulmasında etkili olan yakınlık, paylaşma, anlaşma ve kendini açma becerilerinin de gelişmesine yardımcı olur. Ergenlik dönemi boyunca bireylerin ruhsal sağlıklarına pozitif katkı ve destek sağlayan flört ilişkileri kimi zaman kaygı ve stres verici olabilir. Bu durum flört ilişkilerinden kaçmaya ve fonksiyonel olmayan sosyal

davranışlara yol açabilir. Flört kaygısı, karşı cinsten bir kişiyle veya flört edilen partnerle etkileşimdeyken yaşanan çekingenlik, utanma, endişe ve sıkıntı durumudur. Bu durumda birey flört ilişkisini başlatmak ve sürdürmekte kaygı duyar. Araştırmalar, flört kaygısı ile fiziksel çekicilik ve sosyal beceri azlığı arasında ilişki olduğunu göstermektedir. Öte yandan flört ilişkilerinde yaşanan kaygı ile yalnızlık, depresyon ve madde bağımlılığı gibi sorunlar arasında da ilişki bulunmaktadır. Yetişkinlik dönemindeki sosyal fobi ve utangaçlıkta, ergenlik dönemi flört ilişkilerindeki sorunların etkisi kabul edilirken, sosyal fobiye sahip yetişkinlerde evlenme oranının genel popülasyona göre daha düşük olduğu görülmektedir. Sosyal kaygı yaşayan ergenler üzerinde yapılan araştırmalar, bilişsel-davranışçı yaklaşıma dayalı müdahalelerin, kaygının azaltılmasında etkili olduğunu göstermektedir. Bu sonuçlar ergenlik dönemi flört ilişkilerinin anlaşılmasının klinik ve gelişimsel önemini ortaya koymaktadır. Ergenlerde görülen flört kaygısının ölçülmesi, flört ilişkilerinin anlaşılması çabalarına yardımcı olacaktır. Ülkemizde, sosyal kaygı veya utangaçlığı ölçen ölçme araçları bulunmasına rağmen, flört durumlarındaki kaygıyı ölçen bir araca rastlanmamıştır. Flört ilişkilerinde yaşanan kaygının sebep olduğu ruhsal sorunlar ve davranış bozuklukları hatırlanacak olursa, bu durumun ölçülmesini mümkün kılacak ve klinik uygulamalarda da kullanım değeri olan bir ölçme aracının geliştirilmesi ve psikometrik özelliklerinin incelenmesinin işlevsel olacağı düşünülmektedir. Ayrıca flört kaygısı yaşayan ergenlerde, bilişsel-davranışçı yaklaşıma dayalı grupla psikolojik danışmanın etkililiğinin incelenmesinin literatüre katkı sağlayacağı düşünülmektedir.

*Araştırmanın Amacı:* Bu araştırma iki farklı çalışmadan oluşmaktadır. Birinci çalışmanın amacı, ergenlerdeki flört kaygısını değerlendirmede kullanılacak bir ölçme aracını geliştirmek, geçerlik ve güvenilirliğini saptamaktır. Bilişsel-davranışçı yaklaşıma dayalı olarak yapılan grupla psikolojik danışmanın flört kaygısı olan ergenler üzerindeki etkililiğini tespit etmek de ikinci çalışmanın amacını oluşturmaktadır.

*Araştırmanın Yöntemi:* Araştırmanın ölçek geliştirme safhasının örneklemini lise 1-3. sınıf öğrencileri arasından seçkisiz seçimle belirlenmiş 440 ergen oluşturmuştur. Öğrencilere Flört Kaygısı Envanteri-Ergen Formu ve Utangaçlık Ölçeği uygulanmıştır. Araştırmanın ikinci çalışması olan grupla psikolojik danışma safhasında, Flört Kaygısı Envanteri-Ergen Formundan alınan puanlar dikkate alınarak 20 kişiden (deney grubu için 10 ergen, kontrol grubu için 10 ergen) oluşan bir çalışma grubu oluşturulmuştur. Bu çalışmada envanterin madde analizi madde-toplam puan korelasyonları hesaplanarak yapı geçerliği ise temel bileşenler faktör çözümlemesi ve varimax döndürülmüş faktör çözümlemesi kullanılarak incelenmiştir. Benzer ölçekler geçerliği için Flört Kaygısı Envanteri-Ergen Formu ile Utangaçlık Ölçeği puanları arasındaki korelasyon katsayısı hesaplanmıştır. Güvenirlik çalışmasında ise iç tutarlık katsayıları için Cronbach Alpha formülü kullanılmıştır. Araştırmanın grupla psikolojik danışma safhasında ise, deney ve kontrol grubunun Flört Kaygısı Envanteri-Ergen Formundan aldıkları ön ve son test puanları arasında anlamlı fark olup olmadığının

incelenmesinde Mann-Whitney U testi ve Wilcoxon İşaretili Sıralama testi SPSS paket programı kullanılarak yapılmıştır.

*Araştırmanın Bulguları:* Flört Kaygısı Envanteri-Ergen Formu'nun geçerliğini sınamada, yapı geçerliği ve benzer ölçekler geçerliği kullanılmıştır. Envanterin yapı geçerliğini sınamak için faktör analizi yapılmıştır. Envanterin faktör yapısını inceleyebilmek ve alt boyutlarını belirleyebilmek amacıyla varimax dik döndürme tekniği ile birlikte uygulanan Temel Bileşenler Analizi sonucuna göre, varyansın %50.26'sını açıklayan, özdeğeri 1'in üzerinde olan üç faktör belirlenmiştir. Bu varyansın, %19.86'sı birinci faktörden kaynaklanmakta olup 20 maddeden oluşmaktadır. İkinci faktör toplam varyansın %15.24'ünü açıklayan 15 maddeden oluşmaktadır ve üçüncü faktör ise toplam varyansın %15.15'ini açıklayan 11 maddeden oluşmaktadır. Benzer ölçekler geçerliği için Flört Kaygısı Envanteri-Ergen Formu ve Utangaçlık Ölçeğinden alınan puanlar arasındaki korelasyon katsayısı .72 ( $p < .01$ ) bulunmuştur. Envanterin tümü için hesaplanan Cronbach Alpha güvenilirlik katsayısı .96 bulunmuştur. Araştırmanın ikinci çalışması olan grupla psikolojik danışma safhasına ilişkin bulgular ise şu şekildedir: Deney ve kontrol grubundaki ergenlerin flört kaygısı ön-test puanları arasındaki farkın anlamlı olup olmadığını test etmek amacıyla yapılan Mann-Whitney U testi sonuçları farkın anlamlı olmadığını göstermektedir. Mann-Whitney U testi sonuçları deney ve kontrol grubundaki ergenlerin flört kaygısı düzeylerine ilişkin son-test puan ortalamaları arasındaki farkın ise .05 düzeyinde anlamlı olduğunu göstermektedir. Sıra ortalamaları dikkate alındığında grupla psikolojik danışmaya katılan ergenlerin, katılmayanlara göre flört kaygısı düzeylerinin anlamlı ölçüde düştüğünü ortaya koymaktadır. Deney grubundaki bireylerin ön-test ve son-test puan ortalamaları arasında fark olup olmadığını görmek için yapılan Wilcoxon İşaretili Sıralama Testi sonuçları deney grubunda yer alan ergenlerin flört kaygısı ön-test ve son-test puanları arasında anlamlı fark olduğunu göstermektedir. Fark puanlarının sıra toplamları dikkate alındığında, ergenlerin son-test puanlarının anlamlı ölçüde düşme gösterdiği görülmektedir. Son olarak, kontrol grubundaki ergenlerin ön-test ve son-test puan ortalamaları arasında anlamlı fark olup olmadığı Wilcoxon İşaretili Sıralama Testi ile test edilmiştir ve analiz sonuçları kontrol grubunda yer alan ergenlerin flört kaygısı ön-test ve son-test puanları arasında anlamlı fark olmadığını göstermektedir.

*Araştırmanın Sonuçları ve Önerileri:* Sonuç olarak, Flört Kaygısı Envanteri-Ergen Formu'nun ergenlerdeki flört kaygısını ölçmede kullanılabilecek geçerli ve güvenilir bir araç olduğu söylenebilir. Ayrıca, bilişsel-davranışçı grupla psikolojik danışmanın, ergenlerdeki flört kaygısını azaltmada etkili olduğu görülmektedir. Envanterin, hem klinik gözlem ve görüşmelere, hem de flört kaygısının giderilmesine yönelik yapılacak müdahalelere yol gösterici bilgi ve destek sağlayacağı düşünülmektedir.

*Anahtar Sözcükler:* Flört kaygısı, ergen, bilişsel-davranışçı yaklaşım, grupla psikolojik danışma

## Sociometric Status and Life Satisfaction Among Turkish Elementary School Students\*

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### Suggested Citation:

Kaya, A., & Siyez, D.M. (2008). Sociometric status and life satisfaction among Turkish elementary school students. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 32, 69-82.

### Abstract

*Problem Statement:* As age advances, peer relations play an increasingly significant role in children's lives. One indicator of a child's social relationships and position within a peer group is his or her sociometric status. Many of the variables associated with sociometric status are also related to life satisfaction. For example, previous research indicates that both higher life satisfaction and popular sociometric status are associated with higher self-esteem. At the same time, both lower life satisfaction and rejected sociometric status are associated with various psychological and social problems, such as depression, lower self esteem, and declining physical and mental health. Based on their common relationships to other variables, one might speculate that sociometric status and life satisfaction are somehow related; however, our review of the literature has not revealed any published research that is related to life satisfaction and sociometric status.

*Purpose of study:* This research was conducted in order to discover whether sociometric status creates any difference in the perception of life satisfaction and dimensions of life satisfaction for elementary school students.

*Methods:* The study included 340 students between fourth and eight grades in a small province that is located in the eastern part of Turkey. In the study, sociometric status was determined, and the Turkish form of Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS) was used to assess their perception of life satisfaction. Frequency analysis, one way ANOVA, and LSD tests were used to analyze the data.

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\* This article was presented in IX th National Psychological Counseling and Guidance Congress in Çeşme- İzmir (17-19 September 2007).

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*Findings:* The findings of this study showed that the perceived life satisfaction of students differed according to sociometric status, i.e., popular students have much higher life satisfaction than students from neglected and rejected groups. Also, the results demonstrated that sociometric status creates meaningful differences in scores belonging to dimensions of life satisfaction. According to these results, students who are accepted by popular group have a much higher life satisfaction for family domain than the neglected group; popular students have a much higher life satisfaction for friends domain than neglected and rejected groups; and students of rejected groups have lower life satisfaction than controversial groups.

*Recommendations:* Life satisfaction is possibly an important part of an individual's success in dealing with peer relations. As a result, educational programming should be planned to increase life satisfaction of students from kindergarden through high school. Also, sociometric status is not only predictive of the social, behavioral, and cognitive adaptation over a short term period but also predictive of behavioral problems in later years. Therefore, social skills training should be given to the students within the school curriculum starting during the pre-school period and beyond. This method would allow the acquisition and development of these skills early in life and would likely prevent problems, such as rejection by friends later on when the student is older.

**Keywords:** Peer relations, sociometric status, life satisfaction

Social relations can refer to a multitude of social interactions that are between two or more people, regulated by social norms, and in which each participant has a social position and performs a social role (Antonucci, 1985). The field of social relations has evolved by passing through many theoretical orientations, such as The Freudian Psychoanalytic Model, Ericksonian Psycho-social Development Model, Piagetian Cognitive Development Model, and Bandura's Social Learning Theory. Social relations are important not only in the evaluation of social development, but also they are an important part of personal, emotional, and cognitive development during the childhood and adolescent period (Hartup, 1989; Rubin, Bukoski, & Parker, 1998). Friendships provide unique opportunities for children for helping them to learn basic social skills and develop close relationships (Hartup, 1996). These skills may contribute to a child's position within the larger peer groups that form the classroom social network (Gest, Graham-Bermann, & Hartup, 2001). Research has shown that children who have friends are more cooperative and self-confident (Clark & Drewry, 1985) and exhibit more prosocial behaviors (Seban, 2003) than children who have not made any friends. During the adolescent period, teenagers spend most of their time alone or with friends and spend less time with their parents (Larson & Richards, 1991). Therefore, peer relations are an important aspect in the development of adolescents during puberty (Diener, 1994).

One indicator of a child's social relationships and position within a peer group is his or her sociometric status (Eronen & Nurmi, 2001). Based on sociometric status, children are categorized as popular, controversial, rejected, neglected, and average (Coie, et al., 1982). Those popular children who receive many positive and few negative sociometric nominations are more likely to exhibit higher self-esteem (Boivin & Begin, 1989; Jackson & Bracken, 1998), better academic and social skills (Frentz, Gresham, & Eliot, 1991; Coie & Dodge, 1988; Stuart, Gresham, & Eliot, 1991), and more prosocial behaviors (Wentzell, 2003). Studies show that children who are rejected by their friends and those who receive few positive and many negative peer nominations experience feelings of loneliness (Asher, Parkhurst, Hymel, & Williams, 1990; Kaya, 2005), depression (Coie, 1990; Prettie & McNaire, 1987; Coie & Dodge, 1988; Rubin & Mills, 1988; Kaya, 2007), and social anxiety (LaGreca, Dandes, Wick, Shaw, & Stone, 1988). Additionally, they are more aggressive and exhibit more disruptive behaviors (Coie, Dodge, & Kupersmidt, 1990; Wentzel, 1991; Parkhurst & Asher, 1992) than unrejected children. Poor peer relations are also a risk factor for the well-being of children and adolescents (Asher, Hymel, & Renshaw, 1984; Cassidy & Asher, 1992; Crick & Ladd, 1993; Kupersmidt & Patterson, 1991).

Diener (1994) suggested that well-being is contingent upon the presence of various positive psychological factors and not merely contingent upon the absence of pathological symptoms. Researchers have proposed a tripartite model of subjective well-being, which is comprised of the following three interrelated but separable components of subjective well-being in children and adolescents: global life satisfaction, positive affect, and negative affect (Huebner, 1991; Huebner & Dew, 1996). Each of the components of subjective well-being reflects people's evaluations of what is happening in their lives (Diener, Oishi, & Lucas, 2003). But global life satisfaction is more stable than the other two portions of subjective well-being (Diener & Larsen, 1984; Suldo, Riley, & Shaffer, 2006). Because of this, life satisfaction is considered as a key indicator of subjective well-being (Diener & Diener, 1995). More comprehensively, life satisfaction is defined as a cognitive, global appraisal that is made by people when considering their contentment in their lives as a whole or their contentment in specific domains of their lives, such as family, environment, friends, and self (Diener, 1994; Suldo et al., 2006).

Although studies related to life satisfaction in childhood and adolescence are limited, these preliminary studies suggest that high life satisfaction is positively related to physical health, mental health, good interpersonal relationships, and educational and vocational success (Veenhoven, 1989; Frisch, 2000; Park, 2003; Park, 2004). A recent longitudinal study of adolescents found that high life satisfaction functions as a buffer against the impact of stressful life events on developing psychopathology (Suldo & Huebner, 2004). On the other hand, lower life satisfaction appears to be related to a greater risk for a variety of psychological and social problems, such as depression, low self-esteem, and maladaptive social interactions (Furr & Funder, 1998; Lewinsohn, Redner, & Seeley, 1991).

Many of the variables associated with sociometric status are also related to life satisfaction. For example, previous research indicates that both higher life satisfaction

and popular sociometric status are associated with higher self-esteem (McCoy & Heritage, 1992; Kaya, 2005). At the same time, both lower life satisfaction and rejected sociometric status are associated with various psychological and social problems, like depression (Furr & Funder, 1998; Coie, 1990), lower self esteem, and declining physical and mental health (Frisch, 2000; Park, 2003; Huebner, Suldo, Valois, Drane, & Zullig, 2004; Park, 2004; Suldo & Huebner, 2004).

Based on their common relationships to other variables, one might speculate that sociometric status and life satisfaction are somehow related; however, our review of the literature has not revealed any published research that is related to life satisfaction and sociometric status. The aim of this study was to examine the relationship between sociometric status and life satisfaction and dimensions of life satisfaction in a sample of Turkish primary and secondary school children. In the present study, the following hypothesis was formed: children classified as popular would score higher than their less popular peers on global life satisfaction. Moreover, rejected and neglected children were expected to score lower than other groups on school and friendship aspects of life satisfaction.

## Method

### *Participants*

The study sample consisted of 421 randomly selected 4<sup>th</sup> through 8<sup>th</sup> grade students (i.e., 191 boys and 230 girls). The participants were students from three randomly selected elementary schools that represented the middle socio-economic level. The schools were situated in a small province that is located in the eastern part of Turkey. In this group of students, 22% (n=92) were in the fourth grade; 19.2% (n=81) were in the fifth grade; 20% (n=84) were in the sixth grade; 21.6% (n=91) were in the seventh grade; and 17.3% (n=73) were in the eighth grade. The ages of the students in the sample ranged from 9 to 16 years old (M= 11.95, SD=1.43). Eighty-one (81) students who were sociometrically unclassified were excluded in the analyses, and 340 (i.e., 183 boys, 157 girls) students were evaluated according to The Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS). In this group, 22% (n=75) were in the fourth grade; 20% (n=68) were in the fifth grade; 20% (n=68) were in the sixth grade; 20% (n=68) were in the seventh grade; and 17.9% (n=61) were in the eighth grade. The ages of the students in the sample ranged from 9 to 16 years old (M= 11.96, SD=1.44).

### *Instruments*

**Sociometric status.** Sociometric status was determined through the procedure described by Coie et al. (1982). Students completed a sociometric questionnaire that instructed them each to nominate three classmates in their school who they liked the most and three who they liked the least. Next, the standardized social preference scores (i.e., "liked most," "liked least" votes received) and social impact scores were calculated. Subsequently, children were classified into the following five sociometric status categories: popular, controversial, rejected, neglected, and average (Coie, et al.,

1982). The “Liked Most” (LM) and “Liked Least” (LL) scores that were obtained in the sociometric procedure were used to derive two social variables (i.e., social preference and social impact).

*The Brief Multidimensional Students’ Life Satisfaction Scale (BMSLSS).* The BMSLSS (Huebner et al., 2004) is a five-item measure in which each item denotes one of the five life satisfaction domains (i.e., family, school, friends, self, and living environment). The five items are summed to obtain a total life satisfaction score. Each item is rated on a seven-point Likert scale with responses ranging from “Terrible” (1) to “Delighted” (7). An additional item (i.e., “I would describe my satisfaction with my overall life as...”) was included with the BMSLSS items as a validity check (Seligson, Huebner, & Valois, 2005; Zullig, Huebner, Gilman, Patton, & Murray, 2005).

In this study, the Turkish form of the BMSLSS (Siyez & Kaya, 2008) was implemented. The scores from Turkish form of the BMSLSS had acceptable test-retest reliability ( $r=.82$ ) and internal consistency ( $r=.89$ ). Item-total correlations varied from .64 to .78. A significant correlation was observed between the BMSLSS and the Children’s Depression Inventory and between the BMSLSS and the Piers Haris Self-Concept Scale.

#### *Procedures*

The study was conducted after approval was obtained from the Ministry of Education in Turkey and from the administration for each of the three schools that participated in the study. After receiving this permission, students were informed about the main goal of the research, anonymity, and voluntary participation; all of the students agreed to participate in the study. The questionnaires were self-administered under close supervision by the first author. Students completed the questionnaires during the class period. The questionnaires took approximately 30 to 40 minutes to complete.

#### *Data Analysis*

Frequency analysis, one way analysis of variance (ANOVA), and LSD tests were used to analyze the data. A separate ANOVA was run with the five sociometric status groups (i.e., popular, rejected, neglected, controversial, and average) as independent variables and the BMSLSS and subscales of the BMSLSS as dependent variables. Analyses of the were completed with the SPSS 11.0 packet program. In the following analyses, the criterion  $p<0.05$  was used to determine the significance of the results. Eighty-one (81) students who were sociometrically unclassified were excluded in the analyses.

## **Results**

### *Sociometric Status and Life Satisfaction*

Table 1 presents the means and standard deviations of the BMSLSS scores and one way ANOVA results according to sociometric status.

**Table 1**

*Sociometric Status and Means and Standard Deviations of the Scores of the BMSLSS and One-way ANOVA Results*

<b>Groups</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>F</b>	<b>p</b>
Popular	89	29.91	4.18		
Rejected	81	27.71	4.35		
Neglected	89	28.25	4.25	3.12	.01
Controversial	32	29.06	3.09		
Average	49	28.34	5.15		
Total	340	28.65	4.36		

The mean score for the summed BMSLSS scores is 28.65 (SD=4.36), with a potential range of 6 to 42. By using criteria by Coie et al. (1982), 89 of the 340 children (26.2%) were classified as popular, 81 (23.8%) as rejected, 89 (26.2%) as neglected, 32 (9.4%) as controversial, and 49 (14.4%) as average. According to sociometric status, the mean locus of control scores were as follows: popular,  $M = 29.91$ ,  $SD = 4.18$ ; rejected,  $M = 27.71$ ,  $SD = 4.35$ ; neglected  $M = 28.25$ ,  $SD = 4.25$ ; controversial,  $M = 29.06$ ,  $SD = 3.09$ ; and average,  $M = 28.34$ ,  $SD = 5.15$ .

One-way ANOVA was performed to determine the presence of a significant difference in life satisfaction depending upon the sociometric status. As shown in Table 1, a significant difference was, indeed, observed among the groups [ $F_{(4-339)} = 3.12$ ,  $p < .05$ ]. Post hoc comparisons were made between the sociometric status levels using the LSD test. LSD analyses revealed that students who were classified as popular scored significantly higher on the BMSLSS than their rejected and neglected peers; however, popular children did not differ significantly from the controversial and average groups in their scores on the BMSLSS. Sociometrically popular children did, however, demonstrate a higher life satisfaction than sociometrically rejected and neglected children.

On the other hand, the mean BMSLSS scores of the rejected group did not differ significantly from the mean scores of the neglected, controversial, and average groups. Also, the mean BMSLSS scores of the neglected group did not differ significantly from the means of the controversial and average groups, and the controversial group did not differ significantly from the average group.

#### ***Sociometric Status and Dimensions of Life Satisfaction***

Table 2 presents the means and standard deviations of the scores according to the BMSLSS domains and the one way ANOVA results according to sociometric status.

One-way ANOVA was performed to determine the presence of a significant difference in the life satisfaction domains depending upon students' sociometric status level. As shown in Table 2, a significant difference was observed among the family [ $F_{(4-339)} = 2.84$ ,  $p < .05$ ] and friend [ $F_{(4-339)} = 6.90$ ,  $p < .05$ ] domains. Post hoc comparisons were made between the sociometric status levels using the LSD test. For

the family domain, LSD analyses revealed that students who were classified as popular scored significantly higher on the BMSLSS than their rejected and neglected peers. Controversial children have higher scores as compared to their rejected and neglected peers; however, popular children did not differ significantly from the controversial and average groups. Sociometrically popular and controversial children demonstrated a higher life satisfaction related to family domain as compared to sociometrically rejected and neglected children.

**Table 2**

*Sociometric Status and Means and Standard Deviations of the Scores According to the BMSLSS Domains and one-way ANOVA Results*

BMSLSS Domains		Sociometric status				Average (n=49)	F	p
		Popular (n=89)	Rejected (n=81)	Neglected (n=89)	Controversial (n=32)			
Family Domain	M	6.21	5.59	5.71	6.18	6.02	<b>2.84</b>	.02
	SD	1.07	1.76	1.43	1.42	1.33		
Friends Domain	M	6.16	4.95	5.57	5.43	5.51	<b>6.90</b>	.000
	SD	1.09	1.89	1.45	1.58	1.55		
School Domain	M	5.75	5.22	5.58	5.25	5.48	1.61	.17
	SD	1.30	1.85	1.36	1.56	1.41		
Self Domain	M	6.01	5.37	5.73	5.78	5.89	1.96	.10
	SD	1.24	1.86	1.47	1.69	1.50		
Living Environment Domain	M	5.76	5.20	5.33	5.50	5.42	1.46	.21
	SD	1.16	2.02	1.52	1.39	1.60		

\* p<.05 \*\*\*p<.001

Concurrently, for the friends domain, the LSD analyses revealed that students who were classified as popular scored significantly higher as compared to the other sociometric groups. Controversial and average children have higher scores than rejected children. Sociometrically popular children demonstrated a higher life satisfaction related to the friend domain than did sociometrically rejected, neglected, controversial, and average children.

## Discussion

This study examined global dimensions of life satisfaction differences among five sociometric categories; as such, it is one of the first studies to examine sociometric status and life satisfaction across all domains and to consider global life satisfaction. The results of the study showed that the sociometric status makes meaningful difference in scores from global life satisfaction and the family and friend dimensions of life satisfaction.

The results were consistent with earlier predictions; on a global level, children of popular sociometric status demonstrated higher life satisfaction than their rejected and neglected peers. This result suggests that when students are rejected by their friends, they may feel unhappy about themselves; their self-esteem may suffer; and their life satisfaction might

decrease. Previous studies support successful communication with peers and stress that positive classroom acceptance influences the psychosocial health of children (Vyšniauskytė-Rimkienė & Kardelis, 2005). On the other hand, a child's social behavior, including interpretations, and affective reactions are primarily responsible for a child's rejection by his or her peers (Coie, 1990). Consequently, lower levels of life satisfaction may cause negative affective reactions in this situational rejection by friends. Therefore, longitudinal and experimental studies are needed in order to understand fully the complex, reciprocal interactions of sociometric status and life satisfaction.

In the present study, not surprisingly, children of popular sociometric status scored higher in the friend domain of life satisfaction than the unpopular groups. When we look through the developmental characteristics of the adolescent period, middle school children clearly spend more time with friends, and time with friends is a more important determinant of happiness in adolescence (Larson & Richards, 1991). Griffin and Huebner (2000) stated that emotionally disturbed children reported lower levels of life satisfaction. At the same time, sociometric status may contribute to life satisfaction. Children who have positive peer interactions are more likely to have higher life satisfaction.

The results of the study also showed that the popular children in this sample scored higher in the family domain of life satisfaction than the children in the rejected and neglected groups. Many interpretations can possibly explain this result. Popular children have been shown to display more positive social skills in interpersonal relations than children from unpopular groups (DeRosier, Kupersmidt, & Patterson, 1994). These characteristics may predispose children to popularity in different settings, like the family environment, and increased family cohesion; thus, children's scores belonging to the family domain of life satisfaction will be increased. On the other hand, the impact of parental warmth on children's attitudes and skills demonstrate higher life satisfaction and consequently leads to happier children at home. Similarly, controversial children received higher scores on the family domain of life satisfaction than the children in the rejected and neglected groups. This result may be explained in that children who are identified sociometrically as controversial tend to show some of the characteristics of popular children (Wentzel & Asher, 1995).

Cross-sectional studies have shown that rejected children feel uncomfortable and show signs of loneliness and social dissatisfaction (Asher & Wheeler, 1985; Boivin, Poulin, & Vitaro, 1994). Nevertheless, in this study, rejected and neglected children did not differ significantly in levels of the school domain of life satisfaction any more than the unrejected children. Perhaps different sources, like teacher attitudes, affect children's life satisfaction within the school context. As stated earlier, sociometrically neglected students tend to be well-liked by teachers (Wentzel & Asher, 1995). Therefore, those students might perceive that teachers rather than their peers are the ones who support and care for them (Wentzel, 2003), and in return, their level of life satisfaction related to the school domain might increase within the school context.

When we look at the results of this study, although life satisfaction differed according to the students' sociometric status, we do not identify causality in the relationship between life satisfaction and sociometric status. Still, the results have implications for prevention programs that focus on gaining positive life skills starting from kindergarden through high

school. The findings of this study should be considered in light of its limitations. First, the generalizability of the findings from this current study should not be assumed. Future studies should include more diverse samples so that participants are more representative of the socioeconomic diversity found within Turkey at the widest scale. Also, the current study was correlational; thus, causal statements cannot be made. In summary, popular and rejected children were found to be consistently differing in terms of life satisfaction. Therefore, psychoeducational prevention programming that focuses on developing the social skills of unpopular children will be instrumental in increasing these students' levels of life satisfaction.

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## Farklı Sosyometrik Statülerdeki İlköğretim Öğrencilerinin Yaşam Doyumu Düzeylerinin İncelenmesi

### (Özet)

*Problem Durumu:* Bireylerin, psiko-sosyal açıdan sağlıklı bir şekilde gelişebilmeleri ve yaşadıkları çevreye uyum sağlayabilmeleri için çevresindeki bireyler ile olan olumlu sosyal etkileşim ve ilişkileri oldukça önemli unsurlardır. Yaşın artması ile birlikte sosyal ilişkilerin rolü de giderek artmaktadır. Çocukların okula başlamasıyla birlikte özellikle arkadaşlık ilişkileri ön plana çıkmaktadır. Çocuk ya da ergenin arkadaş grupları içerisindeki pozisyonunu gösteren ölçütlerden birisi sosyometrik statüsüdür. Sosyometrik statülerine göre çocuklar; popüler, reddedilen, ihmal edilen, ihtilafli ve ortalama statü olmak üzere 5 grupta toplanmaktadır. Okul çağında akran ilişkileri ve bu ilişkilerde akranlar tarafından kabul edilme önemli bir belirleyici olmakta ve bireyin yaşam doyumunu

etkileyebilmektedir. Yaşam doyumu, Diener tarafından tanımlanan iyilik hali kavramının üç unsurundan birisidir ve bireyin yaşam kalitesini bilişsel olarak değerlendirmesi olarak tanımlanmaktadır. Çocuk ve ergenlerde yaşam doyumunu değerlendiren çalışmalar görece az olmasına rağmen yapılan çalışmalar yaşam doyumu ile fiziksel sağlık, benlik algısı, depresyon ve sosyal ilişkilerin niteliği arasında ilişki olduğunu göstermektedir. Benzer şekilde çeşitli araştırmalar da sosyometrik statü ile depresyon, benlik algısı, sosyal beceriler arasında ilişki olduğunu ortaya koymaktadır. İlgili yazın incelendiğinde, sosyometrik statü ile ilişkili pek çok kavramın yaşam doyumu ile de ilişkili olduğu görülmektedir. Ancak sosyometrik statü ile yaşam doyumu arasındaki ilişkiyi inceleyen herhangi bir araştırma bulgusuna rastlanmamıştır.

*Araştırmanın Amacı:* Bu çalışmada, farklı sosyometrik statülerdeki ilköğretim öğrencilerinin yaşam doyumu düzeyleri arasında anlamlı düzeyde fark olup olmadığı incelenmiştir.

*Yöntem:* Araştırmanın örneklemini, Malatya il merkezindeki 2 farklı ilköğretim okuluna devam eden toplam 421 öğrenci (191 erkek, 230 kız) oluşturmaktadır. Örneklem gurubunu oluşturan öğrencilerin %22'si dördüncü sınıfa, %19.2'si beşinci sınıfa, %20'si altıncı sınıfa, %21.6'sı yedinci sınıfa ve %17.3'ü sekizinci sınıfa devam etmektedir. Seksen bir öğrenci sosyometrik olarak sınıflandırılmadığı için bunlara ait veriler analiz dışı bırakılmıştır.

Öğrencilerin yaşam doyumlarının değerlendirilmesinde Çok Boyutlu Öğrenci Yaşam Doyum Ölçeği-Kısa Formu (ÇBÖYDÖ-K) kullanılmıştır. 6 maddeden oluşan ölçek öğrencilerin hem yaşamın geneline ilişkin hem de aile, arkadaş, okul, benlik ve yaşanılan çevre olmak üzere beş boyutta algılanan yaşam doyum düzeylerini değerlendirmektedir. Alt boyutlardan elde edilen puanların toplanması sonucunda yaşam doyum düzeyi bulunmaktadır.

Sosyometrik verilerin toplanması ve sosyometrik sınıflamanın yapılmasında klasik sosyometrik sınıflama yöntemi kullanılmıştır. Buna göre öğrencilere bir yönerge verilerek sınıflarında en çok sevdikleri ve sevmedikleri üç arkadaşlarının isimlerini yazmaları istenmiştir. Ardından her bir öğrencinin sevilme ve sevilme frekansları sayılmış, bu frekanslar her bir öğrencinin sevilme ve sevilme ham puanları olarak kabul edilmiştir. Bu ham puanlar, her sınıf düzeyinde standart z puanlarına dönüştürülmüş böylece her bir öğrencinin bir standart sevilme (Liking Puanı-L) bir de sevilme (Disliking Puanı -D) puanı elde edilmiştir. Daha sonra sosyometrik statünün kavramsallaştırılmasındaki iki temel boyut olan Sosyal Tercih Edilme (Social Preference-SP) ve Sosyal Etki (Social Impact-SI) puanları hesaplanmıştır. Sosyal tercih edilme puanı  $SP=L-D$ , sosyal etki puanı  $SI=L+D$  formülleriyle hesaplanmıştır. Böylece her bir öğrencinin hangi sosyometrik statüde yer alacağına karar vermede kullanılacak olan dört temel kriter her bir öğrenci için hesaplanmıştır. Bu kriterler: standart sevilme puanı L, standart sevilme puanı D, sosyal

tercih edilme puanı SP ve sosyal etki puanı SI'dır. Bunlara göre; bir öğrencinin hesaplanan bu puanlarından  $SP > 1.0$   $L > O$ .  $D < O$  ise popüler.  $SP < -1.0$   $L < O$ .  $D > O$  ise reddedilen,  $51 < -1.0$ .  $L < O$ .  $0 < 0$  ise ihmal edilen  $SI > 1.0$ .  $L > O$ ,  $D > O$  ihtilaflı-tartışmalı. SP puanı -0.5 ile +0.5 ve SI puanı -0.5 ile +0.5 arasında ise ortalama sosyometrik statü grubuna alınmıştır. Bu sınıflamada hiçbir gruba girmeyen öğrenciler de "Diğerleri" olarak sınıflanmıştır.

*Bulgular:* Sosyometrik sınıflama sonucunda araştırmaya katılan 340 öğrenciden 89'u popüler, 81'i reddedilen, 89'u ihmal edilen, 32'si ihtilaflı ve 40'u da ortalama sosyometrik statüde yer almıştır. Ardından, popüler, reddedilen, ihmal edilen, ihtilaflı ve ortalama sosyometrik statüdeki öğrencilerin ÇBÖYDÖ-K'dan aldıkları puanların ortalamaları hesaplanmış ve gruplar arasındaki farkın anlamlı olup olmadığı tek yönlü varyans analizi ile test edilmiştir. Elde edilen bulgular, farklı sosyometrik statülerdeki öğrencilerin genel olarak yaşam doyumu düzeyleri arasındaki farkın anlamlı olduğunu göstermektedir. Buna göre; popüler öğrencilerin yaşam doyumları reddedilen ve ihmal edilen öğrencilerden anlamlı düzeyde yüksek olarak bulunmuştur.

Araştırmada sosyometrik statüye göre yaşam doyumu alt boyutlarında anlamlı düzeyde farklılık olup olmadığı da incelenmiştir. Buna göre; popüler öğrencilerin aile yaşamından elde ettikleri doyumun ihmal edilen öğrencilerden, arkadaş ilişkilerinden elde ettikleri doyumun ise reddedilen ve ihmal edilen öğrencilerden daha yüksek olduğu görülmüştür. Bunun yanında reddedilen öğrencilerin arkadaş ilişkilerinden elde ettikleri doyumun ihtilaflı öğrencilerden daha düşük olduğu gözlenmiştir.

*Sonuç ve Öneriler:* Sosyal ilişkiler, özellikle akran ilişkileri çocukların sosyal gelişimlerinin yanı sıra psikolojik, duygusal ve bilişsel gelişimleri açısından da oldukça önemlidir. Araştırma sonucunda elde edilen bulgularda popüler çocukların popüler olmayanlara göre yaşam doyum düzeylerinin daha yüksek olduğunu göstermektedir. Ayrıca popüler çocukların arkadaşlık ilişkilerinden elde ettikleri doyumunda reddedilen çocuklardan daha yüksek olduğu görülmektedir. Diğer yandan reddedilen statüdeki çocuklar, yaşamı ilerleyen yıllarında karşılaşılabilecek sorunlar açısından da bir risk grubu olarak kabul edilmektedir. Bu nedenle okul öncesi dönemden başlayarak okullarda bu çocukların sosyal becerilerini, iletişim becerilerini ve arkadaşlık becerilerini geliştirecek etkinliklere yer verilmesinin yararlı olacağı düşünülmektedir. Yapılan çalışmalar, arkadaşlık becerilerini geliştirmeye dönük grup rehberliği programına katılan öğrencilerin akranları tarafından kabul edilme düzeylerini yükseldiği ve sosyometrik statülerinin olumlu yönde değiştiğini ortaya koymaktadır.

*Anahtar Sözcükler:* Akran ilişkileri, sosyometrik statü, yaşam doyumu.

## Turkish Elementary School Students' Images of Scientists

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### Suggested Citation:

Kaya, O. N., Doğan, A. & Öcal, E. (2008). Turkish elementary school students' images of scientists. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 32, 83-100.

### Abstract

*Problem Statement:* Since 1957 there has been a growing body of research related to how students perceive scientists. Results of these studies show that many students perceive scientists as an old male with eyeglasses, wearing a lab coat, and performing dangerous laboratory experiments. This kind of perception may negatively affect students' understanding of science, their tendency of having a science-related career and becoming a scientist. Students' understanding of how scientific knowledge is constructed and their concepts of nature of science have just been added to the major goals of science and technology education in the last elementary education reform carried out in Turkey. Accordingly, Turkish elementary school students (K-8) first need to have an accurate image of scientists in order to achieve these new educational goals.

*Purpose of Study:* The aim of this study was to determine Turkish middle grade students' images of scientists and how students' perceptions differed with respect to the grade levels.

*Methods:* This research was a qualitative study. The population of the study was 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students in Ankara in the 2005-2006 academic year. The sample for this study consisted of 304 students who were randomly selected from four public schools. As a data collection tool, the Draw-a-Scientist Test (DAST) was used.

*Findings and Results:* Analyses of the students' drawings indicated that most of the students had a stereotypical male scientist image with eyeglasses, wearing lab coats: individuals who work in laboratories. This image of the scientist was parallel to the students' stereotypical images of scientists in the previous studies. However, there was a noticeable difference between the results of this study and the earlier studies, including some students' drawing scientists with smiling faces, wearing ties, and working in gardens. The results of the study also revealed that there were some differences in regard to the grade levels. The reasons for

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the students' images, which are incorrect or incomplete in many respects, may be that they are getting wrong information through the mass media, particularly from TV programs, and missing the explicit educational goals focusing on developing students' images of scientists in Turkish science curriculum, and of the needed teaching-learning environment.

*Recommendations:* Reasons for students' images of scientists should be investigated. Also, there is a need to carry out studies to help elementary school students develop an accurate image of scientists involving science and technology education.

*Keywords:* Scientist, students' images of scientists, elementary school students, elementary science education.

Students' images of scientists have been investigated for approximately half a century. The results of these studies differ according to students' education level, gender, ethnicity, and nationality (Finson, 2002). In literature, the first stereotypical images of scientists were high school students' scientist model who wears a lab coat and eyeglasses, performs dangerous experiments in the laboratory, and is either a middle aged or old aged man (Mead & Metraux, 1957). A variety of techniques (e.g., open-ended and Likert type questionnaires, interviews, and drawings) have been used to identify how students perceive scientists. However, researchers typically used Draw-a-Scientist-Test (DAST), which was developed by Chambers (1983). DAST is a kind of drawing test which does not require any written answer. Chambers (1983) administered DAST to elementary students in grades K-5 who had difficulties expressing their ideas in writing, and obtained detailed information with the DAST. In Chambers' research (1983), seven details related to the perceptions students have of scientists included the following: lab coat, eyeglasses, strange hair, research symbols (e.g., scientific tools and laboratory equipment), information symbols (e.g., essential books and file cupboard), technology (technology products), and suitable headlines and writings (e.g., science topics and formulas). Furthermore, warnings, legendary models, and gender awareness were determined (Chambers, 1983).

Since then, a number of studies that employed DAST were used in order to explore students' images of scientists, and showed that students perceived scientists as an aged man who performs experiments with dangerous chemicals, wears eyeglasses, has a long beard and looks tired (Barman, 1999; Chambers, 1983; Finson, Beaver & Cramond, 1995; Fort & Varney, 1989; Hsiao-Ching, 1995; Schibeci & Sorensen, 1983; Yvonne, 2002). For example, Hsiao-Ching (1995) explored elementary and middle school students' images of scientists, including how those images may be influenced by science textbooks. DAST was administered to a total of 289 students from grades 1, 3, 5, and 8. The results of this study indicated that most of the students' drawings included typical indicators such as lab coats, eyeglasses, facial features, research and knowledge symbols, and relevant captions. It was also found that science textbooks had some degree of influence on students' perceptions. Barman (1999) investigated 1,504 elementary and middle school students' views about scientists using DAST. Findings of this study showed that students depicted most of the scientists as white males with lab coats, eye glasses, facial hair, research symbols and performing dangerous experiments in laboratory. Yvonne (2002), who investi-

gated 675 Chinese students' images of scientists, found that the students developed a more stereotypical image of a scientist with age and that the scientists drawn were predominantly male and wearing laboratory coats and eyeglasses. Finson (2002) has reviewed the literature regarding students' perceptions of scientists and presented that students' stereotypical images of scientists have been persistent and pervasive across grade levels, gender, racial groups, and national borders.

Since the 1950s, studies related to students' perceptions of scientists have indicated that many students have gender-stereotyped perceptions of scientists in favor of male scientists. For example, Mead and Metraux (1957) discovered that when asked to write essays about scientists, both male and female students mostly described male scientists. Later research in the 1980s and 1990s has also revealed that one of the constant characteristics determined by the DAST is gender. In Chambers' study (1983) of 4,807 students from kindergarten to grade five, only 28 girls drew female scientists. Fort and Varney (1989) obtained drawings from 1,600 students from grades 2 to 12. They found that only 165 drawings were female scientists although 60% of their sample was female students. In recent years, studies conducted all over the world have indicated that gender-stereotyped perceptions of scientists favoring male scientists are common, not only in the United States, but also in many regions of the world. For example, in Newton and Newton's study (1998) of students ages 4 to 11 in England, an increased tendency was found among both boys and girls to draw pictures of male scientists rather than female scientists. Song and Kim (1999) revealed that 74% of 1,137 Korean students, ages 11 to 15 years old, described a male scientist and only 16% described a female scientist. Dickson, Saylor, and Finch (1990) claim that people usually draw an image of their same sex when they are asked to draw a person. This obviously is not correct when students are asked to draw scientists.

Possessing an accurate view of scientists for elementary school students may affect their willingness to become scientists and increase their interest in science-related careers (Finson, 2003, Finson et al., 1995). Accordingly, having a correct image of scientists for students should be important to educators if they are to effectively and positively impact students through instruction. In science classrooms, there are many possible ways to lead students to believe that science means problems, difficulty, big words, and giving only right answers (Mason et al., 1991), and so a successful scientist must be a genius, enjoy working alone, and have a limited social life (Yager & Yager, 1985). If those images do not fit with the students' desires for the future, they may not pursue a scientific career (Mason, et al., 1991). Accordingly, there is an urgent need to revise or change current science education programs, including instructional materials. One of the major goals in new science curricula should guide students to think, understand, and behave like a scientist.

Science as a separate school subject in the Turkish Education System is taught starting from grade 4 (age 10/11) with introductions to physics, chemistry, and biology concepts. Formal science concepts such as the atom, heat, and cells are taught at age 13-14 (grades 6, 7, and 8). It may be claimed that Turkish students' perceptions of scientists begin taking shape in those grades. In fact, as a result of the latest science education reform, Turkish science curriculum has recently included many examples of how, why, and what scientists do. In this reform, the Science-Technology-Society-Environment approach and



constructivist teaching are the most important ingredients in the preparation of K-8 science students in Turkey. This recent education reform particularly aimed at Turkish students learning how scientific knowledge is constructed, values related to the core of science, and concepts of nature of science (Turkish Ministry of National Education, 2005). In order to meet these new educational goals and subsequently improve students' attitudes toward becoming scientists and pursuing science-related careers, students should primarily have a positive perception of scientists and develop this image properly. Although students' views of scientists have been investigated in many countries since the 1950s, there has been no research about Turkish students' images of scientists. The purpose of this study was to determine Turkish elementary school students' images of scientists (grades 6 - 8) and how these students' perceptions differed with respect to grade levels.

## Method

### *Research Design*

The current research is a descriptive qualitative study that is defined as an inquiry process of understanding a social or human problem, and based on building a complex, holistic picture, formed with words, and reporting detailed views of informants (Cressweell, 1994, 1998).

### *Participants*

The population of the study was 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students in Ankara during the 2005-2006 academic year. For the current study, four districts in Ankara were first determined, and schools in these districts were labeled as high, average, and low in terms of students' academic achievement and socio-economic levels. In order to have a reasonable sample size drawn from a variety of classrooms, one school each from high and low levels and two schools from an average level were randomly selected. The sample of this study consisted of 304 students who were randomly selected from four public schools and included 95 students (31.25%) from 6<sup>th</sup> grade, 107 students (35.20%) from 7<sup>th</sup> grade, and 102 students (33.55%) from 8<sup>th</sup> grade. There were 50 girls and 45 boys in 6<sup>th</sup> grade, 52 girls and 55 boys in 7<sup>th</sup> grade, and 48 girls and 54 boys in 8<sup>th</sup> grade.

### *Research Instrument*

In the current study, Draw-a-scientist-test (DAST) was used to explore students' images of scientists, which was originally developed by Chambers (1983). In DAST, students simply draw their perceptions of a scientist on a page. Then, students' drawings are analyzed according to a control list. In order to analyze DAST, the Draw a Scientist Test control or assessment list (DAST-C), which consists of both main and sub-criteria, is generally used. In the current study, the control criteria were external properties (lab coat, eyeglasses, bald, beard, mustache, tie), scientific equipment (scientific symbols - book, cupboard, chemicals, pencil, test tubes etc. -, technology - mobile phone, computer, television etc... -, scientific headlines (light, electricity, Einstein, force etc...), and scientific signs (warnings, lights, and privacy signs). The context included the scientist standing in a laboratory, house, or garden, and the gender of the scientist (male and female) as well as the facial expression of the scientist (happy, sad, angry, thoughtful and crazy) was

represented. Each student completed his or her drawing in approximately 25 minutes. Some students clarified their drawings with short sentences and explanations.

### Data Analysis

DAST results were analyzed according to the control list. For example, each student's drawing was first analyzed according to whether or not the student drew the first sub criterion of external property, which is a lab coat, in his or her drawing. In addition to this, indicators which existed in student's drawings but not in the control list were checked. For example, in the control list the external property and context criteria did not have 'tie' and the 'garden' sub criteria, respectively. However, these extra sub-criteria were added to analyses of the students' drawings. In order to sustain the reliability of data analyses, 75 students' randomly selected drawings were analyzed by an external evaluator who was not part of the research team. The correlation of inter-rater reliability was found at 0.91. The Statistical Package for Social Science 14.0 (SPSS) computer software was used for the descriptive statistical analyses. It should be noted that some students' drawings included more than one element in each main criterion.

## Results

First, general results of students' drawings based on the main criteria are shown in Table 1. Most of the students' drawings included at least one element from the criteria, which are external properties, scientific equipment, gender, and facial expressions. On the other hand, few students drew a scientist with scientific signs and the context in which scientists are found. For example, 262 students did not use any sign (light, privacy, and warning signs), and 135 students did not draw the context. Moreover, it was revealed that 79 students did not draw any scientific equipment in their drawings.

**Table 1**

*General Results of Student Drawings of Scientists for the Main Criteria*

Grade Level	External Properties	Scientific Equipment	Signs	Context	Gender	Facial Expression
<b>6<sup>th</sup> Grade</b>						
Valid	82 (86.3%)	68 (71.5%)	13 (13.7%)	50 (52.6%)	88 (92.6%)	92 (96.8%)
*Invalid	13 (13.7%)	27 (28.5%)	82 (86.3%)	45 (47.4%)	7 (7.4%)	3 (3.2%)
<b>7<sup>th</sup> Grade</b>						
Valid	90 (84.1%)	74 (69.1%)	13 (12.1%)	58 (54.2%)	95 (88.8%)	106 (99.0%)
*Invalid	17 (15.9%)	33 (30.9%)	94 (87.9%)	49 (45.8%)	12 (11.2%)	1 (1.0%)
<b>8<sup>th</sup> Grade</b>						
Valid	96 (94.1)	83 (81.4%)	16 (15.7%)	61 (59.8%)	95 (93.1%)	98 (96.0%)
*Invalid	6 (5.9%)	19 (18.6%)	86 (84.3%)	41 (40.2%)	7 (6.9%)	4 (4.0%)

\*'Invalid' means the drawing does not include the related criterion.

The results of analyses of student drawings related to the criterion of external properties of scientists are represented in Table 2. Regardless of the students' grade levels, 41.8% of the students imagined a scientist who wears a lab coat, 30.9% of them drew a scientist with eyeglasses, and 6.6% of them used a tie in their drawings. Moreover, 19.7% of the students drew a bald scientist, 11.5% of them drew a scientist who had a beard, and 5.6% of the students drew a scientist with a mustache. Drawings of 36 students (11.8%) did not have any elements from the external properties. With respect to the grade level, generally, the drawings of 6<sup>th</sup> and 7<sup>th</sup> grade students included less elements when compared to 8<sup>th</sup> grade students' drawings. For example, although 48% of the 8<sup>th</sup> grade students drew a scientist with a lab coat, this percentage was 38.9 % for 6<sup>th</sup> grade and 38.3 % for 7<sup>th</sup> grade students. On the other hand, the drawings of 6<sup>th</sup> and 7<sup>th</sup> grade students included more related elements compared to 8<sup>th</sup> grade students in terms of the last 3 sub-criteria. The results of the analyses indicated that particularly 6<sup>th</sup> grade students imagined a scientist who was bald, had mustache, and worn a tie. Furthermore, it was found that 35 students drew a scientist who was very tired with white hair since they thought that scientists had to work hard. Figure 1 represents some students' drawings in relation to the criterion of the external properties of a scientist.

**Table 2**

*Results of Student Drawings of Scientists: The Criterion of External Properties*

Grade Level	External Properties						No External Properties
	Lab Coat	Eyeglasses	Bald	Beard	Mustache	Tie	
6 <sup>th</sup> Grade	37(38.9%)	29(30.5%)	21(22.1%)	11(11.6%)	7(7.4%)	9(9.5%)	13(13.7%)
7 <sup>th</sup> Grade	41(38.3%)	32(9.9%)	18(16.8%)	19(17.7%)	6(5.6%)	6(5.6%)	17(15.9%)
8 <sup>th</sup> Grade	49(48.0%)	33(32.3%)	21(20.6%)	5(4.9%)	4(3.9%)	5(4.9%)	6(5.9%)
Total	127(41.8%)	94(30.9%)	60(19.7%)	35(11.5%)	17(5.6%)	20(6.6%)	36(11.8%)

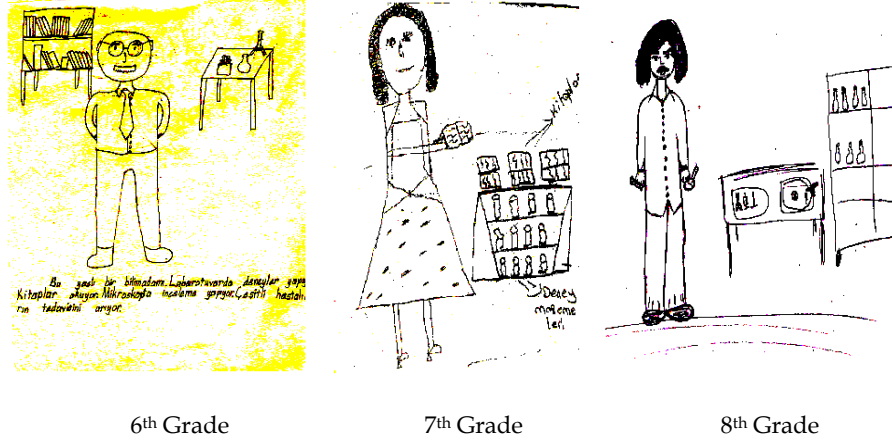


Figure 1. Students' drawings related to the criterion of external properties of a scientist

Results of analyses of the student drawings with respect to the scientific equipment are given in Table 3. It was revealed that 225 (74%) students used scientific equipment in their drawings, including scientific symbols (e.g., test tube, beaker, table, cupboard, chemicals, and other laboratory tools), technological equipment (e.g., computer and cell phone), scientific headlines (names of the renowned scientists- Einstein and Ahmet Mete Işıkara-, science and mathematics headlines- earthquake, electricity-, and mathematical formulas). In detail, 115 (37.8%) students drew scientific symbols, 53 (17.4%) students used technological equipment, and 86 (28.3%) students used some scientific headlines in their drawings. It should be noted that more than one element in this criterion was observed in some students' drawings. Results also indicated that 79 (26%) students did not draw any scientific equipment in their drawings. According to the students' grade levels, it was found that mostly 6<sup>th</sup> (28.5%) and 7<sup>th</sup> grade (30.9%) students' drawings did not include any scientific equipment. On the other hand, this percentage decreased to 18.7% for the 8<sup>th</sup> grade students. It was understood that 8<sup>th</sup> grade students drew especially scientific symbols and headlines in their drawings. Figure 2 presents some students' drawings, including the scientific equipment that scientists use.

Table 3

Results of Student Drawings of Scientists: The Criterion of Scientific Equipment

Grade Level	Scientific Equipment			No Scientific Equipment
	Scientific Symbols	Technology	Scientific Headlines	
6 <sup>th</sup> Grade	36 (37.9%)	19 (20.0%)	22 (23.1%)	27 (28.5%)
7 <sup>th</sup> Grade	38 (35.5%)	18 (16.8%)	28 (26.2%)	33 (30.9%)
8 <sup>th</sup> Grade	41 (40.2%)	16 (15.7%)	36 (35.3%)	19 (18.7%)
Total	115 (37.8%)	53 (17.4%)	86 (28.3%)	79 (26.0%)



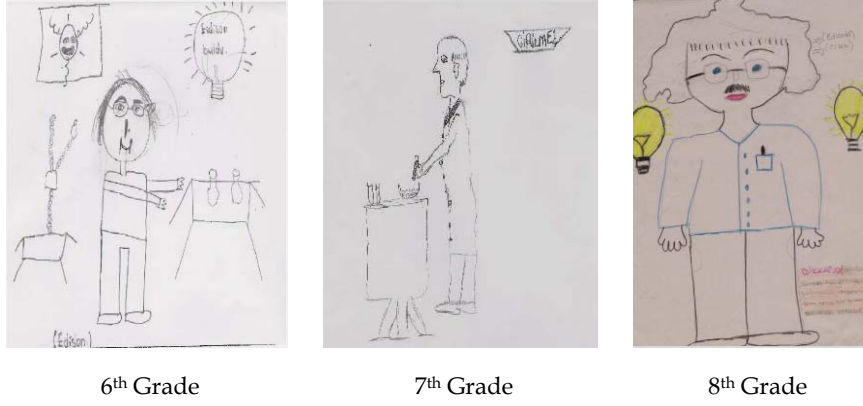
Figure 2. Students' drawings related to the criterion of scientific equipment

Results of analyses of the student drawings connecting signs and symbols related to scientists are represented in Table 4. Compared to other main criteria, it was observed that most of the students (86.2%) did not draw warnings and privacy signs in their pictures. Forty-two students drew privacy and warning signs or light bulbs. Some of those students' drawings included more than one of the above elements. In detail, 13 students drew privacy signs, 12 students drew warning signs, and 35 students drew light bulbs. The results revealed that 58.3 % of the students, who drew various signs, used lights in their drawings. In this criterion, there was not a noticeable difference in the students' drawings in terms of the grade levels. Figure 3 shows some students' drawings which reflect signs and symbols used by scientists.

**Table 4**

*Results of Student Drawings related to the Criterion of Signs and Symbols*

Grade Level	Signs and Symbols			No Sign and Symbol
	Privacy	Warnings	Lights	
6 <sup>th</sup> Grade	4 (4.2%)	5 (5.3%)	9 (9.5%)	82 (86.4%)
7 <sup>th</sup> Grade	5 (4.7%)	3 (2.8%)	11 (10.3%)	94 (87.9%)
8 <sup>th</sup> Grade	4 (3.9%)	4 (3.9%)	15 (14.7%)	86 (84.4%)
Total	13 (4.3%)	12 (3.9%)	35 (11.5%)	262 (86.2%)



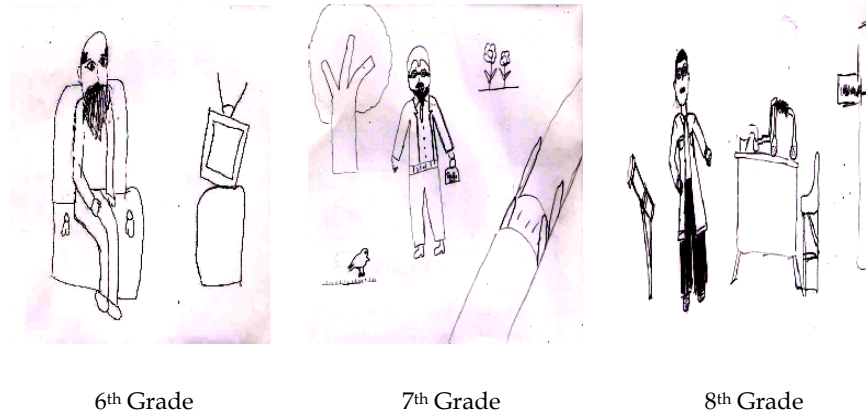
**Figure 3.** Students' drawings which reflect signs and symbols of scientists

In terms of the context which scientists are in, the results of analyses of the student drawings are shown in Table 5. 146 (48%) students drew a scientist in a laboratory, 10 (3.3%) students drew a scientist in a house, and 13 (4.3%) of them drew a scientist in a garden. Further results revealed that 8<sup>th</sup> grade students used the laboratory as a context slightly more than 6<sup>th</sup> and 7<sup>th</sup> grade students did. 135 (44.4%) students' drawings did not indicate any context. In this main criterion there was not a strong difference in students' drawings in terms of their grade level. Examples of student drawings related to the context of a scientist are presented in Figure 4.

**Table 5**

*Results of Student Drawings of Scientists: The Criterion of Context*

Grade Level	Context			No context
	Laboratory	House	Garden	
6 <sup>th</sup> Grade	44 (46.3%)	3 (3.1%)	3 (3.1%)	45 (47.5%)
7 <sup>th</sup> Grade	49 (45.8%)	4 (3.7%)	5 (4.7%)	49 (45.8%)
8 <sup>th</sup> Grade	53 (52.0%)	3 (2.9%)	5 (4.9%)	41 (40.2%)
Total	146 (48.0%)	10 (3.3%)	13 (4.3%)	135 (44.4%)



*Figure 4.* Students' drawings related to the context where a scientist is in

Figure 5 shows the results of analyses of the students' drawings related to the gender of scientists. It was determined that out of 304 students 237 (78%) students drew a male scientist, while 41 (13.5%) students drew a female scientist in their drawings. The gender of scientists in 26 (8.5%) students' drawings was not clear. The results revealed that 6<sup>th</sup> grade (15.8%) and 8<sup>th</sup> grade (15.7%) students drew female scientists more often than 7<sup>th</sup> grade students (9.3%) did. Although 6<sup>th</sup> grade students drew a male scientist less often than 7<sup>th</sup> and 8<sup>th</sup> grade students, this difference was not large. Furthermore, according to the student drawings in which the gender is uncertain, most of these students were from 7<sup>th</sup> grade rather than 6<sup>th</sup> and 8<sup>th</sup> grades. In detail, the results showed that in 6<sup>th</sup> grade, 13 out of 15 female students drew a female scientist, and in 7<sup>th</sup> grade, 7 out of 10 female students drew a female scientist. In 8<sup>th</sup> grade, 15 of 16 students who drew a female scientist were also female. Students' drawings related to this criterion are illustrated in Figures 1, 2, 3, 4, and 6.

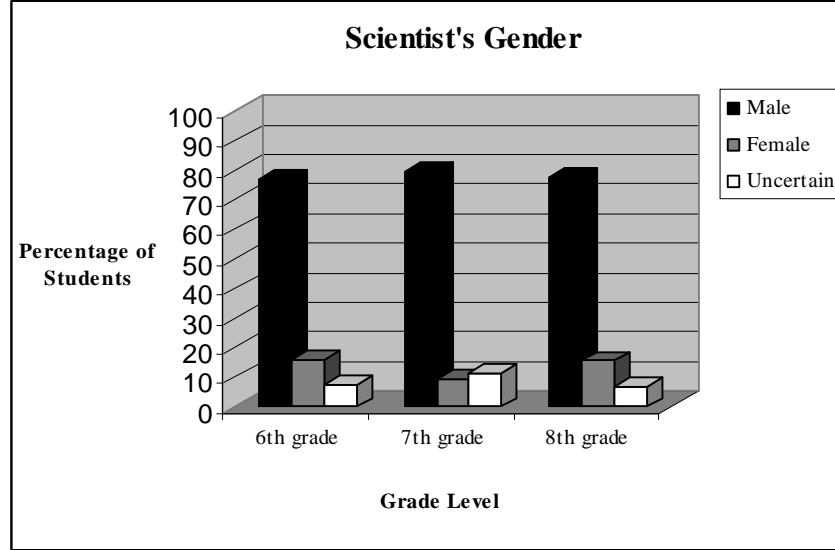


Figure 5. Results of student drawings of scientists: The criterion of gender

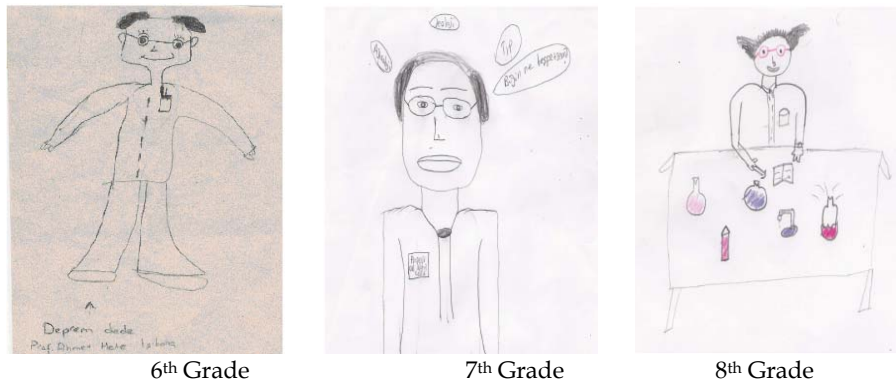
The results of the students' drawings related to a scientist's facial expression are shown in Table 6. 139(45.7%) students drew a scientist with a happy face; however, 60 (19.7%) students drew a sad scientist. Twenty-five (8.2%) students drew an angry scientist, 55 (18%) students drew a scientist with a thoughtful face, and 17 (5.6%) students drew a crazy facial expression in their drawings. In terms of the grade level, it was revealed that 8<sup>th</sup> grade students drew a scientist whose facial expression is more unhappy and angry than 6<sup>th</sup> and 7<sup>th</sup> grade students did. Furthermore, it was found that a scientist with a thoughtful face was drawn more by the 7<sup>th</sup> grade students, and a scientist with a crazy face was drawn more by the 6<sup>th</sup> grade students. Drawings of 8 students could not be understood in terms of the scientist's facial expression. Some students' drawings related to the scientist's facial expression are given in Figure 6.

**Table 6**

*Results of Student Drawings of Scientists: The Criterion of Facial Expression*

Grade Level	Scientist's Facial Expression					Uncertain
	Happy	Sad	Angry	Thoughtful	Crazy	
6 <sup>th</sup> Grade	46 (48.4%)	14(14.7%)	7(7.4%)	17(17.9%)	8(8.4%)	3(3.2%)
7 <sup>th</sup> Grade	52(48.6%)	20(18.7%)	8(7.5%)	23(21.5%)	3(2.8%)	1(0.9%)
8 <sup>th</sup> Grade	41(40.2%)	26(25.5%)	10(9.8%)	15(14.7%)	6(5.9%)	4(3.9%)
Total	139(45.7%)	60(19.7%)	25(8.2%)	55(18.0%)	17(5.6%)	8(2.8%)





**Figure 6.** Students' drawings related to a scientist's facial expression

### Summary and Conclusions

There is a need to understand the community who constructs scientific knowledge to better understand science and the nature of scientific knowledge (Driver, Leach, Millar, & Scott, 1996; Finson, 2002). It is obviously impossible to describe a scientist in one definition. However, it is not accurate to only imagine a male scientist who excludes himself or herself from society, continuously performs experiments in a laboratory, and with an unhappy and angry facial expression. It should be noted that the number of female scientists who participate in scientific research have been increasing in recent years. It is clear that the incorrect or incomplete perceptions students have of scientists negatively influence their attitudes towards science, becoming a scientist, and their interest in a science-related career. Additionally, the results of previous studies showed that many students had a narrow view of how scientists work and saw scientists as individuals who work alone in a laboratory. The purpose of the current study was to explore Turkish elementary school students' images of scientists (grades 6-8). The results indicated that many students imagined a male scientist wearing a laboratory coat and eyeglasses, generally working in laboratory. The findings of this study are parallel to those of the previous studies reporting that many students have a stereotypical image of scientists. For instance, when the 304 drawings were analyzed, it was uncovered that 127 students drew a scientist with a lab coat, 94 students drew a scientist with eyeglasses, and 60 of them drew a bald scientist. The possible reasons for these results may be because scientists wear lab coats when they perform an experiment or it may be the impact of the mass media and textbooks that presents scientists in this fashion. In addition, many students thought that scientists had to read and study too much, which is why they drew a tired scientist with eyeglasses. In many of those pictures the scientists were also drawn looking at many books in a cupboard. Even some students clarified their drawings with several sentences such as "all the books are read by the scientist."

The results of the criterion of scientific equipment showed that 115 students used scientific symbols, 53 students used technological symbols, and 86 students used scientific headlines in their drawings. Accordingly, it may be claimed that the students' images of scientists are developed from the science and mathematics courses in which they learned that scientists developed these symbols and formulas. Students may combine the technological products with science, and then compose a model in their minds. The criterion of signs and symbols used by scientists indicated that only 60 students used warnings, lights, or privacy signs in their drawings. Most of these students drew lights in their pictures. The reasons why the students combine the light theme with scientists may be the elementary science curriculum including units of electricity and light, and the pictures of the scientists that students saw in the mass media. In fact, in many print resources (e.g., newspapers and magazines), cartoons, and TV shows it is common to see a bulb appearing over a scientist's head representing an idea suddenly coming to the scientist's mind. This may explain why the percentage of light signs in students' drawings is higher than other signs.

When the drawings were analyzed in respect to context of scientists, most of the students (48%) drew a scientist in a laboratory. On the other hand, 44% of the drawings (N=135), did not represent the scientists in any particular context. This percentage shows that students do not pay attention to the social environment in which a scientist lives or works, except for the laboratory. The first reason why students use a laboratory context may be that scientific knowledge, which students learn in their science courses, is especially acquired from laboratory experiments. Many students perceive that scientists spend all of their lives doing research in a laboratory without participating in everyday life activities such as going to the cinema, concerts, and theaters, listening to music, playing sports, and other types of family entertainment. Accordingly, it may be thought that those students have an empiricist view of science. Second, it may be that mass media, in particular TV programs, report new scientific findings with video and photographs of scientists studying in a laboratory. For example, Schibeci and Sorensen (1983) concluded that the media, primarily television, contributed significantly to the reinforcement of students' stereotypical images of scientists. Although experimentation is a useful tool in science, it is not the sole way scientists work. Scientific knowledge is gained in a variety of ways, including observations, analysis, speculation, library investigations, and experimentation (McComas, 1996). Thus, students should develop a more accurate view of the context in which scientists work.

According to the gender criterion of scientists, most of the students (78%) drew a male scientist. The percentage of the drawings including a female scientist was 13.5%. Furthermore, most of the students who drew a female scientist were female, which shows that boys did not see girls as possible scientists. The reason for this finding might be that scientific knowledge learned in elementary grades is predominantly constructed of male scientists such as Mendel, Einstein, Dalton, Newton, and Edison. The mass media may be also a reason scientists were drawn predominantly male; today scientific information is generally publicly declared by a male or group of male scientists.

When the criterion of the scientist's facial expression was examined, almost half of the students (45.7%) drew a scientist with a happy face. This finding is not compatible with the results of previous studies indicating that Turkish elementary students perceived scientists as happier people than their peers in other countries did. The low percentage of angry and thoughtful expressions should garner attention because this result is not parallel to the results of the earlier studies. For instance, only 18% of the students drew a thoughtful scientist. The reason for this unfavorable facial expression might be that students believe scientists always perform experiments in the laboratory, read books, and isolate themselves from society.

It was also revealed that students' images of scientists change as their grade level changes. For example, it was found that 8<sup>th</sup> grade students often drew a scientist who wears a lab coat in a laboratory, and their drawings included more scientific symbols, headlines, and lights compared to the drawings of 6<sup>th</sup> and 7<sup>th</sup> grade students. In comparison to the 8<sup>th</sup> grade students, 6<sup>th</sup> and 7<sup>th</sup> grade students drew less scientific equipment in their drawings. Furthermore, it was uncovered that 6<sup>th</sup> and 8<sup>th</sup> grade students had more tendency to draw a female scientist, while the unclearly gendered pictures were drawn more by 7<sup>th</sup> grade students. Although 7<sup>th</sup> grade students often drew a thoughtful scientist, 6<sup>th</sup> grade students drew more scientists with crazy facial expressions. Unhappy facial expressions were drawn more often by 8<sup>th</sup> grade students. From these results, it might be concluded that as the age of students' increase the stereotypical image of scientists change, because the drawings of students in 6<sup>th</sup> and 7<sup>th</sup> grade were generally similar, while 8<sup>th</sup> grade students drew scientists with more indicators of the stereotypical scientific image. It may be thought that students' stereotypical images of scientists become more permanent and complex while they engage more in school science. This finding is compatible with the results of the earlier studies, although there are a few studies in the literature investigating the relationship between students' grade level and stereotypical images or indicators in their drawings. For example, the results of Hsiao-Ching's study (1995) indicated that upper-grade students drew more indicators (e.g., lab coats, eyeglasses, and facial features) than did lower-grade students. Barman (1999) found that the students in grades K-2 more often drew female scientists than the students in grades 3-5 and 6-8. Chambers (1983) also found was a positive correlation between students' age and the indicators in their drawings. However, regardless of the grade levels of the students in this study, it can be said that most of them had a stereotypical image of scientists that may hinder science learning in their future education.

### **Implications**

This study presents a significant contribution to the literature because it shows how Turkish elementary school students (grades 6-8) perceive scientists. The elementary grades more than any educational level play an important role in developing students' images of scientists and subsequently their views of science, for they first encounter formal science learning in those grades. Promoting students' images of scientists in a positive manner should be one of the major goals of the

Turkish elementary science curriculum, and elementary school teachers should pay more attention to developing their students' perceptions of scientists through appropriate learning environments. The first step for the teachers should be determining their students' images of scientists with an instrument such as DAST, and then the second step should be re-organizing the science courses, including modifying the teaching approach, revising the textbooks, arranging field trips to see how scientific knowledge is constructed in other settings, and inviting both male and female scientists to the schools. Such learning environments should be supported by the argumentative discourse activities focusing on students' stereotypical images or indicators. It should also be noted that students' stereotypical images of scientists are challenged, so science teachers should help students learn how, why, and what scientists do. Of course, students' images of scientists at these ages may be influenced from the mass media, particularly TV programs, since many cartoons and TV shows introduce stereotypical images of scientists. Accordingly, the programmers or producers of those TV shows, cartoons, and other sources also need to consider the results of this study. Overall, this study has implications for schools, parents, and the community. Principals, teachers, parents, and the whole community should recognize that students are coming to school with different pre-conceptions, bias, socio-economic levels, and science-related experiences. Regarding these variables, they should help students create a less stereotypical image of scientists if we want them to be more interested in science and science-related careers. In brief, we need to show students that science is a part of our everyday lives, a subject that everyone can be actively involved in, and that scientists are really like regular people. Further research should investigate what factors affect students' images of scientists through a multiple source of data collection tools such as DAST, interviews, and open-ended and Likert questionnaires. Moreover, in order to lead students to build an appropriate image of scientists, there is a need to conduct experimental studies in science and technology lessons.

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## Türk İlköđretim Öđrencilerinin Bilim İnsanı İmajı (Özet)

*Problem Durumu:* 1957 yılından beri öđrencilerin bilim insanlarını nasıl algıladıkları ile ilgili gittikçe artan sayıda arařtırmalar yapılmaktadır. Bu arařtırmaların sonuçları, birçok öđrencinin bilim insanı imajının laboratuvar önlüğü giyen, gözlük takan, tehlikeli deneyler yapan, orta yařlı ya da yařlı bir erkek olduđunu göstermiřtir. Böyle bir düşünce, öđrencilerin bilimi anlamalarını, bilimsel alanlarda kariyer yapma ve bilim insanı olma eğilimlerini olumsuz yönde etkileyebilmektedir. Ülkemizde yapılan son ilköđretim reformu kapsamında, fen ve teknoloji dersinin ana amaçlarına öđrencilerin bilimsel bilginin nasıl üretildiđi, bilimin özünü oluřturan deđerleri ve bilimin doğasıyla ilgili kavramları öğrenmeleri eklenmiřtir. Öđrencilerin bu yeni kazanımları öğrenebilmeleri için öncelikle; bilimin öznesi konumunda olan bilim insanına iliřkin doğru bir imaja sahip olmaları gerekmektedir.

*Arařtırmanın Amacı:* Bu çalışmanın amacı, ilköđretim 6, 7, ve 8. sınıf öđrencilerinin sahip oldukları bilim insanı imajını ve bu düşüncenin sınıf seviyeleri açısından nasıl farklılařtıđını belirlemektir.

*Arařtırmanın Yöntemi:* Bu çalışma nitel bir arařtırmadır. Arařtırmanın evreni 2005-2006 öđretim yılında Ankara ilinde öğrenim gören ilköđretim 6, 7, ve 8. sınıf öđrencileridir. Çalışmanın örneklemini rasgele seçilen 4 ilköđretim okulundan toplam 304 öđrenci oluřturmaktadır. Veri toplama aracı olarak 'Bir Bilim İnsanı Çiz Testi' kullanılmıřtır. Öđrenci çizimlerinin analiz edilmesinde uluslararası çalışmalardan elde edilmiř ana ve alt ölçütlerin yer aldıđı bir deđerlendirme listesi kullanılmıřtır. Bu deđerlendirme listesindeki öğeler; dıř özellikler (laboratuvar önlüğü, gözlük, kel, sakal, bıyık, kravat), bilimsel araçlar (bilim sembolleri - kitap, dolap, masa, kalem, deney tüpleri... vb, teknoloji - cep telefonu, bilgisayar, televizyon...vb, bilimsel başlıklar - ışık, elektrik, kuvvet, Einstein...vb), bilimsel işaretler (tehlike işareti, gizlilik işareti, ışık lambaları), bilim insanının bulunduđu mekan (laboratuvar, ev, bahçe), bilim insanının cinsiyeti (bay, bayan) ve bilim insanının yüz ifadesi (mutlu, mutsuz, sinirli, düşünceli, çılgın) dir. Her öđrenci çizimini ortalama 25 dakikada tamamlamıřtır. Bazı öđrenciler çizimlerini kısa ibareler ve cümlelerle açıklamıřlardır. Çizim anketi sonuçları, deđerlendirme listesindeki her öğe dikkate alınarak incelenmiřtir. Örneđin, her öđrencinin çiziminde, ilk olarak deđerlendirme listesindeki dıř özellikler alt ölçütünden 'laboratuvar önlüğü' öğesinin bulunup bulunmadıđı kontrol edilmiřtir. Buna ilaveten öđrencilerin çizimlerinde bulunan; fakat kontrol listesinde bulunmayan öğeler de ayrıca deđerlendirilmiřtir. Örneđin, dıř özellikler ölçütüne göre bakıldıđında 'kravat' ve bilim insanının bulunduđu mekan ölçütüne göre bakıldıđında 'bahçe' alt kriterleri kontrol listesinde bulunmayan; fakat deđerlendirilmeye tabi tutulan öğelerdir.

*Bulgular ve Sonuçlar:* Verilerin analizleri, birçok öđrencinin bilim insanı imajının; laboratuvar önlüklü, gözlüklü, erkek ve mutlu bir yüz ifadesiyle genelde laboratuvarda çalışan bir kiři olduđunu göstermiřtir. Örneđin, çalışmaya katılan 304 öđrencinin çizimlerine genel olarak bakıldıđında; bilim insanının 127 öđrenci

tarafından (%41,8) laboratuvar önlüklü, 94 öğrenci tarafından (%30,9) gözlüklü, 60 öğrenci tarafından (%19,7) kel ve 35 öğrenci tarafından (%11,5) sakallı olarak çizildiği belirlenmiştir. Öğrencilerin büyük bir çoğunluğunun (%78) bilim insanını erkek olarak çizdiği gözlemlenmiştir. Bu çalışmada belirlenmiş olan öğrencilerin bilim insanı imajı, yapılmış diğer çalışmalardaki bilim insanı imajıyla benzerlik göstermektedir. Buna karşın, çok sayıda öğrencinin bilim insanını mutlu bir yüz ifadesiyle çizmesi, az sayıda da olsa bilim insanının kravat taktığı ve bulunduğu mekanın bahçe olarak çizilmesi de öğrencilerimizin farklı görüşlere sahip olduğunu ortaya koymuştur. Araştırmanın sonuçları, sınıf seviyeleri arasında çeşitli farklılıkların varlığını da göstermiştir. Örneğin, 8. sınıf öğrencilerinin büyük bir farkla bilim insanını laboratuvar ortamında önlüklü çizdikleri, 6. ve 7. sınıf öğrencilerinin çizimlerinde bilimsel araçlara pek fazla yer vermedikleri ve bilimsel sembollerin, başlıkların ve ışık lambalarının daha çok 8. sınıf öğrencileri tarafından kullanıldığı belirlenmiştir. Ayrıca bayan bilim insanı çizme eğiliminin 6. ve 8. sınıf öğrencilerinde daha fazla olduğu, buna karşın cinsiyetin belirlenemediği çizimlerin daha çok 7. sınıf öğrencileri tarafından çizildiği anlaşılmıştır. 7. sınıf öğrencileri bilim insanını daha fazla düşünceli çizerken, 6. sınıf öğrencileri daha çok çılgın bir yüz ifadesiyle çizmişlerdir. Bilim insanının en fazla mutsuz bir yüzle çizen grupsa 8. sınıflardır. Bu sonuçlardan öğrencilerin yaşlarının arttıkça algılarının değişim gösterdiği düşünülebilir. Öğrencilerimizin birçoğunun doğru olmayan veya bir çok yönüyle eksik olan bir bilim insanı imajına sahip olmasının nedenleri, yazılı ve görsel medya özellikle TV programları yoluyla bilim insanları hakkında yanlış bilgilendirilmesi, ilköğretim fen ve teknoloji programında öğrencilerin bilim insanı imajını geliştirmekle ilgili kazanımların eksikliği veya gerekli eğitim-öğretim ortamının ve bilgi desteğinin yeterince sağlanmaması olabilir.

*Öneriler:* Bilimi ve bilimsel bilginin doğasını anlamının ilk koşullarından biri, bu bilgiyi oluşturan kişilerin doğru bir şekilde anlaşılmasıdır. Öğrencilerin zihinlerinde doğru bir bilim insanı imajı geliştirebilmeleri için, en önemli görev öğretmenlere ve fen ve teknoloji eğitimi programını geliştiren uzmanlara düşmektedir. Öğretmenler öncelikle öğrencilerin var olan ön bilim insanı imajlarını '*Bir Bilim İnsanı Çiz Testi*' gibi bir araçlarla belirlemeli ve ardından bu imajı nasıl olumlu bir şekilde geliştirebilirim sorusuna cevaplar bulmalıdır. Bu amaca yönelik, öğretmenler yeni öğretim etkinlikleri oluşturmalı, fen bilgisi ders kitaplarını gözden geçirmeli, öğrencileriyle beraber bilimsel araştırmaların yapıldığı merkezleri ziyaret etmeli ve bilim insanlarını yaptıkları araştırmaları ve kendilerini tanıtmaları için okullara davet etmelidirler. İlerideki çalışmalarda, öğrencilerin bilim insanı imajlarının nedenleri ve gelişimsel süreci takip edilmelidir. Böylece sınıf seviyeleri arasında meydana gelebilecek farklılıkların nedenleri açığa çıkartılabilir. Buna ilaveten, doğru bir bilim insanı modelinin öğrenciler tarafından geliştirilmesini sağlamak için, fen ve teknoloji dersi kapsamında deneysel araştırmaların yürütülmesine gereksinim vardır.

*Anahtar Sözcükler:* Bilim insanı, ilköğretim fen eğitimi, ilköğretim öğrencileri, ilköğretim öğrencilerinin bilim insanı imajı.

## Sixth-, Seventh, and Eighth-Grade Students' Guidance and Counseling Needs according to Parents' Views

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### Suggested Citation:

Kesici, Ş. (2008). Sixth, seventh and eight grade students' guidance and counseling needs according to parents' views. *Eğitim Araştırmaları-Eurasian Journal of Educational Research*, 32, 101-116.

### Abstract

*Problem Statement:* In order to give a more qualified education to sixth-, seventh-, and eighth-grade students and to develop their life skills, their counseling and guidance needs should be met. In order to do so, an analysis of their guidance and counseling needs is essential. One way to analyze their needs for guidance and counseling is to apply their parents' views because students spend most of their time with their parents, who observe their needs directly.

*Purpose of Study:* The purpose of this study is to analyze guidance and counseling needs of sixth-, seventh-, and eighth-grade students according to their parents' opinions.

*Methods:* This study applied qualitative research techniques. In addition, while collecting data, a semi-structured interview technique was used. Interviews were conducted during the 2006-2007 academic school year with the sixth-, seventh-, and eighth-grade students' parents whose children attended primary school in Selçuklu, a district of Konya in Turkey. The data obtained were coded into Nvivo2.

*Findings:* Sixth-, seventh-, and eighth-grade students need guidance and counseling to find more efficient methods of learning; address their lack of motivation; overcome examination anxiety; address their lack of interest in lessons and lack of attention; help students adapt to school; help them clarify their professional interests; provide them with more information about professions; help them utilize their leisure time in better ways; help them develop social skills and cope with the general problems of adolescence; help them overcome introversion, aggression, and problems with friends; develop skills for communicating with the opposite sex; help them deal with jealousy; enable them to take on responsibilities; show them how to spend time with computers more efficiently; help them cope

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with emotional disorders and obstinacy; and help them deal with authoritarian family attitudes.

*Recommendations:* Individual or group guidance programs related to effective learning, exam anxiety, motivation techniques, adaptation to school, and lack of attention and interest towards lessons should be implemented in order to prepare students thoroughly for courses and lessons. School guidance services and counselors should frequently present introductory information to students about a variety of professions.

*Keywords:* Guidance and Counseling Needs, Middle school, Parent.

If we want education to reach its goals, we should prepare students, especially those in sixth, seventh, and eighth grade, for innovation and change. Because we live in a century in which social structures and personal values are constantly changing, all these changes affect students' expectations for the future. Some of the problems students confront include the following: a rapidly changing business world through globalization of the labor force; violence at home, at school, and in society; divorce; suicide; drug addiction; and stress (Gysbers, 2001; Lapan, Gysbers, & Petroski, 2003). These problems usually affect students' personal, social, career, and academic development (Hiebert, Kemeny, & Kurchak, 1998). Three significant variables have a great effect on students. The first variable is that sixth-grade students transfer from the first stage to middle school at the elementary school. The second variable is that seventh-grade students enter puberty. The third variable is that eighth-grade students transfer from primary school to secondary school. These first two variables are the periods in which sixth, seventh, and eighth graders need GC (guidance and counseling).

Self-concept, self-esteem, and identity development start with the onset of puberty (Akos, 2005; Wigfield, Lutz, & Wagner, 2005). Parents play an important role in these areas of child development. In addition, an individual's self-evaluation and relationship with the social environment are crucial factors in adolescent development. Developmental needs is another variable that can be a clue when assessing the guidance needs of sixth-grade students (age 12), who move from the first to the second level, seventh-grade students (age 13), and eighth-grade students (age 14), who are at puberty (Erkan, 1997; Johnson & Kottman, 1992). The purpose of determining students' guidance and counseling needs is to prepare them for life and entails satisfying their educational, career, personal, and social guidance and counseling needs. Student who have their educational guidance and counseling needs satisfied know efficient study methods and implement them, manage and use their time effectively, know how to learn effectively, become aware of their potential and know how to boost it, know how to get help from their parents about educational matters, and last, adapt well in school (Hauck, 1997; Selçuk & Güner, 2000; Tan, 1996; Telman, 1998; Yeşilyaprak, 2000; Yıldırım, 2006; Yıldırım, Doğanay, & Türkoğlu, 2000). Students whose career guidance and counseling needs are satisfied become aware of their abilities, interests, and career values. They may seek to relate interest areas to specific careers so they can match their skills and interests with occupational necessities. In the end, such individuals should have the ability to

make good career decisions (Kuzgun, 2000, 2003; Ülltanır, 2003). Students whose personal guidance and counseling needs are satisfied can establish harmonious relationships with friends and parents, know themselves better, and improve their problem-solving and communication skills. In addition, they can improve social skills, cope with test anxiety, and make good decisions more easily (Akkök, 1996a, 1996b; Akman, 1992; Austin & Partridge, 1995; Bacanlı, 1999; Bilen, 2004; Kulaksızoğlu, 2003; Ögülmüş, 2001; Özen, 2001a, 2001b; Selçuk & Güner, 2000; Ülltanır, 2003; Yeşilyaprak, 2000).

Interviewing students' parents might help determine the GCN (guidance and counseling needs) of students (Gibson, Mitchell, & Higgins, 1983). In order for students to maximize their educational opportunities, they should be provided with GCN. On the other hand, their parents directly observe the GCN students have.

1. What are the EGCN (educational guidance and counseling needs) of primary students?
2. What are the CGCN (career guidance and counseling needs) of primary students?
3. What are the PGCN (personal/social guidance and counseling needs) of primary students?

## **Method**

### ***Research Approach***

In this study, qualitative research techniques were used. This study has the following features: a) an integrative approach; b) flexibility in the research pattern; c) inductive analysis; d) sensitivity to the natural environment; and e) perception provision with researchers with a participatory role (Yıldırım & Şimşek, 2005). Qualitative research especially emphasizes qualitative technical meanings, definitions, and experiences, wherein most data consist of the words people define and observe (Coolican, 1992).

### ***Study Group***

In this research, purposeful sampling was employed. Qualitative research often makes use of purposeful sampling methods. They enable the researcher to study information-rich cases in depth. The individuals chosen to participate in purposeful sampling are selected according to certain criteria (Yıldırım & Şimşek, 2005). It was announced that a study would be carried out to determine the GCN with the help of parents of sixth-, seventh-, and eighth-grade students via the guidance service of a primary school in Selçuklu, a district of Konya in Turkey, and that volunteer families would be interviewed. The interviews were conducted with families whose children had guidance and counseling needs. Hence, saturated data regarding their GCNs were gained from the children of these families. A total 37 parents attended the interview: 12 parents (9 females and 3 males) of sixth-grade students, 14 parents (5 males and 9 females) of seventh-grade students, and 11 parents (6 females and 5

males) of eighth-grade students. A letter-number system was coded as follows: A (from A1 to A12) for parents who had children in sixth grade, B (from B1 to B14) for parents who had children in seventh grade, and C (from C1 to C11) for parents who had children in eighth grade.

#### *Semi-Structured Interview Technique*

Semi-structured interviews were used to collect data in this research, and literature regarding this type of interview was reviewed. Previous studies done with sixth, seventh, and eighth graders in particular focused on educational, career, and personal/social guidance and counseling (Erkan, 1997). In order to ensure the validity of the semi-structured form, after it was developed it was distributed to five instructors who had completed doctorates in educational science. Based on their comments, a semi-structured application form was prepared. Next, pilot interviews were developed, after which improvements were made. Audio recordings were made during the interviews and then transferred to computers. They were then distributed to the parents in case any parent had something to omit or add. Some of the parents made changes. Because direct quotations from the parents directly affected the validity of the research results, the data were given directly to the participants to ensure their reliability.

#### *Data Collection*

Parents were asked to volunteer to participate in one-on-one interviews. The aim of the research and how the study would be carried out were clearly stated on the semi-structured forms. In addition, it was emphasized that the identities of the participants would remain confidential. Interview sessions lasted from 30 to 45 minutes.

#### *Data Analysis and Interpretation*

The content-analysis technique was used to analyze the collected data. The main purpose of the content analysis technique was to reach concepts and relations that could explain the data. The fundamental characteristic of the content analysis was to collect and organize similar data into a frame of related concepts and themes. For this reason, the collected data first had to be conceptualized and then organized logically in accordance with emerging concepts. Finally, themes explaining the data had to be determined (Erkan, 1997; Kesici, 2007a, 2007b). Words, sentences, and paragraphs were then coded in order to express these concepts clearly. Coding was completed within the boundaries of the researcher's purpose. While coding, researchers used Nvivo2, a qualitative data analysis program. Previously agreed upon themes, such as educational, occupational, personal/social, were used when interpreting the data. Categories were formed around each theme. To render these categories meaningful, percentages were taken. Sample parent opinions were included as examples for each category (see Table 1). In addition, as qualitative research uses percentages for ordering and giving opinions, themes and subdimensions were expressed here in percentages.

## Findings

GCN was analyzed according to the views of parents with children in the sixth, seventh, and eighth grades. Findings were determined according to the aforementioned themes. Then the categories matching these themes were determined. Parents' opinions about GCN are summarized in Table 1.

**Table 1**

*Parents' Views on Guidance and Counseling Needs*

Themes	Categories	Examples of Parents' Opinions
Educational	Effective learning methods	"They don't make proper plans; reading, studying, and reviewing lessons are not implemented" (A6 from sixth grade).
	Lack of motivation	"She sometimes solves multiple-choice questions on my insistence" (C8 from eighth grade).
	Methods to cope with exam anxiety	"She has so much exam anxiety and exam anxiety reflects to us" (C8 from eighth grade).
	Lack of interest in lessons	"He simply doesn't go in his room and study; he just wants to watch TV and nothing else" (B9 from seventh grade).
	Lack of attention	"He can't concentrate. While the teacher is giving a lesson, he thinks about something else. He doesn't listen to her" (C10 from eighth grade).
Career	Adaptation to school	"We moved her to another school last year. Until she got accustomed to her new friends at school, for example, her success and will to study declined. She says that she doesn't want to attend classes; she can't adapt and get used to it" (B11 from seventh grade).
	Inability to clarify professional interests	"My daughter used to want to be a teacher as she loved her preschool teachers. Then she had an interest in health-care. During my pregnancy, she decided to become a gynecologist. After the baby was born, she changed her mind to be a pediatrician. And now she wants to be an author" (A5 from sixth grade).
	Collecting information about professions	"He wants to be an expert about computer systems, but he hasn't done any research on how he can do that, how this job will progress, and how much education he should get" (B1 from seventh grade).
Personal/social	Leisure activities	"He can't fulfill his leisure activities" (B12 from seventh grade).
	Social Skills	"She has some problems with friendship as she can't adapt easily. When she adapts, she loves her friends very much. Actually, she can't make friends very easily. When she has friends, she is good, but she has problems at the beginning" (B3 from seventh grade).
	Problems with adolescence	"She wonders about puberty. She has girlfriends who are going through puberty at the ages of 10 or 11 and have physical changes. She is dazzled by this and wonders why this hasn't happened to her" (A1 from sixth grade).

Introversion	"She tries to solve all her problems on her own;" (B11 from seventh grade).
Aggression	"He gets angry so easily. He is very aggressive by nature" (B13 from seventh grade).
Problems with friends	"She has problems with her classmates in general" (C8 from eighth grade).
Communication with the opposite sex	"He is too shy to talk to girls. Although I tell him not to worry and talk to them, he can't do it" (A12 from sixth grade).
Jealousy	"She has problems with jealousy among her friends" (A3 from sixth grade). "I feel as if she is jealous of her sisters, especially her younger sister" (A5 from sixth grade).
Taking on responsibilities	"We tidied his room together yesterday. I told him that I hadn't seen such an untidy boy as he and what a messy bookshelf he had. He throws everything on it" (B5 from seventh grade).
Time spent with computers	"Computer usage is highly necessary. We warn them to use it only in some circumstances, as they waste so much time on it" (A4 from eighth grade).
Emotional changes	"Insensitivity, aggression, and conflict with her sister and brothers are a problem. She is as sensitive as she is aggressive" (C5 from eighth grade).
Stubbornness	"He is kind of stubborn, though not much," (C6 from eighth grade).
Behaving authoritatively	"His father doesn't get angry towards him. Because I get angry and warn him, he clearly doesn't like me" (C7 from eighth grade).

#### *Parents' Views about EGCN*

Parents' views comprise six categories concerning students' EGCN. For the ways of efficient learning category, 66.6% of sixth-grade students' parents, 57.1% of seventh-grade students' parents, and 72.7% of eighth-grade students' parents stated that their children need GC to maximize efficient learning. Concerning the lack of motivation category, 50% of sixth-grade students' parents, 14.2% of seventh-grade students' parents, and 36.3% of eighth-grade students' parents felt that GC is necessary to overcome their children's lack of motivation. Concerning the category for ways to cope with exam anxiety, 41.6% of sixth-grade students' parents, 21.4% of seventh-grade students' parents, and 36.3% of eighth-grade students' parents wanted their children to be taught ways to overcome exam anxiety. For the category of being uninterested in lessons, 14.2% of seventh-grade students' parents and 18.1% of eighth-grade students' parents felt that GC is necessary to help their children be more interested in lessons. Concerning the category of lack of attention, 36.3% of eighth-grade students' parents felt that GC is essential to help their children pay more attention. Finally, concerning the category of adaptation to school, 14.2% of seventh-grade students' parents needed GC to solve their children's problems adapting to school.

***Parents' Views about CGCN***

Parents' views comprise three categories of CGCN. Concerning the category of their inability to clarify their professional interests, 58.3% of sixth-grade students' parents, 57.1% of seventh-grade students' parents, and 54.5% of eighth-grade students' parents saw GC as necessary for their children to clarify their professional interests. In the category of collecting data for professions, 58.3% of sixth-grade students' parents, 21.4% of seventh-grade students' parents, and 45.5% of eighth-grade students' parents felt that GC is necessary for their children to collect more information about various professions. In the leisure activities category, 14.2% of seventh-grade students' parents and 27.2% of eighth-grade students' parents stated that they need GC to help their children find better ways to spend their leisure time.

***Parents' Views about PGCN***

Parents' views comprise 12 categories concerning students' PGCN. In the category of social skills, 75% of sixth-grade students' parents, 71.4% of seventh-grade students' parents, and 54.5% of eighth-grade students' parents stated that they need GC to give their children social skills education. In the adolescent problems category, 58.3% of sixth-grade students' parents, 21.4% of seventh-grade students' parents, and 36.3% of eighth-grade students' parents saw GC as essential for solving general problems of adolescence. In the category of introversion, 16.6% of sixth-grade students' parents, 7.1% of seventh-grade students' parents, and 9% of eighth-grade students' parents were in need of GC for their children to overcome introversion. In the category of aggression, 35% of seventh-grade students' parents needed GC to help their children overcome aggressive behavior. In the category of problems with friends, 50% of sixth-grade students' parents and 27.2% of eighth-grade students' parents needed GC to overcome this problem. In the category of communication with the opposite sex, 33.3% of sixth-grade students' parents and 18.1% of eighth-grade students' parents stated that their children have problems communicating with the opposite sex and need GC to help. In the category of jealousy, 75% of sixth-grade students' parents, 71% of seventh-grade students' parents, and 54.5% of eighth-grade students' parents were in need of GC to help their children deal with issues of jealousy. In the category of taking responsibility, 75% of sixth-grade students' parents, 71.4% of seventh-grade students' parents, and 63.6% of eighth-grade students' parents needed GC to help their children take on more responsibility. In the category of computer use, 41.6% of sixth-grade students' parents, 57.1% of seventh-grade students' parents, and 45.5% of eighth-grade students' parents said that their children spend too much time using computers and that GC is needed in order to solve this problem and provide useful computer training. In the category of emotional changes 27.2% of eighth-grade students' parents needed GC to smooth these emotional changes. In the category of stubbornness, 25% of sixth-grade students' parents, 35.6% of seventh-grade students' parents, and 45.5% of eighth-grade students' parents needed GC to help their children to be less stubborn. In the category of behaving in an authoritative way, 27.2% of eighth-grade students' parents stated that the authoritative attitudes cause problems between children and parents and GC is needed to help the situation.

## Discussion

This study shows that students have very different GCN, and this difference is especially valid for PGCN because the categories that include PGCN are more common. The guidance and counseling needs of the sixth, seventh, and eighth graders show differences in the themes of needs and categories because of the transition period from the first elementary school to the middle school. The discussion here includes three themes: education, career, and personal/social.

### *EGC Themes*

More than half of the parents of sixth and seventh graders and approximately two-thirds of the parents of eighth graders thought that guidance is necessary to maximize the effectiveness of their children's education. This may be because they want to lessen the problems during the transition from the first level to the second level and prepare them for the OKS, which is applied to the students at the end of the eighth class. Greene and Ollendick's (1993) found that problems occurring during transition to different school stages cause psychological disturbances in students, a view that supports the finding here. As a result, their needs for counseling increase. In addition, as Schmitt (2004) states, a significant percentage of students in sixth, seventh, and eighth grades are more engaged in professional, active learning than their middle school students' counterparts, which shows a need for active learning (Ateş & Altun, 2008). Many parents think that sixth-grade children need guidance for motivation. Indeed, some students may need counseling to become sufficiently motivated in school. This may stem from their parents' lack of knowledge about goal setting.

Exam anxiety and techniques for overcoming this anxiety are another category of concern. Transition from primary education to secondary education to higher education depends upon exams in the Turkish National Educational System, and the number of students taking these exams is very high. In order to study at their schools of choice, students must achieve high scores on their entrance exams (Yıldırım, 2007). Yıldırım (2008) emphasizes that exams are central to the Turkish educational system and thus are likely to trigger exam anxiety. Less than half of sixth-grade students, one-quarter of seventh-grade students, and more than one-third of eighth-grade students needed GC for their children's exam anxiety problems. Besides, families prepare their children for the OKS, which is critical to both students and their families. Even so, the demand for their children's main problem of anxiety is inefficient. McDonald's (2001) argument that exams have a profound importance in the education system and their frequent applications causes exam anxiety supports this finding. Also, Hancock (2001) found that competitive exams negatively affect student performance and behavior. On the other hand, sixth and eighth grade students need more guidance and counseling for exam anxiety because exam anxiety negatively affects their performance. This correlates to Cheek et al.'s (2002) finding that as the pressures and demands on students to get higher exam scores rise, more counseling will be needed to lower their anxiety.

There may be a relationship between the need for guidance for seventh- and eighth-grade students and the deficiency of effective targets that are necessary for the

children's attention to the lesson. One-third of seventh-grade parents stated that GC is needed to offset attention deficiencies. Parents B11 complained that "we moved her to another school last year. Until she got accustomed to her new friends at school, for example, her success and will to study declined. She says that she doesn't want to attend classes; she can't adapt and get used to it."

#### *CGCN Themes*

More than half of the parents of sixth, seventh, and eighth graders said that their children need guidance. More than half of sixth-grade students' parents, less than one-quarter of seventh-grade students' parents, and less than half of eighth-grade students' parents felt that GC is essential to provide detailed information about various professions to help their children make informed educational choices. Borg (1996) stated that access to information about professions affects the process of career choice. Dahir (2001) emphasized that as career choice is a systematic and progressive process, sixth-grade students should be exposed to career awareness and seventh- and eighth-grade students should participate in career investigations. It is significant that less than one-fifth of seventh-grade students' parents and more than one-fourth of eighth-grade students' parents expressed their need for GC to help their children use their leisure time more effectively. Edwards (1984) stated that leisure counseling is applied in order to increase students' quality of life. Edwards and Boland (1980) argued that the combination of leisure activities and profession planning is more significant, and this has important implications for this theme of leisure activities.

#### *PGCN Themes*

The fact that three-fourths of sixth-grade students' parents, less than three-fourths of seventh-grade students' parents, and more than half of eighth-grade students' parents expressed the need for receiving GC on the subject of social skills for their children may stem from their children's lack of skill in making friends and maintaining their friendships. Maag's (1992) stated that social skills training interventions have been used extensively for remediating interpersonal deficits of children and adolescents. This not only supports this finding of the research but is important in terms of showing how the needs of students should be met. In addition, Ogilvy (1994) emphasized that traditional schools have made few attempts to teach personal and social skills.

The fact that more than half of sixth-grade students' parents, less than one-fourth of seventh-grade students' parents, and more than one-third of eighth-grade students' parents expressed their need for GC to solve their children's problems with adolescence may stem from the fact that they realize how their children experience the beginning of adolescence and what kind of problems they have and that they want help to solve the problems. Akos' (2002) stated that students at puberty experience both internal and external changes and that they may need counseling in order to adapt to the changes. In addition, Scales' (2005) argued that adolescents need more guidance and counseling on decisions that concern themselves.

The fact that less than one-fifth of sixth-grade students' parents and less than one-tenth of seventh- and eighth-grade students' parents stated that their children need GC to mollify their children's introversion may stem from the fact that their children are not able to gain self-confidence. The fact that more than one-third of seventh-



grade students' parents stated a need for GC in order to decrease their children's aggression. Seventh-grade students, who are transitioning from elementary to middle school and from middle to high school, by perceiving late-reached desires as an obstacle may behave aggressively to eradicate them.

The fact that half of sixth-grade students' parents and more than one-fourth of eighth-grade students' parents said that they do not need GC to help solve conflicts between their children and their friends may stem from their children's need for freedom. The statement of a parent whose child is in the eighth grade is a good example: "She has problems with her classmates in general. Her complaint is that they don't obey what she says" The fact that one-third of sixth-grade students' parents and less than one-fifth of eighth-grade students' parents said that their children need GC to help communicate with the opposite sex may stem from the fact that they are comfortable speaking with their children on this subject. One parent whose child is in the sixth grade said, "He is ashamed of talking to girls. Although I tell him not to worry and talk to them, he just can't do it." Students act comfortably when they are with their peers.

The reason why one-fourth of sixth-grade students' parents, less than one-tenth of seventh-grade students' parents, and more than half of eighth-grade students' parents stated a need for GC to help overcome their children's jealousy may be the students' lack of self-confidence and their tendency to compare themselves constantly with others. Jealousy between siblings is one problem that parents have trouble with. Parents should provide hobbies or activities that children can do with their brothers or sisters, and they should not make comparisons among them. Children who experience problems with jealousy need GC because they may be exposed to violence and are not able to communicate with their siblings (Akpınar & Dilci, 2007). Martin (2005) found that children who have problems with their siblings probably also have problems with their peers.

The fact that three-fourths of sixth grade students' parents, less than one-third of seventh-grade students' parents, and more than half of eighth-grade students' parents stated a need for GC in order to help their children develop more responsibility may stem from the fact that their children lack motivation to do work at both home and school. This research found that students have problems with their parents especially when the children spend too much time with computers or television instead of studying and keeping their rooms tidy. Carter and Spera (1992) pointed out that 64% of parents say they easily upset their children, which shows that parents should approach this issue with their children more positively. Parental responses in this study showed that less than half of sixth and eighth graders and more than half of seventh graders spend too much time on computers and that parents need GC to help solve this problem. Parents would also like GC to teach efficient use of computers, as they think that a large amount of the time now spent on computers is unnecessary and would like their children to learn better time management skills.

More than one-fourth of eighth-grade students' parents stated a need for GC help with their children's emotional problems, which may stem from concern about

abrupt changes in their children's emotional development. Moreover, one-fourth of sixth-grade students' parents, more than one-third of seventh-grade students' parents, and about half of eighth-grade students' parents stated a need for GC in overcoming their children's stubbornness. This may be because these parents do not realize their children are adolescents and that this stubbornness is likely temporary.

More than one-fourth of sixth-grade students' parents' stated that childrens have problems with the parents' bad attitude. Childrens' parents' bad attitude authoritative attitude can cause problems between parents and children. This authoritative attitude causes problems, and students need counseling and guidance about how to deal with this. A study by Kwokwai and Siu-mui (2005) stated that significant correlations exist within the perceived parenting styles, parental authoritative is significantly and positively related to achieving learning goals, and that parental authority is significantly and positively related to performance goals.

### Recommendations

The following can be recommended, based on the findings of this study:

1. School guidance services and counselors should prepare programs to help students overcome exam anxiety.
2. In order to prepare students thoroughly for courses and lessons, schools should increase the number of individual or group guidance programs related to effective learning, motivation techniques, adaptance to school, and the lack of attention to and interest in lessons.
3. School guidance services and counselors should frequently present introductory information to students about various professions.
4. Counselors should plan students' leisure activities.
5. Teachers and parents should have a democratic attitude instead of an authoritative one, or children may develop negative traits such as aggression, jealousy, and stubbornness.
6. Teachers and parents should provide their children with opportunities that will increase their social skills to solve their problems with their friends, communicate with the opposite sex, and better express themselves.
7. Teachers and parents should avoid authoritarian attitudes that affect their children in negative ways.

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### **Ebeveyn Görüşlerine Göre Altıncı, Yedinci ve Sekizinci Sınıf Öğrencilerinin Rehberlik ve Danışmanlık İhtiyaçları**

#### **(Özet)**

*Problem Durumu:* Altıncı, yedinci ve sekizinci sınıf öğrencilerine daha kaliteli eğitim vermek ve yaşam becerilerini geliştirmek için onların rehberlik ve danışmanlık ihtiyaçlarının giderilmesi gerekmektedir. Bunun için de öğrencilerin rehberlik ve danışmanlık ihtiyaçlarının analizine ihtiyaç vardır. Öğrencilerin rehberlik ve danışmanlıkla ilgili ihtiyaçlarını analiz etmenin yöntemlerinden birisi de öğrenciyle en fazla birlikte olan ve öğrencinin ihtiyaçlarını doğrudan gözlemleyen ailesi ile görüşlerine başvurmaktır. Bu

yolla ebeveyn görüşlerine göre altıncı, yedinci ve sekizinci sınıf öğrencilerinin rehberlik ve danışmanlık ihtiyaçları analiz edilmiştir.

*Araştırmanın Amacı:* Bu çalışmanın amacı, altıncı, yedinci ve sekizinci sınıf öğrencilerinin rehberlik ve psikolojik danışmanlık ihtiyaçlarını, ebeveynlerinin görüşlerine göre incelemektir:

1. İlköğretim öğrencilerinin eğitsel rehberlik ve psikolojik danışma ihtiyaçları nelerdir?
2. İlköğretim öğrencilerinin mesleki rehberlik ve psikolojik danışma ihtiyaçları nelerdir?
3. İlköğretim öğrencilerinin kişisel/sosyal rehberlik ve psikolojik danışma ihtiyaçları nelerdir?

*Araştırmanın Yöntemi:* Bu çalışmada nitel araştırma tekniği kullanılmıştır. Araştırma için amaçlı örnekleme yöntemi kullanılmıştır. Araştırmanın çalışma grubu Konya ili Selçuklu Merkez ilçesi Milli Eğitim Müdürlüğüne bağlı bir İlköğretim okulunda okuyan altıncı, yedinci ve sekizinci sınıfta öğrencisi olan ebeveynlerdir. Araştırmada verilerin toplanmasında veri toplama yöntemi olarak yarı yapılandırılmış görüşme tekniği kullanılmıştır. Görüşme formunun geçerliğini sağlamak için görüşme formu Selçuk Üniversitesi Eğitim Fakültesinde, doktora yapmış beş öğretim üyesine verilmiş ve öğretim üyelerinin görüşleri doğrultusunda yarı yapılandırılmış görüşme formu oluşturulmuştur. Daha sonra pilot uygulamalar yapılmış ve alınan tüm bu sonuçlara göre düzeltmelerle görüşme formları uygulamaya hazır hale getirilmiştir. Görüşme yapılan toplam ebeveyn sayısı 37'dir. Görüşme sonucu elde edilen veriler, içerik analizi tekniği ile analiz edilmiştir. Veriler yorumlanırken temalar(eğitsel, mesleki,,kişisel/sosyal) tespit edildi. Her bir tema ile ilgili kategoriler oluşturuldu. Bu oluşturulan kategorilerin daha anlaşılır olması için yüzdeler verildi. Her bir kategori ile ilgili örnek öğrenci görüşlerine yer verildi.

*Araştırmanın Bulguları ve Sonuçları:* Altıncı sınıf ebeveynlerinin görüşlerine göre ebeveynlerin yarıdan fazlası etkin öğrenme yöntemlerinin öğretilmesi, yarıya motivasyon eksikliğinin giderilmesi, yarıdan azı sınav kaygısı ile baş etme yöntemlerinin öğretilmesi, yarıdan fazlası mesleki ilgilerin netleşmemesinden dolayı, yarıdan fazlası mesleklerle ilgili bilgi toplama, dörtte üçü sosyal beceri eğitiminin verilmesi, yarıdan fazlası ergenlik dönemi sorunlarının çözümü, beşte birinden azı, içe dönüklüğünün giderilmesi, yarıya arkadaşlarla anlaşmazlıklarında anlaşmazlıkların nasıl giderileceği, üçte biri karşı cinsle iletişim sağlama, dörtte üçü kıskançlığın giderilmesi, dörtte üçü sorumluluk kazandırma, dörtte biri inatçılığın giderilmesi konularında çocuklarının rehberlik ve danışmaya gereksinimleri olduğunu belirtmekteydiler. Yedinci sınıf ebeveynlerinin görüşlerine göre ebeveynlerin, üçte ikisinden fazlası etkin öğrenme yöntemlerinin öğretilmesi, beşte birinden azı motivasyon eksikliğinin giderilmesi, dörtte birinden azı sınav kaygısı ile baş etme yöntemlerinin öğretilmesi, beşte birinden azı derslere daha ilgili hale gelme, beşte birinden azı okula uyumla ilgili sorunlarının giderilmesi, yarıdan fazlası mesleki ilgilerin netleşmemesi, dörtte birinden azı mesleklerle ilgili bilgi toplama, beşte

birinden azı boş zamanlarının verimli şekilde değerlendirilmesi, dörtte üçünden azı sosyal beceri eğitiminin verilmesi, dörtte birinden azı ergenlik dönemi sorunlarının çözümü, onda birinden azı içe dönüklüğünün giderilmesi, üçte birinden fazlası agresifliğin giderilmesi, onda birinden azı kıskançlığın giderilmesi, üçte birinden azı sorumluluk kazandırma, üçte birinden fazlası inatçılığın giderilmesi konularında çocuklarının rehberlik ve danışmaya gereksinimleri olduğunu belirtmektedirler. Sekizinci sınıf ebeveynlerinin görüşlerine göre ebeveynlerin, üçte ikisinden fazlası etkin öğrenme yöntemlerinin öğretilmesi, üçte birinden fazlası motivasyon eksikliğinin giderilmesi, üçte birinden fazlası sınav kaygısı ile baş etme yöntemlerinin öğretilmesi, beşte birinden azı derslere daha ilgili hale getirme, üçte birinden fazlası dikkat eksikliğinin giderilmesi, yarıdan fazlası mesleki ilgilerin netleştirme, yarıdan azı mesleklerle ilgili bilgi toplama, dörtte birinden fazlası boş zamanlarının verimli şekilde değerlendirilmesi, yarıdan fazlası sosyal beceri eğitiminin verilmesi, üçte birinden fazlası ergenlik dönemi sorunlarının çözümü, onda birinden azı içe dönüklüğünün giderilmesi, dörtte birinden fazlası çocuklarının arkadaşlarla anlaşmazlıklarında anlaşmazlıkların nasıl giderileceği, beşte birinden azı karşı cinsle iletişim sağlama yarıdan fazlası kıskançlığın giderilmesi, yarıdan fazlası sorumluluk kazandırma, dörtte birinden fazlası duygusal dalgalanmalarının durulması, yarıya yakını inatçılığın giderilmesi, dörtte birinden fazlası otoriter davranmaların çıkardığı sorunların giderilmesi konularında çocuklarının rehberlik ve danışmaya gereksinimleri olduğunu belirtmektedirler.

*Araştırmanın Öneriler:* Altıncı, yedinci ve sekizinci sınıf öğrencilerine etkin öğrenme yöntemleri, sınav kaygısı ile baş etme yöntemleri, motivasyon yöntemleri, okula uyum, dikkat eksikliği ve derse ilgisizliğin giderilmesi konusunda ebeveynler çocuklarına yardımcı olmalı ve gerekli durumlarda okul rehber öğretmeninden profesyonel yardım talebinde bulunmalıdır. Aynı zamanda ebeveynler çocuklarını ortaöğretim kurumlarına geçiş sınavlarına hazırlamak için hem çocuk hem de rehber öğretmenle sürekli işbirliği içinde olmalıdırlar. Ebeveynler okul rehberlik servisleri ve rehber öğretmenlerle işbirliği içinde çocuklarına meslekler hakkında tanıtıcı bilgiler vermelidir. Öğrencilerin ilgilerini billurlaştırmak için rehberlik saatlerinde, sınıf içi rehberlik etkinlikleri uygulamalıdırlar. Öğrencilerinin boş zaman aktiviteleri öğrenci, rehber öğretmen ve ebeveyn üçlüsü ile ortaklaşa planlanmalıdır. Aileler çocuklarında içe dönüklük, agresiflik, kıskançlık ve inatçılık gibi davranış bozuklukları oluşmaması için, çocuklarına otoriter tutum yerine demokratik tutum sergilemelidirler. Ebeveynler çocuklarına, arkadaşlarla anlaşmazlıklarını çözmek, karşı cinsle iletişim kurmak ve kendilerini daha iyi ifade etmeleri için sosyal becerilerini artıracak imkanlar sunmalıdırlar..Ebeveynler çocuklarını olumsuz yönde etkileyen otoriter tutumlardan kaçınmalıdırlar.

*Anahtar Sözcükler:* Rehberlik ve Danışmanlık İhtiyacı, İhtiyacı, İlköğretim ikinci kademe, Aile

## The Expectations of Student Teachers about Cooperating Teachers, Supervisors, and Practice Schools

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### Suggested Citation:

Sađ, R. (2008). The expectations of student teachers about cooperating teachers, supervisors and practice schools. *Eđitim Arastirmalari-Eurasian Journal of Educational Research*, 32, 117-132.

### Abstract

*Problem statement:* One of the most important resources in curriculum development are the needs of individuals. Identifying expectations, which can be evaluated as individual needs, are important in policy development to ensure the success of the curriculum. Although Teaching Practice is considered as the most important course by student teachers in pre-service teacher education programs for class teaching, student teachers' expectations from the components of this curriculum are not clearly known.

*Purpose:* This study aimed to describe the expectations of student teachers from their cooperating teachers, supervisors, and practice schools, which constitute the main components of Teaching Practice curriculum.

*Methods:* In this study, the phenomenological research design was employed. The data was obtained in written form through group discussion procedure. The interview method was used to gather data and one hundred and six student teachers participated in the study. Student teachers were asked the following question for data collection: "What are your expectations from your cooperating teachers, supervisors, and practice schools where you will conduct your Teaching Practice lessons?" The findings were clustered into three groups according to the source of expectation. The study was conducted at the Faculty of Education, Department of Primary Education at Mehmet Akif Ersoy University in Burdur, Turkey. It was completed in the beginning of the spring term, 2007.

*Findings and Results:* The findings indicated that student teachers' expectations from their cooperating teachers centered on showing collegueship and guidance, attaching the stakeholder role in a well-established communication atmosphere, and acting as a model and a leader. Their expectations from their supervisors were to maintain contact with them and their school administration at all times, provide guidance, establish good rap-

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port, and supervise teaching experiences. Finally, they expected the schools where they were to practice teaching to perceive them as teachers, create a desirable working environment, and inform them of school rules and routines. Student teachers' themes of expectations could be clustered into two categories. The first category was being accepted as a colleague by cooperating teachers and practice schools, and the second was support.

**Keywords:** student teacher, expectation, teaching practice, supervisor, cooperating teacher, practice school.

A curriculum can reach its aims when the body responsible for implementing them acknowledges the requirements or expectations of those who will, to a large extent, be directly influenced by them. Curriculum should be designed to meet the developmental needs of the field, society, and individuals with respect to their psychological, physical, social, and moral needs (Smith, Stanley, & Shores, 1950; Ertürk, 1971; Varış, 1988; Demirel, 1999), while at the same time be devised to meet expectations (Wiles & Bondi, 1993; McNeil, 1996). Sönmez's (1990) statement explains this point: "Individuals cannot be happy in an occupation if they are not interested in it or they do not enjoy it" (p. 59). Therefore, the body that implements the curriculum needs to be aware of the expectations of those who will benefit from it (Erden, 1998).

The education of student teachers as professionals is perceived as important from the viewpoint of curriculum development for teacher education (Hawey & Zimpher, 1999), yet student teachers' expectations from the curriculum appears to be one of the least researched areas. The areas of study generally concentrate on the problems that cooperating teachers and student teachers encounter, the solutions that can be suggested for these problems (Bağcıoğlu, 1997; Kiraz & Uyangör 1999; Kuyumcu, 2003; Akkoç, 2003; Güven, 2004), the roles of cooperating teachers (Cope & Stephen 2001; Beck & Kosnik, 2002; Eby & Allen, 2002; Kiraz, 2004), and examination of lesson processes (Merç, 2004). Moreover, studies conducted in Turkey on the expectations of student teachers from school practice procedures are limited to those conducted by Demirkol (2004), Çakmak (2006) and Kiraz (2004). Demirkol investigated student teachers' expectations from the curriculum of the Teaching Practice course in the department of English Language. Kiraz attempted to determine the expectations of student teachers in diverse preservice teacher education programs from their cooperating teachers on the basis of their roles. Çakmak's study focused on School Practice course curriculum as the researcher worked with student teachers in the Mathematics Education Department.

The preservice teacher education curriculum in Turkey has been established upon two main areas; courses in the faculty and courses in the practice school, just as in other countries. Teaching Practice, designed to be in the eighth semester of preservice teacher education programs as one day a week, is the last course provided in the practice school. The objectives of this course are to develop the competencies required by the teaching profession, to grasp the teaching programs in the field, to be able to evaluate the course books used and student assessment techniques, to enhance learning from experience by sharing experiences and opinions with other student teachers, and cooperating with teachers and supervisors (Alkan, 1987; Yü-

seköğretim Kurulu, 1998). In this respect, Koç and Demirel (1999) aimed at evaluating the Teaching Practice curricula in their study and found that the course fostered positive changes in student teachers' attributes and attitudes towards their profession.

It is possible for student teachers to acquire these qualities when institutions and administration responsible for the implementation of teaching practice course curriculum perform their assigned roles and make the necessary arrangements (Tang, 2003). The institutions in this position are faculties of education, directorship of national education, and practice schools. The responsible staff in this structure is the coordinators of the institution related to teaching practice, supervisors, and cooperating teachers (Yükseköğretim Kurulu, 1998). Research conducted on school practice procedures (McNamara, 1995; Paker, 2000; Hobson, 2002) indicates that cooperating teachers and supervisors have an influential role in the program. However, the issue of student teachers' expectations from practice schools as the institutions in which teaching practice course curriculum is implemented, as well as their expectations from cooperating teachers and supervisors as the functionaries is not clear. For this reason, the aim of this study is to determine the expectations of student teachers from their practice schools, cooperating teachers, and supervisors, which have a significant place within the structure that carries out the Teaching Practice course program.

Based on this, answers were sought for the following three questions:

1. What expectations do student teachers have from their cooperating teachers?
2. What expectations do student teachers have from their supervisors?
3. What expectations do student teachers have from their practice schools?

## Methods

The study was designed on the concept of the expectations that student teachers hold prior to the Teaching Practice course. The expectations of student teachers define a perception towards the course before the course is delivered; therefore, the phenomenological research design was used (Yıldırım & Şimşek, 2006). Data was obtained in this study from students' cooperating teachers, supervisors, and practice schools, who are responsible for undertaking the Teaching Practice course. This method is in line with phenomenological research design because the student teachers expressed their expectations in a group discussion. This procedure was preferred to enable student teachers to clarify their ideas by discussing them with their peers, for they are familiar with each other and have had similar experiences in this area of, rather than opting for an isolated environment with pre-determined assumptions. Since the study was grounded on the student teachers' expectations, it was conducted according to the cross-sectional design. The study was conducted in three stages. In the first stage, the groups were identified; in the second stage, the aim of the researcher was explained and the discussion process was carried out on a voluntary participation basis. The data was collected at this stage. In the third stage, the collected data was described.

The classes in which the researcher had taught another course were included in the study due to ease of access and the researcher's position as the practice coordina-

tor at the directorate of the department of class teaching (Yıldırım & Şimşek, 2006). No sampling procedure was used, but the number of student teachers who participated in the study comprised a little more than about one third of the student teachers in their senior year in the class teaching program. The study was conducted with a total of 106 student teachers (56 females, 50 males), aged between 21 and 25, who pursued their senior year of primary and secondary education in the primary school teaching program, Faculty of Education, in Mehmet Akif Ersoy University over the 2006-2007 academic year. The study was conducted in the first week of the spring semester.

The data was obtained from student teachers' written reports following semi-structured interviews held within the classroom environment. The interviews were carried out as a discussion in large groups. The discussion in each group was held at two levels. In the first level, the discussion concentrated on the experiences of the student teachers related to the cooperating teachers, supervisors, and practice schools while taking School Practice I and School Practice II courses as part of school practice work. In this process, the student teachers were asked to express their opinions about the "positive," "lacking," and "necessary" aspects of these three elements and discuss with each other. In the second level, the researcher explained to each group the aim and function of the Teaching Practice course, after which they were asked to explain their expectations from this course and then, when their ideas reached a level of saturation, to write their ideas on the instrument provided.

There were 25 student teachers in the first group, 28 in the second group, 29 in the third group, and 24 in the fourth group. The interviews were completed in two consecutive days. Data was gathered from the written responses to the following open-ended questions: "In order to be successful in your profession, what are your expectations from the Teaching Practice course regarding (1) your cooperating teacher, (2) your supervisor, and (3) your practice school?" The data was examined through the descriptive analysis approach (Yıldırım & Şimşek, 2006). In the collection of data for the study, (1) a classroom was selected to provide the context for the discussion and the seating was arranged so that students faced each other; (2) In the process of the interview, the questions outlined above were asked sequentially, and to help students to clarify their ideas and opinions related to the issue the researchers also asked such probing questions as "Which of your expectations are indispensable for you?, How important are these expectations for you?, What do you think about this topic?" (Yıldırım & Şimşek, 2006); (3) When the discussion reached a saturation level, student teachers were asked to write down their expectations on the paper provided. The data collection instrument was an A4 paper in shape, divided into three sections: the cooperating teacher, the supervisor, and the practice school. Regarding the content, the instrument had two subsections where the student teachers could write down their expectations in full sentences regarding each element based on the aim of the Teaching Practice course. These subsections were about topics that emerged in related research on cooperating teachers, supervisors, and practice schools: (a) colleague relationships, and (b) professional guidance. (Paker, 2000; Sağlam & Sağlam, 2002; Çakmak, 2006; Hodkinson & Hodkinson, 1999; Beck & Kosnick, 2002).

The themes and categories for describing the data were not determined prior to data analysis. Instead, they were determined during the examination period, and they were associated under the concepts that are described in the conclusion section of this paper. The findings are reported first under themes, and then the conceptual frameworks that formed these themes are explained. Following the determination of themes and categories in the data analysis process, the findings were defined and interpreted. The data was described under three categories: cooperating teachers, supervisors, and practice schools on the basis of the research questions. To designate relative priority to the themes determined at the end of the data analysis, percentage statistics was used. Moreover, in order to reflect the student teachers' "general expectation tendency levels" towards the components of the program, the common perception limit was accepted to be 20 %.

## Findings and Interpretation

### *Expectations from Cooperating Teachers*

The first area that was investigated towards the research question was the student teachers' expectation themes from cooperating teachers. In related research, there has been numerous expectation themes determined as related to student teachers' expectations from cooperating teachers. These themes are guidance, collegueship, counseling, and leadership (Atputhasamy, 2005; Demirkol, 2004). In this study, student teachers frequently mentioned the themes on cooperating teachers, considering them a 'stakeholder,' and acting as a 'model' and a 'leader' in addition to these themes. The guidance theme involved introducing student teachers to school personnel, the students in the classes, the school administration rules, the materials used, and like teaching practices. The collegueship theme was associated with permission to use the materials used by cooperating teachers, allocation of a place to keep their materials during practice teaching, display of companionship, friendliness and sincerity, fellowship, and collaboration and trust, as explained in Parlatur, Gözaydın, Zülfikar, Aksu, Türkmen and Yılmaz's (1998) work. The stakeholder theme denotes equality with cooperating teachers in the teaching context rather than being in a senior-junior relationship. The final theme is acting as a model and a leader. Under this theme, the student teachers expect cooperating teachers to act as role models not only professionally but also personally, and to observe their practices and provide feedback. The data regarding the expectations of student teachers from cooperating teachers are shown in Table 1.

As can be seen in Table 1, the expectation that cooperating teachers display collegueship ranks first (57.6%), showing guidance ranks second (50%), treating student teachers as stakeholders ranks third (35.8%), and acting as role models and leaders ranks fourth (33%).

**Table 1***Expectations from Cooperating Teachers*

Themes	Number (N)	Percentage (%)
Colleague	61	57.6
Guide	53	50.0
Stakeholder	38	35.8
Model and leader	35	33.0

Colleagueship is a theme which was mentioned most frequently among expectations by student teachers. Student teachers stated that they expected their cooperating teachers to refrain from interfering during a lesson, not to assign them the topics already covered in class, to share experiences, to show respect, to aid in grasping the positive and desirable aspects of the teaching profession, and not to view them as rivals. The colleagueship theme indicates that these expectations have the philosophical characteristics that encompass acceptance of student teachers' presence, and the psychological characteristics that relate to professional motivation. Some of the expectations of the student teachers related to this theme are below:

"The cooperating teachers should not intervene during the lesson; I feel uneasy as I am experiencing the very first days in the profession, (therefore) they should show compassion; I am not perfect, they need to be understanding; they should not offend me in front of the class because of my mistakes; they should refrain from actions that might distract me during the teaching practice; they should not kill my clear and pure teaching ideal by saying that we will be just like them in the future, that we will not struggle, that we will not care, that all the knowledge we are gaining now will stay in books as they are; the cooperating teachers should be sincere in class towards me; they should not assign the lessons that have already been presented; they should share their good and pleasant experiences with us; the other cooperating teachers should talk to us, etc."

The theme on guidance is the second group regarding expectations. Student teachers expect their cooperating teachers to observe their practices, work on their lesson plans together, make suggestions about the lessons beforehand, share necessary information about the class, and provide constructive feedback after the lesson. Under the guidance theme, the expectations focused mainly on planning, selecting appropriate strategies for classroom management and instruction, and providing input on their own practices, which constitute the technical aspects of the teaching profession. Some striking points mentioned by student teachers related to the guidance theme are below:

"Cooperating teachers should observe my lessons; share their lesson plans with me and work on them together with me; give information about students in the class; give me the opportunity to study the student progress files; make suggestions about which methods and materials I can use while planning; I taught les-

sons in class, I got exhausted just trying to manage the class; cooperating teachers should talk to their students so that their behavior towards me is more desirable; I would like the cooperating teacher to tell my shortcomings and mistakes after the lesson; I might be a student teacher but I want to learn, etc.”

The third group of expectations of student teachers from cooperating teachers constitutes the stakeholder theme. Student teachers would like their cooperating teachers to be more companionable, listen to them actively, refrain from offending actions towards them or others around them, and empathize with them. Some of the selected statements made by student teachers under this theme are the following:

“Cooperating teachers should be very companionable, sincere and honest in their communication; they should use a language in their criticism and suggestions that will not alienate us from the profession; they should be in communication with us, etc.”

The last theme of student teachers’ expectations from cooperating teachers is related to being a model and a leader. Student teachers would like their cooperating teachers to be proficient in their field, to be experts in classroom methods and management, to be totally dedicated to their profession, not to be traditional, to be a part of the solution rather than the problem, to use supportive language towards them, and to be aware that they are student teachers. Some of the expectations of the student teachers in this area are below:

“Cooperating teachers should be well-prepared knowledge-wise; they should be proficient in the knowledge-base; they should be sincere and heartfelt towards their profession; they should be pleasant towards their students; (and also) they should be in a democratic relationship and refrain from resorting to violence with their students; they should be able to practice new techniques; they should read the newspapers; they should use supportive language; they should be part of the solution rather than the problem; they should have an encouraging attitude towards us with the awareness that we are student teachers, etc.”

#### *Expectations from Supervisors*

The student teachers’ expectations from their supervisors form the second question of the research. In one study, Demirkol (2004) found that student teachers expected their supervisors to check their lesson plans, provide written and oral feedback on these plans, observe their teaching activities, provide constructive feedback on these practices, introduce them to the school personnel, explain the duty and responsibilities of the cooperating teachers and other individuals in the school, and be in continuous communication with them throughout the practice period. These findings indicate that the expectations of student teachers from supervisors revolve around guidance, leadership, and communication themes. In addition, in the data analysis, mediation was emphasized by student teachers. Mediation encompasses acting as a bridge between student teachers in their communication with the practice school. Since the conceptual frameworks of guidance and leadership themes regarding expectations from supervisors are similar to those related to the expectations from cooperating teachers, the researcher does not deem it necessary to expand on

these points. The conceptual framework of the communication theme covers close contact between the supervisor's student teachers and accessibility of supervisors when student teachers are in difficult situations. Information about student teachers' expectations from supervisors has been provided in Table 2.

**Table 2**

*Expectations from Supervisors*

Themes	Number (N)	Percentage (%)
Mediation	48	45.2
Guidance	41	38.6
Communication	39	36.8
Leadership	22	20.7

As can be seen in Table 2, the expectation that supervisors should mediate continuous communication between the practice school and student teachers ranks first (45.2%), acting as a guide ranks second (38.6%), establishing a warm communication atmosphere ranks third (36.8%) and checking student teachers' work ranks fourth (20.7%).

The first expectation of student teachers from supervisors is that they should act as mediators between student teachers and the practice school. The conceptual framework of the mediation theme encompasses the expectation of supervisors to act as a bridge between student teachers and the practice school, to help familiarize them with the practice school, aid the school in trusting student teachers, convey student teachers' problems to the administration of the practice school, find solutions to problems, accompany student teachers during practice, and visit frequently. The expectations center on communications of any kind between student teachers and the practice school being mediated by supervisors. The statements of student teachers on this issue are below:

"Supervisors should be in continuous contact with practice schools; they should visit us as often as possible; they should know us and introduce us to those in the practice school, etc."

The second expectation of student teachers from supervisors revolves around the guidance theme. Student teachers expect their supervisors to introduce different instructional practices and to actually hold the seminar sessions as a context for discussion on their teaching practices, to inform them of the work to be done in these sessions every week, to share their experiences with student teachers, and to provide know-how of the teaching profession. Some statements of student teachers on this issue are below:

"Supervisors must always hold the theoretical (seminar work) sessions; they should share their experiences with us in these sessions; provide input on differ-

ent teaching practices; enable us to share our own practices; announce what will be done every week, etc.”

Communication is the third theme of the student teachers’ expectations from supervisors. Just as those expectations from their cooperating teachers, these expectations from supervisors are to establish a sincere and honest mutual communication, to make student teachers feel that they are interested as supervisors, to help with their problems, to refrain from abrasive, coercive and harsh behavior towards them, and instead to be kind and understanding, and not to threaten student teachers with grades. Some selected statements on this issue are below:

“Supervisors should be sincere in their communication and refrain from abrasive, coercive and harsh actions related to practice; they should have the skill of making an impact; they should trust me and provide support for me to work with devotion; they should be interested in our problems and solve them; they should not threaten us with grades; they should listen first before judging; they should not forget that we are human, etc.”

The last expectation stated by student teachers from supervisors concerns the leadership theme. Student teachers expect supervisors to evaluate their work at the end of each lesson, to explain both the shortcomings and positive aspects, to provide feedback using appropriate and supportive language, and to make suggestions for future work. Some of the statements of the student teachers on this issue are below:

“Supervisors should observe my practices; they should evaluate my performance following each activity (teaching practice) (and) provide criticism using appropriate language, etc.”

#### *Expectations from Practice Schools*

The expectations from practice schools constitute three sources of the expectations of student teachers. The information found as a result of the data analysis is illustrated in Table 3.

**Table 3**

#### *Expectations from Practice Schools*

Themes	Number (N)	Percentage (%)
Colleagueship	41	38.6
Providing a comfortable environment	39	36.7
Being informed	24	22.6

As can be seen in Table 3, the expectation that practice schools should approach student teachers as colleagues ranks first (38.6%), preparing a comfortable environment ranks second (36.7%) and informing student teachers of school rules ranks third (22.6%).



The first theme of student teachers' being perceived as colleagues occurred in the related theme of cooperating teachers. Student teachers expect practice schools to view them as teachers. The expectations center on the dimension of being accepted by the school. Some examples related to student teachers' expectations regarding this aspect are below:

"We would like the teachers and those in the administration in the practice schools to say 'Good morning!' to us, too; to refrain from behavior and attitude that denote "Where did you suddenly come from?"; to be entitled to all the rights of the other teachers; to help in the issue of sharing the same atmosphere; to inform their students about the practice work beforehand and to see us as teachers, etc."

The second theme that emerged from student teachers' expectations is the environment. The expectations related to environment are, in a way, related to the collegueship theme under expectations from the practice school; however, it is considered important to dwell on this issue as a separate theme to reflect the characteristics of practice schools. Within the conceptual framework of this theme expectations center on practice schools permitting student teachers to use all the physical facilities of the school such as the teachers' room so that student teachers have the opportunity to meet with and listen to their colleagues during breaks between lessons. Some statements of the student teachers related to the environment theme are below:

"We should be allowed to use the teachers' room; there is either no space for us or the teachers' room is too small; we don't want to be told to walk around the corridor or not to enter the room; the practice school should not stop their communication with us; the practice school should encourage us; they should make us feel that we are considered colleagues at all times, etc."

The third theme of expectations of student teachers from practice schools is related to being informed. Student teachers expect practice schools to bear in mind that they are yet student teachers, and therefore the school should inform student teachers about school practices and rules of the profession. Student teachers expect administrators to share experiences with them and provide help in solving possible problems they might encounter in the classroom or in the school.

### **Conclusion and Discussion**

Although participation in the study was high considering the class teaching program, there are limitations caused by the method of the study. For instance, although this is a qualitative study, it aimed to primarily define the most frequently mentioned findings, with the result that some findings were disregarded due to low frequency. Another limitation related to the high number of students in the group. The presence of some students who were unwilling to participate in the discussion or to write their ideas are factors that interfered with healthy data collection. These two conditions are the limitations of the method of the study. It is necessary to note that these limitations naturally negatively affect the generalizability of the data. For this reason, the

consistency of the findings can be tested through similar research using qualitative research techniques. Moreover, some other expectations that could not be identified in this study may be found through other qualitative studies. Despite the aforementioned limitations of this study, it can be said that these findings have the potential to advance research on similar topics.

Student teachers' expectations from cooperating teachers, supervisors and practice schools center on "being accepted as colleagues" and "receiving support in the learning process". Student teachers relate the three-component concept of collegueship primarily to being viewed as teachers themselves by other teachers of the same profession and being treated as equals. They based the concept of support on their awareness that they are novices in the teaching profession, their need for information about class observation and evaluation of their performances, their need for constructive criticism during evaluation, and an encouraging and supportive atmosphere.

The student teachers, cooperating teachers, supervisors, administrators, and the other people in the practice school form a group although the practice period is a temporary companionship by nature. This group bears numerous factors which affect the nature of communication among the group members. For example, the characteristics of the person in the leader position (Sherif & Sherif, 1956), the atmosphere and practice that emerge from the general flow of affairs within the context, and the style of communication among members are some of these factors (Dökmen, 2003). The emerging significant issues are that the structure and content of the communication established among cooperating teachers, supervisors, and administrators of the practice school should convey the feeling of equals, and the style adopted while providing criticism on teaching performance should denote that student teachers are recognized as an entity (Cüceloğlu, 2003). As a result, student teachers appear to associate positive or negative behaviors and attitude as inhibiting factors and behaviors against collaboration. Moreover, the student teachers' statements denote that it is highly important that the people in the same environment should acknowledge their presence. Particularly, being denied the communication initiator phrase "Good morning!", and facing such threatening attitudes as "Where did you suddenly come from?" to their presence in the environment constitute serious sources of anxiety for student teachers. Cüceloğlu (2003) points out the importance of these anxieties by stating that one person getting to know the other is the main factor affecting the nature of communication, and a real communication process can only be maintained as long as the other is listened to and understood (Danish, D'Augelli, Haver, & Hauer, 1994; Cihangir, 2004).

Student teachers expect their cooperating teachers and supervisors to provide support with their modeling characteristic while learning their profession. Running into many problems in the process of learning one's profession is considered natural; this shows why student teachers feel the need to rely on individuals with field expertise, experience, and leadership. Taking someone as a model is one way of learning. Student teachers try to learn practical teaching skills by observing successful teachers and modeling their own practices after those teachers (Woods & Weasmer, 2003). It can be discerned that in the first stage of student teachers' professional life, they regard it important to work with cooperating teachers and supervisors who are

equipped with leadership characteristics and who can be used as models. Another expectation related to leadership emerged as the language used in evaluation. Student teachers would like their evaluations to be positive and clearly indicate their shortcomings. This finding is consistent with those found in Demirkol's study (2004).

Being trusted is another expectation of student teachers which can be described as emotional support. Student teachers would like to work on their lesson plans in collaboration with their cooperating teachers and supervisors and not be assigned lessons that have already been covered in class. Moreover, student teachers expect practice schools to view them as teachers during practice teaching, and to treat them as teachers, allow them to use environments where they can feel comfortable, and to inform them about the administrative practices of the school. Although there are no current research studies of the expectations of student teachers from practice schools, the available research regarding the importance of practice schools in the process (Beck & Kosnik, 2002; La Boskey & Richert, 2002), the qualities that they possess as regards to pre-service teacher training (Hodkinson & Hodkinson, 1999), and the problems encountered in the duration of school practice (Sağlam & Sağlam, 2002) indicate the importance of trust placed in student teachers. The findings in these studies related to the shortcomings of practice schools in pre-service teacher education, in supporting student teachers with materials and tools, providing an environment for student teachers to feel like teachers, and providing an atmosphere of communication. Similarly, these findings illustrate the importance of the expectations described within the framework of support from practice schools as found in this study.

In conclusion, the study was limited to the class teaching program. Similar studies could be conducted on other teacher education programs with consideration of these limitations so common features can be defined.

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## Öğretmen Adaylarının Uygulama Öğretmenlerinden, Uygulama Öğretim Elamanlarından ve Uygulama Okullarından Beklentileri

### (Özet)

*Problem Durumu:* Hizmetöncesi öğretmen eğitimi programları genel kültür, alan bilgisi ve meslek bilgisi olmak üzere üç kategoriden oluşmaktadır. Hizmetöncesi öğretmen eğitimi programlarının kategori biçimindeki düzenlemelerinin yanı sıra aynı zamanda kimi derslerin işlendiği yer açısından da sınıflandırıldığı görülmektedir. Sözgelimi Okul Deneyimi I, Okul Deneyimi II ve Öğretmenlik Uygulaması dersleri hem meslek bilgisi kategorisinde hem de Okul Uygulama Çalışmaları olarak tanımlanabilmektedir. Bu derslerin içerisinde Öğretmenlik Uygulaması dersi, öğretmen adayına fakültede ve uygulama okulunda öğrendiği ve geliştirdiği tüm bilgilerini, becerilerini kullanma ve mesleğe ilişkin değerleri sınama olanağı vermesi ve aynı zamanda bunların önemli bir kısmını gerçek bir ortam olan uygulama okulunda yapma olanağı sağlama bakımından oldukça kritik bir öneme sahiptir. Dersin kritik olmasını sağlayan bir başka konu, öğretmen adayının gerek kendisine gerekse kendisine mesleki rehberlik yapmak üzere görevlendirilen kişilere mesleki yeterlikleri kazandığını kanıtlama olanağı vermesidir. Nitekim öğretmen adaylarının Öğretmenlik Uygulaması dersini diğer tüm derslerin içerisinde en işlevsel ve en etkili ders olarak değerlendirmeleri dersin kritik olmasını açıklayan önemli göstergelerdendir. Ancak özellikle hizmetöncesi öğretmen eğitimi sınıf öğretmenliği programı son sınıfındaki öğretmen adaylarının bu denli önemli olarak değerlendirdikleri Öğretmenlik Uygulaması dersinin yürütülmesinde kendilerine mesleki rehberlik yapmak üzere görevlendirilenlere dönük beklentileri konusunun alanyazında henüz tanımlanmadığı anlaşılmaktadır. Bu araştırma, bu gereksinimi karşılamak üzere gerçekleştirilmiştir.

*Amaçlar ve Sorular:* Bu çalışmanın amacı, öğretmen adaylarının önemli olarak gördükleri Öğretmenlik Uygulaması ders programındaki bileşenlere dönük beklentilerini ve bu beklentilerin önceliklerini tanımlamaktır. Buradan hareketle araştırmada, (1) öğretmen adaylarının uygulama öğretmenlerinden beklentileri nelerdir, (2) öğretmen adaylarının öğretim elamanlarından beklentileri nelerdir ve (3) öğretmen adaylarının uygulama okullarından beklentileri nelerdir, sorularına yanıt aranmıştır.

*Araştırmanın Yöntemi:* Betimsel tarama modelinin kullanıldığı nitel araştırmada veriler, öğretmen adaylarından odak grup görüşmeleri yoluyla elde edilmiştir. Görüşmeler, birbirini izleyen iki günde ve dört oturumda gerçekleştirilmiştir. Araştırmaya sınıf öğretmenliği programı son sınıfların birinci ve ikinci öğretimlerinde yer alan ikisi ikinci öğretim olmak üzere dört ayrı sınıftan 56'sı kadın toplam 106 öğretmen aday katılmıştır. Öncelikle, öğretmen adaylarından araştırmacının yürütücülüğünde Öğretmenlik Uygulaması dersi çerçevesinde sırayla uygulama öğretmenlerinden, uygulama okullarından ve uygulama öğretim elamanlarından beklentilerinin neler olduğunu tartışmaları istenmiş, sonrasında beklentilerini üçe bölünmüş ve her bir bölümde meslektaşlık ilişkileri ile mesleki rehberlik konusundaki beklentilerini ifade etmesine olanak ve-

recek biçimde hazırlanmış kâğıtlara yazmaları istenmiştir. Görüşmeler, öğretmen adaylarının henüz Öğretmenlik Uygulaması dersiyle ilgili hiç bir etkinlik yapmadığı dönemin ilk haftasında gerçekleştirilmiştir. Her bir görüşme yaklaşık olarak 45 dakikalık süreler içerisinde gerçekleştirilmiş, yazma için ayrıca 30 dakikalık zaman ayrılmıştır. Verilerin kodlanmasında kullanılacak tema ve kategoriler, bu konuda yapılmış yeterli araştırma olmaması nedeniyle betimleme sürecinde oluşturulmaya çalışılmıştır. Buna göre veriler, uygulama öğretmeni, uygulama öğretim elamanı ve uygulama okulu olmak üzere üç beklenti kaynağına göre betimlenmiştir. Her bir beklenti kaynağından elde edilen kodlar temalar altında düzenlenmiş, öncelik sırasını belirlemek için yüzde istatistiği kullanılmış ve elde edilen sayısal bulgular tablolar halinde sunulmuştur. Betimleme sonrasında temalar genel olarak değerlendirilmiş iki kategori altında yorumlanmıştır.

*Bulgular ve Yorumları:* Öğretmen adaylarının uygulama öğretmenlerinden sırasıyla birinci olarak (% 57.6) kendilerine karşı meslektaş gibi davranmaları, ikinci olarak (%50) rehberlik etmeleri, üçüncü olarak (% 35.8) kendilerini iletişimde paydaş olarak görmeleri, son olarak (% 33) kendilerine model olmaları ve liderlik yapmaları beklentisi içerisinde oldukları anlaşılmaktadır. Öğretmen adaylarının uygulama öğretim elemanlarından beklentilerinin birinci sırasında (% 45.2) uygulama okuluyla ve kendileriyle sürekli iletişim içerisinde olmalarını sağlayacak biçimde aracı olmaları, ikinci sırasında (% 38.6) rehberlik yapmaları, üçüncü sırasında (% 36.8) sıcak bir iletişim ortamı yaratmaları ve dördüncü sırasında ise (%20.7) çalışmalarını denetlemeleri gelmektedir. Öğretmen adaylarının uygulama okullarından beklentilerinin birinci sırasını (% 38.6) kendilerini meslektaş olarak görmeleri, ikinci sırasını (%36.7) rahat bir ortam sağlamaları ve üçüncü sırasını da (% 22.6) okulda uyulması gereken kurallar konusunda kendilerini bilgilendirmeleri oluşturmaktadır. Öğretmen adaylarının Öğretmenlik Uygulaması dersinde görev alan uygulama öğretmenlerinden, uygulama öğretim elemanlarından ve uygulama okullarından beklenti temalarının gerçekte “meslektaş olarak kabul edilme” ve “öğrenme sürecinde destek” kategorileri adı altında toplanabileceği anlaşılmaktadır. Öğretmen adayları meslektaşlık olarak tanımlanabilecek kategori içerisinde her üç bileşenden öncelikle aynı mesleği paylaşmaları nedeniyle kendilerini bir öğretmen olarak görmeleri ve kendilerine karşı eşitlikçi bir tavır ve tutum içerisinde olmaları beklentisi içerisinde. Destek olarak tanımlanabilecek kategori içerisinde öğretmen adaylarının bu üç bileşenden beklentilerinin ise henüz öğretmenlik mesleğinde yeni olduklarının farkında olmaları, gereksinim duydukları bilgileri sağlamaları, öğretmenlik uygulaması çalışmalarını izlemeleri, yapıcı bir üslup kullanarak değerlendirmeleri, bunları da cesaretlendirici ve destekleyici bir ortam içerisinde gerçekleştirmeleri biçiminde olduğu görülmektedir. Benzer araştırmalar, diğer hizmetöncesi öğretmen eğitimi programlarında da uygulanabilir. Yine, bu araştırmada elde edilen bulgular, diğer büyük ölçekli araştırmalarla test edilebilir.

*Anahtar sözcükler:* öğretmen adayları, beklentiler, öğretmenlik uygulaması bileşenleri, uygulama öğretmenleri, uygulama öğretim elemanları, uygulama okulları

## Teachers' Views about Mobbing (Psychological Violence) at Elementary Schools

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### Suggested Citation:

Cicek Saglam, A. (2008). Teachers' views about mobbing (Psychological Violence) at elementary schools. *Egitim Arastirmalari - Eurasian Journal of Educational Research*, 32, 133-142.

### Abstract

*Problem Statement:* It is believed that mobbing actions may happen in every group where there is competition among people. These actions are especially intense at schools and universities. Mobbing at the work place, which causes severe individual, organizational and social problems, is a topic that America and European countries pay attention to, and intensive scientific researches have been started on this topic. But in our country, it is a topic that is not mentioned much and that is not attached to importance even if it happens.

*Purpose of Study:* The purpose of this study is to determine the teachers' views and to prepare some suggestions on mobbing; mobbing decreases both personal and institutional productiveness, employees' motivation, and occupational satisfaction and causes physiological discomfort. In addition, this study also intends to draw attention to this topic and tries to arouse interest for making detailed studies at educational institutions.

*Method:* In this study, the "structural interview" method is used as the data collection technique. The working environment of this research consists of 58 volunteer teachers that worked at primary schools in Sanliurfa province in the 2005-2006 education year.

*Results and Suggestions:* According to the research results from elementary schools, the most frequent mobbing attacks that teachers come across are listed as follows: (1) interruption of the conversation, shouting, and scolding, (2) unfair assessments of efforts and achievements and presenting achievements as less than they really are, (3) making people unsuccessful by giving them duties that do not fit their abilities and not giving a person any major duties, and (4) excluding the victim, not talking to the victim, exerting pressure on the ones who talk, and provoking the victim. As a result, it can be said that mobbing actions exist in elementary schools, and the directors as well as the teachers make these actions. One should not stay silent against these attacks. The victimized person should react against these attacks and inform the higher authorities in

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either verbal or written ways. It is believed that legal action should be used against these acts.

**Keywords:** Mobbing, emotional abuse, psychological violence at school, primary school

Mobbing in the workplace is a concept to which many people, working in organization psychology, frequently refer. Mobbing, which means emotional violence, compression, psychological terror, or application of abstract violence, is seen as the source of organizational conflict, unproductiveness, and lack of motivation (Tutar, 2005). Although it is not known to be a phenomenon, mobbing is familiar for almost all working people. The word for mobbing is derived from the Latin word "mobile vulgus." This word refers to unstable, crowded people or a society, which tends to violence. In the English language, the verb "mob" means to get together, to attack, or to bother. In most of the leading countries, the specific word "mobbing" is used without making any translation. There are two reasons for this: (1) people's inability to find the exact word and (2) the scientists interested in this topic do not want to cause a concept conflict. It is difficult to find a suitable equivalent for this word in our language. Mobbing entered the literature like an illness, which is examined in the medical world, and in many countries, it is accepted without having any change (Çobanoğlu, 2005, p.19). In Turkey, the specialists interested in this topic use expressions like "emotional violence," "emotional abuse," and "mobbing." Words like mobbing user, offender, and autocrat are used to refer to the people carrying out the mobbing, and the people who are exposed to mobbing attacks are referred to as the "mobbing victim," "sufferer," and "victim"; these terms are frequently used without making any change, and they are accepted in the literature.

The term *mobbing* was first used in the 1960s by Konrad Lorenz, who examined animal behaviors. By using this word, Lorenz tried to describe a condition in which a small animal group attacks a large animal as a unit. After Konrad Lorenz, Peter-Paul Heinemann used the same term for a group of children attacking a single child. The common thing occurring in both usages is the harming of a single individual by other individuals composing a group. Later, in American focused researches, different terms were created to use for organizational attacks in military units, educational institutes where organizational studies were conducted, or the workplace. The term of "bullying" was chosen for organizational violence at schools, and "mobbing" was designated for occurrences at the work place. Bullying contains physical violence. However, mobbing is used to define the occupational psychology, which contains more sophisticated attitudes and psychological pressure but not physical harm, and it is used to define workplace psychologies where mobbing policies are adopted (The Mobbing Encyclopedia, [www.leymann.se/English/](http://www.leymann.se/English/)).

Mobbing is a situation, which can be experienced in marriage, family relationships, at work, and in political and social life. Mobbing at the workplace includes all malicious behaviors, words, actions, activities, and writings. These things can harm the person's personality and honor or damage the person's physical and psychological integrity. In addition, these activities may threaten the person's job or may disturb the working environment. Although emotional violence at the workplace has occurred since the beginning of the business world, it recently became a significant factor, which destroys the working environment, decreases productiveness, and moreover causes psychological diseases (Hirigoyen, 2000, p.61).

Emotional violence, which generally focused on children, begins to focus on the adults. The interest on emotional violence at the workplace increased gradually and now fills a place in the workplace as well as in the media. This interest started originally in Scandinavian countries and then spread to Germany, England, Canada, Japan, and Australia. Mobbing at the workplace is a very new topic, which has only begun to be researched in the last 20 years.

Baltaş (2005) defines mobbing as a set of systematic emotional attacks, and the mobbing process is seen as a malevolent attempt, which forces the person to leave his or her job by using emotional violence, gossip, allegory, false accusations, and abuse. Arpacıoğlu (2006) also defines mobbing as emotional torture, which is made by a gang formed by one or a few people. These people perpetuate systematic and long-term emotional torture to the others that they see as a threat because of their success, knowledge, and positive behaviors at their workplace.

Mobbing at the workplace may occur innocently, and it spreads insidiously. In the beginning, the targeted people understate the afflicting and annoying words. These actions are followed by an increase in the attacks, more humiliation of the targeted people, and increased periods of hostile and injurious behaviors. When these attacks continue for a long time, the targeted people begin to lose something from their personalities. The victim goes back to his or her home humiliated and worn out. The longer the victim stays silent about these attacks, the more severe the attacks become (Hirigoyen, 2000). Soyer (2003) claims that the victimized person starts the day with work stress and does not want to go to work; this desperate condition threatens his or her life severely. Most of the time, the frequency, duration, and repetition of the mobbing actions affect the sufferers. Everyone handles stress differently, so the effects of the harmful attacks will be different for everyone.

The targeted person normally does not tell anybody else about the attacks, and the main problem occurs because of this. The sufferers become introverted and curious of themselves but do not share this with their spouses or close friends. The targeted people undergo serious depression. After the depression, the sufferers have different pains, and they deal with high tension. This situation may end with an illness. Stress, anxiety, dense fear, and panic attacks can occur (Arpacıoğlu, 2006). Mobbing actions, which happen in almost all organizations, harm the sufferers' ways of thinking and their ideas. These repeated actions change the victims' normal reasoning and way of communicating. The targeted individuals become aggressive and try to give meaning to the meaningless things. Their fears and their feelings of betrayal affect their control, and make them mistrustful of everybody (Davenport, Schwartz & Elliot, 2003, p.64).

According to the research made in the United States by Namie Gray, 58% of the workers who were asked the question of why mobbing was applied to them answered that it happened because they resisted excessive control, and they refused to behave like a servant. Fifty-six percent of them answered that they were more talented than their seniors, and they were envied. Forty-nine percent of them said that it occurred because they were loved at work, and they had positive manners. Forty-six percent of them answered that they were treated badly (e.g. called with a whistle not by their names), and they reacted to that. Forty-two percent of them answered that the mobbing attacks occurred because of the cruel personality of their attacker(s) (Tutar, 2005).

The targeted people are not diseased or weak people. On the contrary, these people are fastidious and resistant to the pressure. They work hard, and they do not say yes to everything (Hirigoyen, 2000, p.64). The psychological features of these people can be the cause of these attacks. There may be some features that a person cannot change or does not want to change, such as skin color, sex, physical features, accent, culture, religion, place of birth, and traditional or normative values (Davenport et al., 2003, p. 64). Most of the people who experienced violence have superior features; they are clever, creative, success focused, and they dedicate themselves to their jobs. The traditional old workers, who do not want to change anything, can make the creative people that put forward new ideas suffer in the form of mobbing policies. Furthermore, other common features of people who suffer from mobbing are listed as follows: having a tendency to be introverted, having low self-confidence, being honest, and being easy-going. This situation makes the mobbing performers' job easier (Soyer, 2003; Yüçetürk, 2002). Arpacioğlu (2006) expresses the common features of people who are exposed to mobbing attacks as sensitive, successful, and clever. They share their knowledge, and these people can continue to work under high stress; they are more talented than the people making the attacks. The people, having superior qualities, threaten the place of the mobbing perpetrators as the victims inadvertently reveal the perpetrators' inadequacies and examine the system. Moreover, because of their honor and sensitivity, these people have difficulty defending their rights. Although, they are allowed to use their rights, they are loyal to their jobs, so they continue to work under all kinds of pressure. Because of these reasons, violence applies continue their pressure until they make their victims sick and disappear. Not preventing this violence application causes the decrease of work productivity from the highly qualified people that are being victimized. They may even leave their jobs, and as a result, the organization is affected seriously.

There are no empiric studies for the psychology of intimidating people. These people can be recognized by their disingenuous, dominant, ignoble, and dishonest behaviors. These people do not pay attention to diversities or other people's lives (Davenport et al., 2003). In January 1998, a campaign was started on the Internet against mobbing actions at workplaces in the USA. In November 1998, to educate, to defend against, and to research these actions without gaining profit, an organization was founded. At the web site, thousands of people, who experienced these humiliating mobbing actions, were advised not to stay silent against these attacks. Ten mobbing behaviors were recorded as a result of related research made on an internet web site. These behaviors are listed as follows: (1) to be held responsible for mistakes, (2) to be given illogical duties, (3) to suffer criticism of their talents, (4) to be made to obey contradictory rules, (5) to be threatened with losing their jobs, (6) to be humiliated, (7) to be insulted, (8) to be laid off, (9) to be yelled at, and (10) to be made infamous by showing their successes to be less than they really were (Namie & Namie, 2000, p.18). According to Namie, the founder of The Workplace Bullying and Trauma Institute, 41% of the emotional violence victims suffer from depression; thirty-one percent of women and twenty-one percent of men cannot go back to their workplaces, and sometimes, they are not able to work again due to a diagnosis of Post Trauma Stress Disorder (PTSD). More than 80% of people's work productivity decreases due to anger, loss of concentration, and insomnia (Namie, 2000).

Because of mobbing actions at the workplace, co-operational factors like work insatiability and negative work environment occur, and the significance of these factors are emphasized. According to Leyman, the targets of the mobbing actions are determined by

unfortunate coincidences, and this is caused by negative work conditions. In Norway, the research, which was made with 2,215 union workers, indicated that there is a strict relationship between the intimidating behaviors and cooperational conditions. These conditions are as follows: administrative leaders' behaviors, high level of role conflict in the organization, control, and unfulfilling social climate. Instability of working conditions increases disappointments, expectations for duties, privileged behaviors in the working groups, and conflicts that occurred because of unfair duties prepared the environment for the intimidation process (Einarsen, 2000, p. 379-401).

Mobbing actions may occur in any group where there is competition among people. It is especially intense in schools and universities (Hirigoyen, 2000). The result of a Scandinavian research project pointed out that mobbing is more common in nonprofit corporations, schools, and the health sector compared to large firms (Davenport et al., 2003, p. 46). Westhues (2003) states that mobbing also appears to be more common in the professional service sector, such as education and health care, where work is complex; goals are ambiguous; best practices are debatable, and market discipline is far away.

Arpacioglu (2006) emphasizes that mobbing is seen in every sector, but the risk factor is higher (2.8 points above the medium) in social relations and educational institutions among teachers. Duhart (2001) declares that elementary school teachers experienced workplace violence at a rate lower than junior high and high school teachers (17 versus 54 and 38 per 1,000 in the workforce, respectively). College or university teachers were victimized the least among the occupations examined (2 per 1,000 college teachers).

Mobbing, which is seen as the most important reason behind unproductiveness and ineffectiveness of a corporation, exists in the world and in our country in both the public and private sectors. However, it continues as a war that has no mutual understanding in its definition and that cannot be framed or named. Mobbing becomes more consequential in regard to legal action particularly in organizations where force is unacceptable (Tutar, 2005).

Mobbing actions occur from power relationships in the organizations and is seen occurring downwards, upwards, and horizontally. These harmful behaviors in any direction affect workers in a negative way, and it can be the cause for employees' resigning from their jobs. It may also influence workers' health (Yüçetürk, 2006). In corporations, behaviors, such as decreasing the employees' productivity and self-esteem, unwanted physical contact, isolation from society, calling employees by offensive or derogatory nicknames, and mortification, are seen more frequently. In many countries, the unions, the chambers of professions, and public relations departments have started to become interested in these problems in the last decade (Cowie, Naylor, Rivers, Smith & Pereira, 2002, p. 33-51).

In organizations where there are mobbing attacks, the employees lose their motivation; their occupational satisfaction and dependency to the corporation disappear. As a result, personnel circulation increases, and conflict and unproductiveness rise. Both the employees and the organization experience harm.

Mobbing at the workplace, which causes severe individual, organizational, and social problems, is a topic that has started intensive scientific researches in America and in European countries. Even a law related to mobbing is in the process of creation. Nevertheless, in Turkey, it is a topic, which is not mentioned much, and it is not paid attention to even if it happens.

### *Purpose of Study*

The purpose of this study is to determine teachers' views on mobbing attacks at elementary schools and to prepare some suggestions on this topic as mobbing causes both personal and institutional unproductiveness, psychological pain, and physiological discomfort. It also decreases employees' motivation and occupational satisfaction. Moreover, this study aims to arouse interest for this topic and tries to help create detailed studies at educational institutions.

### **Method**

In this study, the "structural interview" method is used as the data collection technique. The structured interview is preferred to present the results in a numerical way, to create a connection with more people, and to decrease the differences between the participants (Çepni, 2001; Türnüklü, 2000, p. 547). The working environment of this research consisted of 58 teachers who worked at primary schools in Şanlıurfa province in the 2005-2006 education year between the months of November and March. The sample group was formed by teachers from 21 primary schools in the province. The teachers in this group were principally chosen by their willingness to participate. There are no rules for the generalization of the results to the environment in the studies in which qualitative research methods are used. Therefore, in the sample selection, instead of statistical presentation, personal selection, which gives the broadest type of information, is more effective (Türnüklü, 2000). For the aims of this study in order to reach the most extensive knowledge, the teachers that voluntarily wanted to be involved in this study were interviewed by using personal relations.

In the aims of this study, 58 teachers who work in primary schools were interviewed. During the interview, questions like the following were asked:

- "What is the most frequent mobbing behavior that you have ever encountered at school?"
- "Who mostly acts in this intimidating way?"
- "What can the teachers do to prevent serious damage from occurring during this period?"

The researchers wanted the teachers to answer these questions by considering all the school environments that they have worked in before and by paying attention to the mobbing behaviors, which they or their colleagues experienced previously.

### *Findings*

Fifty-eight teachers were interviewed in order to determine the primary school teachers' views about the mobbing. Of these, 36 of them (62%) were men, and 22 of them (38%) were women. Forty-nine of them (84%) were primary teachers, and nine (16%) were branch teachers. The views of the teachers on the mobbing behaviors, which they frequently come across at schools, are presented in Table 1 from the most frequent to the least frequent.

**Table 1***The Teachers' Views about Psychological Violence Behaviors at Elementary Schools*

Mobbing Attacks	f	%
1- Interrupting the victim's speech, shouting, scolding.	36	62
2- Showing the victim's achievements to be less than they really are and unfair assessments of their efforts and successes.	34	59
3- Excluding that person, not talking to that person, exerting pressure on the ones who talk, and provoking the victim.	33	57
4- Making a person unsuccessful by assigning duties that do not fit his or her ability, not giving that person major duties, and hiding necessary information from the targeted person.	30	52
5- Calling the person without using his/her name or by using gestures and humiliating and mortifying the victim publicly.	29	50
6- Owning or taking credit for the person's success.	27	47
7- Making fun of or mocking the person's political ideas or religion.	24	41
8- Threatening the targeted individual with losing his or her job and threatening this person verbally.	16	28
9- Criticizing the victim's private life, disturbing the individual by phone, and gossiping about the victim.	13	22

Sixty-two percent of teachers said that the interruption of their speech, being yelled at, and being scolded were the most frequent mobbing actions that they have experienced. Fifty-nine percent of them said that showing their achievements as less than they really were and unfair assessment of their efforts and their successes were the other most frequently experienced mobbing attacks. Fifty-seven percent of them claimed that excluding of the victim, not talking to the victim, exerting pressure on the ones who talk and provoking the victim were the most frequent mobbing actions. Cited in Table 1 the other most frequent mobbing attacks, which the teachers came across are listed as follows: making a person unsuccessful by assigning duties that do not fit his or her ability, not giving that person major duties, and hiding necessary information from the targeted person (52%); calling the person without using his/her name or by using gestures and humiliating and mortifying the victim publicly (50%); owning or taking credit for the person's success (47%); making fun of or mocking the person's political ideas or religion (41%); threatening the targeted individual with losing his or her job and threatening this person verbally (28%); and criticizing the victim's private life, disturbing the individual by phone, and gossiping about the victim (22%).

Twenty-eight of the people (48%) who were involved in the study mentioned that at least some mobbing actions were made by the school administrators. Twenty-six of them (45%) declared that these actions were made by both the administrators and the teachers. Of the 58 people involved in the study, 47 of them (81%) mentioned that one should not stay silent but should react against these actions by going to higher authorities by verbal or written methods. In addition to this advice, sharing the negative experience with a

close friend to gain support from this friend, trying to change the workplace, and securing psychological support were suggested.

### Results and Suggestions

According to the results of the research, the most frequent mobbing actions are (1) interruption of speech, (2) showing the victim's achievements as less than they really were and unfair assessment of the victim's efforts and successes, (3) excluding that person, and (4) making the victim unsuccessful by assigning duties that do not fit his or her ability, not giving that person major duties, and hiding necessary information from the targeted person.

Moreover, these findings show that in primary schools, mobbing actions are made by both the administrators and the teachers. As a result, it can be said that mobbing attacks occur in primary schools, and these attacks harm the students, teachers, and the institution. In light of these findings, the following actions are suggested:

- 1- The victim should understand that the mobbing is not happening because of his or her mistakes, and he or she should not stay silent but should continue to cope with these attacks.
- 2- At the same time by having psychological support, the victim should react against these attacks more consciously and powerfully.
- 3- When it is necessary, by finding witnesses, the victim should ask for protection of his or her legal rights.
- 4- By forming a positive environment and by having open communication channels, the school administrators must solve discipline problems between the teachers neutrally and should prevent mobbing attacks in schools.

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## İlköğretim Okullarında Mobbing'e (Psikolojik Şiddete) İlişkin Öğretmen Görüşleri

### (Özet)

*Problem Durumu:* İşyerinde psikolojik şiddet (mobbing), son zamanlarda örgüt psikolojisi üzerinde çalışanların sıkça başvurdukları bir kavramdır. Duygusal şiddet, bastırma, sindirme, yok sayma, psikolojik terör veya soyut şiddet uygulama gibi anlamlara gelen psikolojik şiddet, aynı zamanda örgütsel çatışmanın, verimsizliğin ve motivasyon eksikliğinin kaynağı olarak görülmektedir. Psikolojik şiddet eylemlerinin kişiler arasında rekabet oluşturabilecek her türlü grupta oluşabileceği özellikle de okullar ve üniversitelerde yoğun olduğu belirtilmektedir. Mobbing terimi ilk olarak hayvan davranışlarını inceleyen Konrad Lorenz tarafından 1960'lı yıllarda kullanılmıştır. Lorenz'in bu kelimeyle küçük hayvan gruplarının büyük bir hayvana karşı toplu şekilde atağa kalkma durumunu tasvir etmeye çalışmıştır. Konrad Lorenz'den sonra aynı terimi Peter-Paul Heinemann çocuklardan kurulu bir grubun yalnız bir çocuğa tavır alıp zarar vermesini tanımlamak için kullanmıştır. İki kullanımda da ortak olan şey, grup oluşturan bireylerin tek kalmış bir bireye zarar vermesidir. Sonraları, Amerika odaklı araştırmalarda, örgütsel çalışmaların yürütüldüğü eğitim birimleri, askeri birimler ya da iş yerlerindeki örgütsel saldırılar için başka başka terimler kullanılmaya başlanmıştır. Okullardaki örgütsel şiddet vakalarında bullying terimi kullanılırken, iş yerlerindeki vakalara mobbing denmesi uygun görülmüştür. Bullying, içinde fiziksel şiddeti de barındırırken, mobbing daha ziyade fiziksel değil psikolojik baskı ve mobbing politikalarının benimsendiği iş yeri psikolojilerini tanımlamada kullanılmaktadır. Mobbing evlilikte, ailede, işte, politik ve sos-



yal hayatta her zaman karşılaşılan bir durumdur. İşyerinde mobbing, kötü bir anlam taşıyan her türlü davranış, sözü, eylemi, hareketi ve yazıyı kapsamaktadır. İşyerinde mobbing konusu bireysel, örgütsel ve toplumsal yönden çok ciddi sorunlara yol açan, Amerika’da ve Avrupa ülkelerinde üzerinde önemle durulmaya başlanan, bilimsel araştırmaların yoğunluk kazandığı bir konudur. Ülkemizde ise yaşandığı halde önemsenmeyen, görmezlikten gelinen ve pek fazla konuşulmayan bir konudur.

*Çalışmanın Amacı:* Bu çalışmanın amacı, çalışanların motivasyon ve iş doyumunu azaltan, psikolojik ve bazen de fizyolojik rahatsızlıklara yol açan, hem bireysel hem de kurumsal verimsizliğe neden olan psikolojik şiddet konusunda öğretmenlerin görüşlerini belirlemek ve bu konuda öneriler getirmektir. Ayrıca, bu konuya dikkat çekerek eğitim örgütlerinde daha derinlemesine çalışmaların yapılmasına ilgi uyandırmak da amaçlanmıştır.

*Yöntem:* Bu çalışmada veri toplama yöntemi olarak “mülakat” yöntemi kullanılmıştır. Araştırma sonuçlarını sayısal verilerle sunabilmek, daha fazla sayıda görüşmeciye ulaşabilmek ve görüşmeciler arasındaki farklılığı en aza indirebilmek amacıyla “yapılandırılmış mülakat” tercih edilmiştir. Araştırmanın çalışma grubu 2005–2006 öğretim yılında Şanlıurfa ili merkezindeki ilköğretim okullarında görev yapan ve araştırmaya gönüllü olarak katılan 58 öğretmenden oluşmaktadır. Nitel araştırma yöntemlerinin kullanıldığı çalışmalarda elde edilen sonuçların evrene genellenmesi gibi bir durum söz konusu olmadığından, örneklem seçiminde istatistiksel temsil edilebilirlik yerine en geniş bilgiyi sağlayabilecek kişilerin seçimine yönelimin önemli olduğu belirtilmektedir. Bu nedenle örneklem grubu, bu çalışmanın amacı doğrultusunda en geniş bilgiye ulaşmak açısından kişisel ilişkiler kullanılarak, il merkezindeki 21 ilköğretim okulunda görev yapan öğretmenlerden gönüllülük esasına dayalı olarak oluşturulmuştur. Görüşmede öğretmenlere okullarda en çok karşılaştıkları mobbing davranışlarının neler olduğu, bu davranışların daha çok kimler tarafından uygulandığı ve bu tür davranışlara maruz kalan öğretmenlerin bu süreçten çok ciddi biçimde zarar görmeden çıkabilmeleri için neler yapabilecekleri konusunda sorular ve seçenekler yöneltilmiştir. Öğretmenlerden şimdiye kadar görev yaptıkları tüm okul ortamlarını göz önünde bulundurmaları, kendilerine olmasa bile diğer iş arkadaşlarına yönelik yapılmış olan mobbing davranışlarını da dikkate alarak soruları cevaplamaları istenmiştir. Araştırmada, hem sayısal (kantitatif) hem de sözel (kalitatif) verilere yer verilmiştir.

*Sonuçlar ve Öneriler:* Araştırma sonuçlarına göre ilköğretim okullarında öğretmenlerin en sık karşılaştıkları psikolojik şiddet saldırıları şunlardır: Konuşmanın kesilmesi, bağırılma, azarlanma, çaba ve başarının haksız biçimde değerlendirilmesi, başarının olduğundan az gösterilmesi, yeteneklerine uymayan işler ve görevler vererek kişiyi başarısız duruma düşürme, önemli görevler vermeme, söz konusu kişiyi dışlama, onunla konuşmak istememe, konuşanlara baskı yapma ve ona karşı kıskırtma. Sonuç olarak ilköğretim okullarında psikolojik şiddet eylemlerinin var olduğu, bu eylemlerin yöneticiler tarafından gerçekleştirildiği kadar öğretmenler arasında da yaygın olduğu ve bu saldırılar karşısında sessiz kalınmaması gerektiği, yazılı ya da sözlü olarak üst makamlara başvurularak yasal yolların da kullanılması gerektiği söylenebilir.

*Anahtar sözcükler:* Mobbing, duygusal taciz, okullarda psikolojik şiddet, ilköğretim okulu

## A New Motto in Environmental Protection: Green Chemistry

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### Suggested Citation:

Yücel. A. S. (2008). A new in environmental protection: Green chemistry. *Egitim Arastirmalari - Eurasian Journal of Educational Research*, 32, 145-154.

### Abstract

*Problem Statement:* Green Chemistry is perceived as a slogan that expresses the exploration, planning, and improvement of methods that would prevent the production of materials within chemical products and processes that are hazardous to the environment and human health. Green Chemistry aims to minimize the hazardous effects of chemical products and processes. The main aim here is to create awareness of the hazardous effects of chemical substances within many levels of society.

*Purpose of Study:* The purpose of this study is to devise an attitude scale to enable individuals to embrace conceptual processes included in the Green Chemistry motto. This scale should also be able to identify the attitudes of individuals in all interdisciplinary fields towards which Green Chemistry is aimed.

*Methods:* The population group of this study comprised 196 university students in the sciences and humanities. The KMO and Bartlett test was employed in order to evaluate the adequacy of the scale data for factor analysis. The result of the KMO Kaiser-Meyer-Olkin test was 77.8%. As 77.8 is greater than 0.5, it was concluded that the data set was appropriate for factor analysis. In addition, the same result was also obtained with the Bartlett test ( $p = 0.00 < 0.05$ ). This means that there are high correlations between the variables. In other words, the data set was adequate for factor analysis. Factor analysis found that the scale gained a 4-factor dimension.

*Findings and Results:* These 4 factors are examined and evaluated individually. Items comprising the first factor group include sentences that are related to laboratory applications and chemical processes and that state pre-definitions of Green Chemistry. Moreover, the first factor also includes the attitude items related to the content of Green Chemistry awareness. Apart from that, students believe that the teaching and activities in science lessons should carry an awareness of Green Chemistry. Items constituting the second factor group are sentences related to Green Chemistry applications processes. The third factor constitutes an attitude statement group related to the requirements of explaining the positive effects on the environment and human health in teaching and education, and choosing chemical reactions used in the industrial

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production and laboratories according to Green Chemistry principles. The fourth factor comprises items stressing the answer to the question "What should be the main aim of industrial institutions associated with environmental protection and Green Chemistry?"

*Conclusions and Recommendations:* By offering to future generations a more comprehensive perspective for environmental protection, it is possible to make a significant contribution to the green environment. Moreover, Green Chemistry could become a global watchword.

*Keywords:* Green Chemistry, chemistry curriculum, Green Chemistry courses, Green Chemistry attitude scale.

Concerns about the future have been the main reason for societies to deal more seriously with environmental problems. Attempting to secure an uncertain future, humans have begun to be more sensitive about environmental problems and have placed these problems higher on the agenda through various activities. This has led to greater environmental awareness. Environmental concerns reflect the importance of the sensitive balance between humans and their surroundings, given the scarcity of natural resources. This concern has enabled the development of studies that aim to protect the natural environment. At the core of these studies lies the concept of "Environmental Education Information". Environment, generally described, is the total in a given period of time of physical, chemical, biological, and social agents that can have a direct or indirect effect, instantly or throughout time, on human activities and living things (Parist, 1997). Humans are at the centre of this concept. To elaborate further, the environment denotes the following:

1. Humanity's mutual relationship and interaction with all living things, that is, with plants and other animal species.
2. Humanity's reciprocal relationships with other humans and their mutual interactions during these relationships.
3. Humanity's mutual relationships and interactions with the abiotic environment, which stands outside the world of living things but includes the surroundings where living things continue to exist, such as air, water, earth, chemicals, and climates (Keleş et al., 1997).

Effective and continuous environmental education has a significant effect on environmental protection (Yücel & Morgil, 1999). This concept, called "Green Chemistry", provides another point of view related to measures that can be taken against environmental pollution. Green Chemistry has started to be accepted as a practical motto worldwide for environmental protection education.

The notion of Green Chemistry, recently perceived as a motto, aims to find, plan, and improve methods to prevent and eliminate the existence of substances in chemical products and processes that are hazardous to the environment and human life. Green Chemistry provides unique opportunities for innovation in the chemistry curriculum and for engaging a broad spectrum of students in the study of chemistry. Green Chemistry blends innovative chemistry with economic and environmental benefits, offering a science-based approach to solving some of the most significant environmental problems. It is highly interdisciplinary, incorporating aspects of engineering, biology, economics, and ethics (Kirchhoff, 2001).

Although many faculty members and students in the study of chemistry recognize the benefits of a greener curriculum, widespread incorporation has been limited by the

availability of Green Chemistry educational materials and the scarcity of successful models for integrating Green Chemistry into the classroom and laboratory (Haack, 2005). As Green Chemistry aims to minimize the hazards of chemical products and processes to the ecosystem (Hehn, 1991), its first aim is obvious: to engender an awareness of the hazardous effects of chemical substances. In other words, Green Chemistry seeks to minimize the hazardous effects of semi-products or wastes on the environment when obtaining or using them (Erten, 2000). These principles focus on all aspects of synthesis and processing, such as solvents, separations, energy, and minimization of waste (Anastas et al., 1998; Hjeresen et al., 2000).

The main principles of the Green Chemistry motto include the following:

- Cleaning or processing waste materials in order to eliminate their hazardous effects
- Planning synthetic methods for all materials in a process to create products in the most efficient way and, if possible, ensuring that the materials used have no or very few damaging effects on the environment and human health
- Establishing priorities in identifying chemical products and choosing those offering functions and specifications that prevent poisoning
- Avoiding the addition of excessive amounts of solvents or other chemicals externally during chemical processes
- Considering energy-saving principles in chemical processes and thus planning that synthetic processes be carried out, to the extent possible, at room temperature and normal atmospheric pressure
- Aiming to use renewable energy sources that are essential for both technical and economical uses
- Developing methods to prevent useless by-products in the planned syntheses
- Using the most selective catalytic reactive materials in reactions
- In all circumstances making a priori choices for chemical processes and reactions purified from hazardous effects, thus protecting the environment and human health and establishing this as a national, as well as global, policy
- To these ends, Green Chemistry awareness should be disseminated to certain levels of society

It is not only necessary to infuse Green Chemistry into the chemistry curriculum, but we must take an interdisciplinary approach and teach the basic tenets of Green Chemistry and sustainability to those who are majoring in other disciplines such as business, political science, and philosophy. Although it is scientists and engineers who will practice Green Chemistry, business leaders will guide the course of companies on the path of sustainability, and political leaders will set the tone for government policy on these issues (Cann, 2004). This, without doubt, can be achieved through education. The Green Chemistry motto should be included in environmentally friendly activities covered by environmental education, thus ensuring that all students receiving this education will become aware of this motto and that the concept of Green Chemistry will empower educated individuals.

The purpose of this study is to devise an attitude scale to enable individuals to embrace conceptual processes included in the Green Chemistry motto. This scale should also be able to identify the attitudes of individuals in all interdisciplinary fields towards which Green Chemistry is aimed. Determining the attitudes of individuals studying in various disciplines towards the issue will make it possible to establish suggestions that will help transform Green Chemistry awareness into action.

## Method

### *Population and Sampling*

The population group of this study comprised 196 university students majoring in the sciences and humanities. Hence, the contents of the Green Chemistry integration scale, with an extended scope and new additions, was applied to a total of 196 students.

### Findings and Results

The items of the scale, which was developed previously by (Yücel et al., 2006) on 140 chemistry students, were slightly reworded. Some items were made less specific and more general in order to enable social sciences students comprehend items easily. In order to test the structural validity of this tool, that is, whether it measured a single structure (notion), principle components analysis, a factor analysis technique, was used. Factor analysis produces factors related to the structure or the notion to be measured. Depending on the results of the analyses, entries are excluded from the tool, and the analysis is repeated. In this process, factor analysis seeks to answer the question related to structural validity: Do the scores obtained from this test really measure what the test is assuming to measure? In this regard, factor analysis contributes significantly to the evaluation of the structural validity of the test or scale scores (Stapleton, 1997a). The indications of a measured structure need to be consistent, meaningful (logical), and homogeneous. Moreover, as an indication of the reliability of the attitude scale, the Cronbach alpha internal coherence coefficient was calculated as 0.7043.

The KMO and Bartlett test was implemented in order to evaluate the adequacy of the data for factor analysis. The result of the KMO test was calculated as 77.8%. Because 77.8 is greater than 0.5, we concluded that the data set was appropriate for factor analysis. In addition, the same result was also obtained with the Bartlett test ( $p = 0.00 < 0.05$ ). This means that there were high correlations between the variables; in other words, the data set was adequate for factor analysis. A correlation matrix can also verify whether a data set is adequate for factor analysis. If the correlation coefficients between the variables are 0.30 and above, it is highly probable for the variables to create factors. It is difficult to interpret the correlation matrix if there are many variables.

The evaluation determined that the second, eighth, ninth, twelfth, eighteenth, and thirty-first sentences did not reflect a significant attitude. All students fully agreed with the following items: "Employee safety is important during the production process of a product" (2); "Training on the consumption of renewable energy sources should be the main objective in all factories and offices" (8); "Materials which are significant for the ecosystem should be obtained through natural methods" (9); "Every individual who has attended a chemistry course should have general knowledge as to whether the products used in daily life are hazardous to the environment" (12); "Food and beverage packages should be chosen among recycled materials for a greener environment" (18). Furthermore, all the students were undecided about item 31: "Cancer risk and other risk factors are natural requisites of chemistry laboratory studies." They did not have a positive or negative consensus. Therefore, speaking about a net attitude difference for these 6 items in the scale becomes irrelevant. These 6 items do not offer a significant contribution for evaluating the attitudes of students towards Green Chemistry. Table 1 shows the pooled variance of the items, which remained when these 6 items were removed.

**Table 1***Common Variance Analysis Results of Variables*

Item	Extraction	Item	Extraction	Item	Extraction	Item	Extraction	Item	Extraction
1	,971	11	,918	20	,898	27	,951	35	,973
3	,968	13	,973	21	,952	28	,978	36	,892
4	,907	14	,952	22	,904	29	,965	37	,958
5	,898	15	,979	23	,936	30	,936	38	,930
6	,928	16	,972	24	,974	32	,875	39	,804
7	,936	17	,901	25	,943	33	,936	40	,926
10	,914	19	,969	26	,946	34	,947	41	,852

As depicted in Table 1, the pooled variance of the variables ranges between 0.804 and 0.979, and there is a presence of a strongly pooled variance. According to the result of the factor analysis given in Table 2, the scale gained a 4-factor dimension.

**Table 2***Factor Counts Related to Rotation and Direct Factor Analysis and Stated Variance Percentage*

Extraction Sums of Squared Loadings			Rotation (Varimax) Sums of Squared Loadings		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
27,190	77,687	77,687	13,756	39,304	39,304
2,466	7,045	84,732	10,473	29,923	69,227
1,664	4,754	89,486	5,904	16,869	86,096
1,342	3,835	93,321	2,529	7,226	93,321

As Table 2 shows, there are 4 factors with eigenvalues greater than 1 related to the correlation matrix. The first factor explains 39.304% of the total variance, the first and second factors together explain 69.227% of the total variance, and the 4 factors together explain 93.321% of the total variance. Moreover, as also can be seen from the scatter plot in Figure 1, the line graph significantly loses its slope with the fourth factor. Therefore, the number of factors is limited to 4.

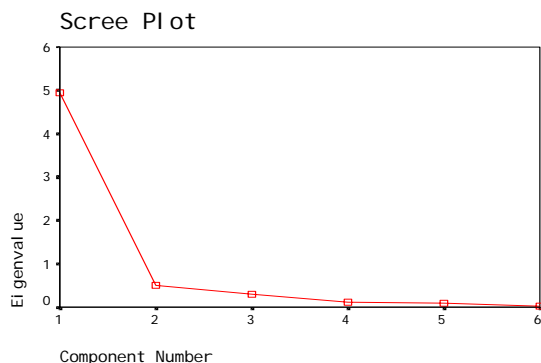


Figure 1. Scatter Plot

A varimax rotation is applied to the items for clarity and meaningfulness. Table 3 shows the varimax rotation results. A variable is in close relationship to the factor under which it has the most weight in absolute value. Table 3 shows the 4 factors and the weight of each variable under each factor.

As Table 3 illustrates, items 6, 35, 37, 34, 29, 17, 36, 22, 23, 38, 24, 4, 3, 16, 40, 26, 11, 32, 1, 10, and 19 have the greatest weights. These questions are under the first factor. Items 28, 33, 30, 7, 20, 15, 25, and 13 are under the second factor. Items 21 and 14 are under the third factor, and items 41, 39, and 27 are under the fourth factor. These 4 factors are examined and evaluated in the following section.

First factor comprises 21 items (6, 35, 37, 34, 29, 17, 36, 22, 23, 38, 24, 4, 3, 16, 40, 26, 11, 32, 1, 10, and 19), which are sentences related to laboratory applications and chemical processes and that state pre-definitions of Green Chemistry. Accordingly, 196 students from science and humanities departments agree that alternative products that are less environmentally hazardous should be used. Furthermore, the aim of the process of obtaining a chemical product is stated as to minimize the side effects such as explosions and toxic gas leakage. The university students also agree that saving energy should also be considered when planning a chemical process. They are also of the same opinion that authorized persons implementing chemical reactions or processes should consider whether the products they are using are environmentally friendly. Moreover, students believe that using environmentally friendly chemicals offers an economically more advantageous life style and also contributes to Green Chemistry teaching.

The first factor also includes the attitude items related to the content of Green Chemistry awareness. Students believe that Green Chemistry should be an environmental-protection watchword for everyone, not just chemists. They also believe that Green Chemistry should be perceived as a way of thinking and a lifestyle for individuals. Although the belief that Green Chemistry should be sustainable is becoming commonplace among students, they also believe that Green Chemistry concepts may vary in different subjects. They also believe that science teachers should use various teaching media containing Green Chemistry concepts while lecturing. Moreover, they believe that science lessons, whether in teaching or activities, should be coupled with Green Chemistry awareness. Additionally, students from this group agree that environmental pollution in the areas where industrial institutions are established can be

reduced by complying with Green Chemistry rules and that these rules should also be referred to when implementing experiments in chemistry laboratories.

**Table 3**  
*Rotated Component Matrix*

Item	Component			
	1	2	3	4
6	,922	,237	,126	0,08415
35	,894	,384	,117	,108
37	,874	,302	,303	,110
34	,822	,432	,280	0,08303
29	,776	,309	,511	0,07435
17	,776	,449	,299	0,08957
36	,772	,350	0,06441	,412
22	,766	,213	,515	0,07745
23	,764	,512	,288	0,08324
38	,752	,434	,410	0,09383
24	,727	,573	,332	0,08580
4	,715	,619	0,07571	0,08027
3	,683	,513	,484	0,07158
16	,681	,614	,356	0,07297
40	,671	,425	,536	0,09140
26	,659	,455	,547	0,07234
11	,652	,608	,342	0,08027
32	,638	,540	0,04341	,417
1	,637	,459	,590	0,07822
10	,621	,598	,408	0,07436
19	,607	,570	,518	0,08076
28	,423	,830	,326	0,05793
33	,278	,801	,463	0,05656
30	,278	,801	,463	0,05656
7	,278	,801	,463	0,05656
20	,505	,779	,182	0,05376
5	,505	,779	,182	0,05376
15	,577	,757	,260	0,07641
25	,592	,700	,312	0,07386
13	,511	,667	,512	0,06692
21	,214	,337	,890	0,03582
14	,214	,337	,890	0,03582
41	0,03873	0,0001963	0,01119	,922
39	,103	-0,001617	0,03700	,890
27	,565	,470	,203	,609

Eight items (28, 33, 30, 7, 20, 15, 25, and 13) constitute the second factor, which are sentences related to Green Chemistry applications processes. This factor includes attitude sentences related to the kinds of applications that should be implemented in association with Green Chemistry and the outcomes of these applications. The principle here is that industrial production should always focus on using environmentally friendly cleaners and solvents, a view based on the idea that environmental awareness should prevail in all products. Moreover, results show that the students commonly believe that it is possible to develop future methods to eliminate post-production waste materials in the chemical industry that cause



environmental pollution. Another item incorporated in this factor is "Chemists and engineers, while choosing a chemical reaction, should prefer 'green reactions' that produce as few unwanted by-products as possible". This factor also incorporates opinions associated with the application of Green Chemistry to teaching processes. Although the requirement of training all students in Green Chemistry awareness while taking chemistry courses is stressed, traditional teaching should be modified in all schools if Green Chemistry is to be sustainable. Similarly, the attitude items "Usage of cancerous materials should be avoided as much as possible in laboratory applications of science classes" and "Science teachers should make use of the materials prepared with 'Green Chemistry' awareness for chemistry classes" are common in this group.

The third factor comprises items 21 and 14. These items constitute an attitude statement group related to the requirements of explaining the positive effects for the environment and human health in teaching and education and choosing chemical reactions used in industrial production and laboratories according to Green Chemistry awareness. The fourth factor comprises items 41, 39, and 27. The answer to the question "What should be the main aim of industrial institutions associated with environmental protection and Green Chemistry" gains significance here.

Globalization's main aim is to ensure the most economical and efficient production possible. Therefore, environmental protection ranks second. Hence, Green Chemistry awareness also ranks second. This reflects today's economic reality. Unfortunately, industrial institutions have not adopted an environmental protection watchword that carries the whole message of Green Chemistry awareness. Instead they develop policies aimed at making production as cheap and quick as possible. Maximization of material profits ranks higher than environmental concerns.

### **Discussion and Conclusion**

Although the rapid development of science and technology offers a high standard of living, it also destroys many things in the environment or causes them to change. Environmental pollution is one of the major problems of the modern world. Current global conditions have shown the many negative effects of environmental pollution. Many steps have already been taken to protect the environment. Many important decisions and attempts have been made to develop protective measures. Delivering effective and efficient environmental protection education to all sections of society is of great importance. One of the concepts gaining ground in recent years in association with environmental protection is Green Chemistry.

Green Chemistry applications should support environmental protection education. This education should be delivered through lifelong education programs in various fields of higher education. Therefore, creating Green Chemistry awareness among persons dealing with and working in chemistry-related fields is requisite. On the other hand, ensuring that all individuals working and studying in all sections of society develop Green Chemistry awareness is a cornerstone of environmental protection teaching and should be one of the principles of life-long education. This is the core idea of this study. Green Chemistry should take its place in the process of global change as an alternative method for protecting the ecosystem.

The results of the scale applied to identify the attitudes of university students from science and humanities departments towards Green Chemistry awareness reveal that the Green Chemistry concept can be associated with various environmental, scientific, and educational processes and indeed should be associated

with these processes even further. Students of both the sciences and humanities consider the Green Chemistry concept as a whole. Their attitudes are affected by more than just chemistry: taking precautions in protecting the environment, selection of environment friendly products, working with non-hazardous chemicals and so forth. Moreover, they believe it is the responsibility of all individuals, from academic staff to teachers, students, families, chemists, engineers, and everyone studying or working in interdisciplinary fields to turn Green Chemistry's principles into actions. Thus individuals with Green Chemistry awareness will transfer this awareness to environmental protection activities by further enhancing its core concepts and taking action. In order to obtain a Green Chemistry slogan, a pyramid has been designed based on the scale results. This pyramid is shown in Figure 2.

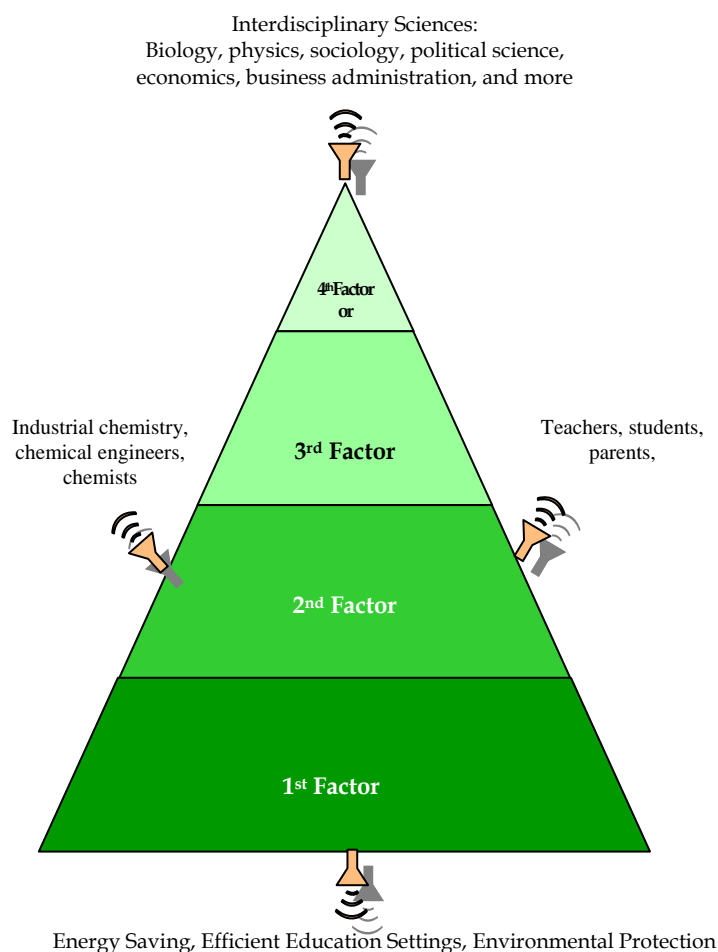


Figure 2. Green Chemistry pyramid

As the pyramid rises upward, generality of the findings can be observed. The institutions, branches of science, professions, and individuals shown at the edges of the pyramid are effective elements in creating Green Chemistry awareness. The diversity and number of these elements increase from the bottom of the pyramid to the top. There is an interaction from the specific to the more common.

The layer at the very bottom of the pyramid shows that the first factor

Consequently, the results derived from the Green Chemistry awareness scale will establish a conceptual basis according to the rationale of the Green Chemistry pyramid for individuals from the institutions shown at the edges of the pyramid. Thus by offering a more comprehensive perspective of environmental protection to future generations, it will be possible to make a significant contribution to the green environment with Green Chemistry as a global watchword.

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## Çevre Korumada Yeni Bir Slogan: Yeşil Kimya (Özet)

### *Problem Durumu*

Günümüzde Yeşil Kimya kavramı, kimyasal ürünlerin ve proseslerdeki çevre ve insan sağlığına zararlı maddelerin oluşumunu engelleyici ve önleyici yöntemlerin bulunması, planlanması ve geliştirilmesini hedefleme amaçlı bir slogan olarak algılanmaktadır. Yeşil Kimya bilinci, kimyasal ürünler ve süreçlerin ekosisteme zararlarının minimuma indirilmesini amaçlamaktadır. Buradaki asıl hedef, kimyasal maddelerin zararlı etkilerinin farkında olunması bilincinin aşılması ve toplumun belirli basamaklarına ulaştırılmasıdır.

### *Araştırmanın Amacı*

Çalışmada, Yeşil Kimya sloganı içinde yer alan kavramsal süreçlerin, bireylerde davranış olarak gelişmesini sağlayıcı ve interdisipliner tüm alanlardaki bireylerin Yeşil Kimya'ya yönelik tutumlarını belirlemek için uygun olabilecek bir tutum ölçeği'nin oluşturulması hedeflenmiştir.

### *Araştırmanın Yöntemi*

Çalışmanın evrenini, 196 üniversite öğrencisi oluşturmaktadır. Bu öğrencilerin bir kısmı fen bölümlerinde okurken, diğer bir kısmı da sosyal bölümlerde okumakta olan öğrencilerdir. Ölçekteki verilerin, faktör analizi için uygunluğunun değerlendirilmesi amacıyla, KMO ve Bartlett's Testi yapılmıştır. KMO testi sonucu % 77,8 olarak bulunmuştur. 77,8, 0.50 den büyük olduğu için veri setinin faktör analizi için uygun olduğu sonucuna varılmıştır. Ayrıca Bartlett testi ile de aynı sonuç elde edilmiştir ( $p=0.00<0.05$ ). Bu da, değişkenler arasında yüksek korelasyonların mevcut olduğunu, başka bir deyişle veri setinin, faktör analizi için uygun olduğunu göstermektedir. Yapılan faktör analizi sonucunda, ölçeğin 4 faktörlü bir boyut kazandığı tespit edilmiştir.

### *Araştırmanın Bulguları*

Bu dört faktör kendi içinde incelenmiş ve yorumları yapılmıştır. Birinci faktör grubunu oluşturan cümleler, en açık şekliyle laboratuvar uygulamaları ve kimyasal proseslerle ilgili cümleleri içeren ve Yeşil Kimya ile ilgili ön tanımları ifade eden cümlelerdir. Ayrıca, birinci faktörü oluşturan cümleler arasında, Yeşil Kimya bilincinin içeriği ile ilgili tutum cümleleri de yer almaktadır. Bundan başka, öğrenciler, fen derslerindeki bilgiler ve aktivitelerin de Yeşil Kimya bilinci ile bağlaşıklık olması gerektiği görüşünü taşımaktadırlar. Öğrenciler bu grupta, endüstriyel kuruluşların bulunduğu bölgelerde çevre kirlenmesinin Yeşil Kimya kurallarına uyulduğu takdirde azaltılabileceğini ve kimya laboratuvar deneylerinde de bu kurallara uyulması gerektiği ile ilgili tutumlar içindedirler. İkinci faktör grubunu oluşturan cümleler, Yeşil Kimya uygulamaları süreci ile ilgili cümlelerden oluşmaktadır. Bu faktör içinde, Yeşil Kimya ile ilgili ne tür uygulamalar yapılabileceği ve bu uygulamalar sonucunda neler olacağı ile ilgili tutum cümleleri de yer almaktadır. Bu faktör, Yeşil Kimyanın öğretim sürecine uyarlanması ile ilgili görüşler de içermektedir. Burada, kimya dersi alan tüm öğrencilerin Yeşil Kimya bilinci ile yetiştirilmesi gerekliliği

üzerinde durulurken, Yeşil Kimyanın sürdürülebilir olması için tüm okullarda geleneksel öğretim yöntemlerinin değişmesi ile ilgili görüş yer almaktadır. Üçüncü faktör, hem eğitim-öğretim işinde çevre ve insan sağlığına olumlu etkilerin anlatılması gerekliliği ile ilgili, hem de endüstriyel üretim ve laboratuarda kullanılan kimyasal reaksiyonların seçiminde, Yeşil Kimya bilinci ve öğretisinin göz önünde tutulması ile ilgili tutum cümlelerinin yer aldığı bir gruba oluşturmaktadır. Dördüncü faktör ise, çevre koruma ve Yeşil Kimya ile ilgili olarak endüstriyel kurumların ana amacı ne olmalıdır sorusunun cevabını vurgulayan cümlelerden oluşmaktadır.

#### *Araştırmanın Sonuçları ve Önerileri*

Çevre korumada, Yeşil Kimya bilinci, global değişim sürecinde tüm disiplinlerdeki bireyler için ekosistemi koruyan bir alternatif olarak yerini almalıdır. Yeşil Kimya bilinciyle ilgili olarak, üniversitelerin fen ve sosyal bölümlerinde okuyan öğrencilerin, Yeşil Kimya ile ilgili tutumlarını belirlemek amacıyla uygulanan ölçeğin sonuçları; Yeşil Kimya kavramı ile birçok çevresel, bilimsel ve eğitimsel süreçlerin ilişkilendirilebileceğini ve daha ileri boyutta da ilişkilendirilmesi gerektiğini ortaya koymaktadır. Yapılan değerlendirmeler sonucunda, Yeşil Kimya'nın slogan olabilmesi için, uygulanan ölçek sonuçlarından yola çıkılarak bir yeşil kimya piramidi oluşturulmuştur.

Araştırmacı sonuç olarak, Yeşil Kimya bilinç ölçeğinden çıkan sonuçların, gelecek nesillere çevre koruma konusunda daha detaylı bir bakış açısı kazandıracağını, yeşil çevre oluşumuna büyük katkı sağlanacağını ve yeşil kimya bilincinin, global bir parola haline geleceğini düşünmektedir.

**Anahtar Sözcükler:** Yeşil kimya, yeşil kimya bilinci, yeşil kimya piramidi, tutum ölçeği, faktör analizi.

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