Öneri.C.9.S.35.
Ocak 2011.51-74.

THE EXAMINATION OF THE RELATIONSHIP BETWEEN CREATIVITY AND WORK ENVIRONMENT FACTORS WITH A RESEARCH IN WHITE-GOODS SECTOR IN TURKEY

Aslı KÜÇÜKASLAN EKMEKÇİ[1], Begüm TEKİN[2]

[1]Marmara Üniversitesi, İ.İ.B.F., İngilizce İşletme Bölümü, Doçent Dr.
[2]Marmara Üniversitesi, S.B.E., Yönetim ve Organizasyon (İng) Bilim Dalı Yüksek Lisans Mezunu

THE EXAMINATION OF THE RELATIONSHIP BETWEEN CREATIVITY AND WORK ENVIRONMENT FACTORS WITH A RESEARCH IN WHITE-GOODS SECTOR IN TURKEY

Abstract: The objective of this study is to find out the relationship between work environments and employee creativity. In other words, it is aimed in this study to examine the work environment factors which stimulate and hinder creativity in a detailed way to find out ways to foster creativity in workplace. The effect of work environment on creativity has been studied and the creative work environments have already been indicated by previous researches but those studies were conducted among the R&D workers while this study was conducted within various departments of the two organizations. The hypothesis was generated and empirically tested by the data obtained from two organizations both operating in white-goods sector in Turkey. The results demonstrate that supervisor support; coworker cohesion, autonomy and task involvement factors have positive relationships with creativity. Furthermore, the findings of this study provide insights to organizations aiming to have creativity within the organization.

Keywords: Creativity, Work Environment, Working Conditions, White-Goods Sector.

YARATICILIK VE İŞ ÇEVRESİ FAKTÖRLERİ ARASINDAKİ İLİŞKİNİN TÜRKİYE'DEKİ BEYAZ EŞYA SEKTÖRÜNDE YAPILAN BİR ARAŞTIRMA İLE İNCELENMESİ

Özet: Bu çalışmanın amacı iş ortamı ve çalışan yaratıcılığı arasındaki ilişkiyi incelemektir. Başka bir deyişle, bu çalışma işyerinde yaratıcılığı geliştirme yolları bulabilmek için, yaratıcılığı teşvik eden ve engelleyen iş ortamı faktörlerini incelemeyi amaçlamaktadır. İş ortamının yaratıcılığa etkisi daha once yapılan araştırmalarda incelenmesine rağmen bu çalışmaların daha çok Araştırma&Geliştirme çalışanları arasında yapıldığı görülmektedir. Bu çalışma ise sadece Araştırma&Geliştirme departmanında değil, iki farklı organizasyonun çeşitli departmanlarında gerçekleştirilmiştir. Bir dizi hipotez kurulmuş ve beyaz eşya sektöründe bulunan iki farklı firmadan toplanan veriler kullanılarak test edilmiştir. Sonuçlar, amir desteği, çalışan desteği, insiyatif ve iş odaklılık faktörleri ile yaratıcılık arasında pozitif bir ilişki olduğunu göstermiştir. Bu çalışmada amir desteğinin yaratıcılık üzerinde etkisi olan faktörlerden birisi olarak olarak bulunması spesifik amir davranışlarının yaratıcılığa etkisinin daha detaylı olarak incelenmesi gereğini ortaya koymuştur. Ayrıca, bu çalışma yaratıcı çalışanlara sahip olmayı isteyen organizasyonlara yol göstermektedir.

Anahtar Kelimeler: Yaratıcılık, İş Çevresi, Çalışma Koşulları, Beyaz Eşya Sektörü.

I. INTRODUCTION

Creativity has become essential as organizations are facing the global economic competition today. Company's success and survival depends on the degree to which they can transform creative ideas into innovative products and services [1]. As innovation is "the successful implementation of creative ideas within an organization" [2], we can say that creativity by employees and teams is the starting point for innovation. For that reason, the development of creativity is essential for the organizations which want to respond to advancing technology; changing environment and organizational structure and overcoming competitors [3].

Understanding factors associated with creative individuals, groups, and organizations is very important for organizational success [4]. Being creative should be encouraged by organizations as creativity is the cornerstone of organizational change and the foundation of innovation, which is a key to organizational effectiveness [5].

Creativity is a multifaceted concept which is a result of interactions among several important components and external conditions in the work environment can inhibit or facilitate creative performance [6]. Organizations should realize the importance of creativity for higher levels of performance, which requires a supportive work environment [7].

Creativity research started in early 1950s and today it covers a very broad range. Whereas earlier studies had an emphasis on inner determinants of

creativity, during the 1980s and 1990s there was an increasing interest in the creative capacity within a social context and more emphasis was layed on environmental factors [8]. Although, there are studies in the literature providing insights about the organizational creativity, not sufficient studies and research has been conducted regarding the effect of work environment factors on employee creativity and the relative effects of these factors. Since, previous studies mostly focused on the various factors rather than the work environment factors; there is a need to examine how the employee creativity is affected by work environment factors. Such a study is essential since it has both theoretical and practical implications.

This study aims to explore the situation in Turkey since there is not sufficient research conducted in this field in Turkish context. As it was stated, the majority of the research regarding to this topic has been conducted in United States [9]. Therefore, this study will provide a detailed picture of the situation in Turkey which will give crucial insights and awareness about the work environment factors affecting the creativity of the employees in Turkey.

The major purpose of this study is to clarify relationships between work environment factors and the employee creativity, and to assess factors of the work environment that are stimulants and barriers to the creativity of employees. Therefore, the research question of this study is what is the relationship between the work environment factors and the creativity of employees?

In the first chapter of the study, the concept and definitions of creativity, creative person, group creativity, the creative process, creativity thinking techniques, theories of creativity and obstacles to creativity are mentioned. In the second chapter of the study, work environment topic was investigated with definitions and review of work environment literature was given. In the third chapter of the study, previous researches on relationship between creativity and work environment are given and the relationship between them is explained. In the last four chapters, methodology and findings of the study are explained; discussion, limitations, recommendations and conclusin of the study are given.

II. THE CONCEPTUAL BACKGROUND FOR CREATIVITY

II.1. The Concept and Definitions of Creativity

It is difficult to properly define creativity. Over the years, there have been several different definitions of creativity. Several resarch areas have tackled this topic, including psychology, cognitive science, and management, and each of these areas have focused on different aspects of creativity, depending on the field of application [10].

Most definitions of creativity share a number of common themes and stress the importance of both novelty and appropriateness: A product or idea must be novel (different from what has come before), but it must also be appropriate to the problem (correct or useful or valuable in some sense). It was stated that it is important to include a third element in the definition of creativity: the nature of the task [11]. The tasks should be heuristic rather than algorithmic in order to be considered as creative. Algorithmic tasks are completely straightforward; the path to the solution is clear and can be performed almost by rote. There is no room for creativity in performing these tasks. On the other hand, heuristic tasks are open-ended, there is no established path to the solution, there may be more than one way of getting out, great deal of searching is required and they are not completely clear and straightforward. [11]

Creativity may be defined as “the ability to bring something new into existence” [12]. Amabile views creativity as “the production of novel and useful ideas by an individual or small group of individuals working together” [13]. According to Morgan, all definitions of the creativity were putting a relationship between novelty and creativiy ans states that a creative process must bring forward something new [14]. It refers to both the process of idea generation or problem solving and the actual idea or solution. According to another statement, the idea must also be appropriate, useful and actionable [15].

Creativity can be viewed as a means of identifying problems, using guesswork, developing hypotheses, communicating ideas to others, and contradicting what would normally be expected [5].

When considering the definition of creativity, it is necessary to make a distinction between creativity in the context of novel ideas and creativity in the context of problem solving. Although both types of creativity are important, creative problem solving is more common, more accessible to most people and more widely applicable in organizational settings [4]. Creative problem solving may play an important role in maintaining the competitive advantage of an organizaton by aiding its employees to effectively address the unique and poorly defined problems they commonly face [16].

Moreover, different definitions of creativity were referred as creativity is the interaction of at least three facets. These facets are person, process and environment. Person relates to the skills, abilities, and motivation; process refers to the mental acitivities needed to reach some creative end and the environment stands for the physical and psychological surroundings of an individual [1].

Based on a combination of these definitions, creativity can be defined as the formation of novel, appropriate and useful ideas by individuals or groups [4]. Workplace creativity is generally defined in the perspective of organizational products, services, processes, and procedures and focuses on the creation of novel and useful ideas [3].

Guilford constructed the concept of creativity as divergent thinking and according to his study the basic factors of divergent thinking are fluency (the ability to produce a large number of ideas), flexibility (the ability to produce a large variety of ideas), originality (the ability to produce ideas that are unusual) and elebration (the ability to develop an idea).

The concepts of creativity, creative thinking, divergent thinking and divergent production are commonly used interchangeably [17]. Divergent thinking is the ability of generating new and varied ideas and often viewed as providing an estimate of the potential of creative thinking. Convergent thinking is defined as the ability of seeking and finding one true solution to a problem by taking a novel approach. Many researchers agree that the creative achievement requires both divergent and convergent thinking [18].

Different approaches to creativity have emerged in psychological and social disciplines[18]:

Psychometric: Considers the creativity as a mental trait which can be measured quantatively.

Cognitive: Assume that creativity can be understood by examining cognitive process which generates creative work.

Experimental: Assume that creativity can be quantatively measured by focusing on cognitive process of individual who engages in creative task by using artificial environments.

Social and Contextual: Regards the creativity as more social and cultural than psychological.

In management studies, creativity should be considered from a multi-level perspective by considering three levels of analysis: Individual (intrasubjective), Group (intersubjective) and Organization (collective) [19].

II.2. Theories of Organizational Creativity

The three major theories of organizational creativity are; The Componential Theory of Organizational Creativity and Innovation, The Interactionist Theory and The Multiple Social Domains Theory. All of these major theories of organizational creativity include the work environment as an influence on employee creativity [20].

II.2.1. The Componential Theory of Organizational Creativity and Innovation

The purpose of this theory is to capture all of the major elements influencing creativity and innovation within and organization. The organizational theory is built on the Componential Theory of Individual Creativity and incorporates that theory.

According to this theory the elements of the work environment will affect an individuals's creativity (depicted by the solid arrow) and suggests that the creativity which is produced by individuals and teams serves as a primary source for innovation within the organization (depicted by the dotted arrow).

Theory argues that the work environment affects creativity by affecting the individual components. The environment can have an influence on any of the components, but the impact on task motivation is more direct and immediate than the others [21].

Organizational motivation component consists of the basic orientation of the organization toward innovation and supports for creativity and innovation throughout the organization.

The most important elements of the innovation orientation are: a value placed on creativity and innovation in general, an orientation toward risk, a sense of pride in the organizations members and enthusiasm about what they are capable of doing, and an offensive strategy of taking the lead toward the future.

Amabile states that the orientation toward innovation must come, primarily, from the highest levels of management.

Resources are everything that the organization owns which are available to assist work in the domain targeted for innovation. Resources can be summarized as: enough time for producing novel work, people with necessary expertise, designated funds for this domain, material resources, systems and processes, relevant information, and the availability of training.

Management practices include management at all levels, especially the level of individual departments and projects.

Management practices for creativity contain the ability to form effective work groups that represent a diversity of skills. They are made up of individuals who

have trust on each other, have a good communication, challenge each other's ideas in a constructive way, support each other mutually, and have a commitment to work they are doing [21].

Amabile's componential theory of creativity is the only theory that specifies creativity features that have a contribution to the perceived work environment for creativity [22].

II.2.2. Interactionist Theory of Organizational Creativity

Interactionist model of organizational creativity, which was based on Interactionist model of creative behavior was also introduced [23]. This model extends the model of creative behavior into a social context.

It was proposed that understanding five components is necessary for understanding organizational creativity [23]:

1) The creative process

2) The creative product

3) The creative person

4) The creative situation

5) The way in which each of these components interacts with each others.

The crucial links among these five factors which are individual, group, and organizational characteristics have an impact on the creative process and situation, which results in creative output within the organization [24].

The complex mixture of individual, group, and organizational characteristics creates the environment in which individual and group behaviors takes place; that is, the organizational creative process is made up of both salient behaviors and creative situations.

The creative situation is defined as "the sum total of social and environmental (contextual) influences on creative behavior" [24]. The creative process, results in creative outputs (ideas, products, services or processes) [24].

II.2.3. Multiple Social Domains Theory of Creativity

Ford states that "creative and habitual actions represent competing behavioral options thay may be simultaneously influenced by multiple domains of social action" [25]. According to him these actions are conceptually independent, competing behavioral options. He suggests that the individuals are expected to choose familiar habitual actions, if creative actions are not supported by certain motivations and conditions.

Ford also suggests that creativitive work performance should be expected from the personally interested, intrinsically motivated people. According to him people develop expectations based on previous experiences. Behaviors with positive results create favorable receptivity beliefs for that behavior which makes it more probable to occur in the future. It was stated that states that capability beliefs; which can also be referred as self-efficacy, self-confidence or self-esteem; related to successful habits are likely to be very favorable and makes the habitual action attractive [25]. The overall emotional climate provided by an encouraging culture has a positive effect on creativity.

Similar to Amabile's [15] model, Ford [25] also suggests that there are three influences that shape a person's capacity to engage in creative or habitual action. These are domain-related knowledge, behavior skills and creative thinking abilities [4].

III. THE CONCEPT OF WORK ENVIRONMENT AND ITS DIMENSIONS

III.1. The Concept of Work Environment

There are many terms like ecology, milieu, setting and condition, which are used interchangeably with work environment [26]. The work environment is generally defined as the social climate of an organization although pysical environmental variables may also be included [27]. According to another definition, work environment is the current work setting, the social and physical environment where the employee does most of his or her work [26].

⟶ (Creative product)

The work environment is composed of two components. First one is job characteristics which relate to the aspects of an employee's job or task responsibilities that contribute to the pyschological states, which in turn, has and effect on employee's spirit, growth and development. The second one is work context variables, that relate to the characteristics of the organizational setting in which the employee performs his or her duties [28].

Work environment not only refers to the physical environment but also includes emotional aspects of it, which includes the relationships with the supervisors and other staff, autonomy, equity and fairness, and the match between the job and the person [29].

According to Caroll and White work environmental components are defined to include:

1. A microsystem, smallest social unit organized for work

2. A mesosystem or the group of small units that form the institution

3. An exosystem, non-work systems that have an impact on the employee and the institution

4. A macrosystem, the larger culture or world complex.

All of the components of the environment interact with each other and interactions are experienced to some degree throughout the system [30].

Earliest study in the area of work environment is usually seen as Frederick W. Taylor's study, who is the founder of the Scientific Management Theory. Taylor observed worker's movements and restructured workplace in such a way that leads to greater productivity.

The Great Places to Work Institute, a research and management consultancy which have been evaluating employees and employers since 1980. According to their model employees would like to work environments where they trust people, have pride in what they do and enjoy the people whom they work [31].

In the literature, there is a similar concept with the work environment called "Organizational Climate" which refers to "the set of organizational attributes or the work environment perceived by the organizational member" [32]. Organizational climate can be defined as "shared perceptions of organizational policies, practices, and procedures" [33]. A work environment may have many different climates as employees interpret or give meaning to groups of related factors [32]. Moos defined the climate as the "personality of the environment" [34], stating that it is comprised of specific components which lead to a composite of the environment.

According to Ekvall's model, the climate is affected by ten factors within the organization [35]. These are: leadership behaviour, organizational culture, resources and technology, task requirements, management practices, mission and strategy, structure and size, individual skills and abilities, individual needs, motives and styles, and lastly, organizational systems, procedures and policies. [35]

Work environment have been defined and measured in a number of different ways. Various taxonomies, different numbers and types of work environment dimentions have been proposed in the literature. By using these dimentions researchers attempted to create models that show the relationship between work environment variables and individual or organizational outcomes. In 1970, Campbell, Dunnette, Lawler, and Weick proposed four dimensions: individual autonomy, the degrees of structure imposed on the position, reward orientation, and consideration, warmth and support. In 1993, Ostroff proposed twelve dimensions of which are grouped into three higher order dimensions: affective, cognitive, and instrumental [33].

It was suggested three dimensions that can be used for measuring preferences of the work environment [36]. These are system maintanence, goal orientation, and relationship dimensions. Moos's Work Enironment Scale focuses on the social climate of work environments that represent a group of attitudes, feelings, and behaviors which describe life in an organization [37].

In this paper, the work environment is defined as the social climate of the organizations which is pscyhologically meaningful to employees, and it consists of common individual perceptions of organizational policies, practices, and procedures [32].

The Work Environment Scale (WES), which was developed by Moos and Insel in 1981, has three dimensions and ten subscales that measure the social environments of different work settings. The dimensions of WES are the system maintanence, the goal orientation, and the relationship dimensions. [37]

The relationship dimension includes the following subscales [37]:

- Involvement
- Peer Cohesion
- Supervisor Support

The 'Personal Growth' Dimension of WES relate to the degree of encouragement of employees to be self-sufficient and to make their own decisions, emphasis on good planning, efficiency, getting the job done and workload pressure which dominate the job milieu. The Personal Growth Dimension includes the following subscales [37]:

- Autonomy
- Task Orientation
- Work Pressure

The System Maintanance and Change dimension includes the following subscales [37]:

- Clarity
- Control
- Innovation
- Physical Comfort

III.2. The Dimensions of the Work Environment

III.2.1. Involvement

According to the definition job involvement is the "psychological identification with one's work" [38]. Job - Involved employees see their job "as an important part of their self-concept" [38].

Job involvement is how employees see their jobs. A relationship with the work environment, the job and how their life and work are united. Low level of job involvement make employees' feel alienation in the organization, feeling of separation between their life and job [39].

There are two different approaches in the literature. First one concentrates on the influence of the job on a person's self-esteem, the second approach focuses on how the job aids defining a person's identity. According to Brown, job-involved people find their job motivating and challenging, are commited to work and to the organization, have less intention to leave their job, and engage more in professional relationships [40].

Job involvement, which refers to the commitment of an individual to her or his job, determines the human behaviour in the organizational context. It is the devotion of an individual's body and spirit which is intrinsic that makes the individual put work in the most important place of her or his life. The job involved workers get very high level of satisfaction from accomplishing her or his duties effectively. Hence, maximizing effectiveness in an organization depends on achieving the highest level of job involvement among the members of that organization [41].

III.2.2. Coworker Cohesion

Cohesion, which is a vital element of social integration, can be described as the "attraction to the group, satisfaction with other members of the group, and social interaction among the members of the group" [42]. It is the tendency of a group to attach together and remain united to meet its instrumental (task) objectives and to satisfy the members' affective (social) needs [42].

According to Fertinger, the cohesion is "the total field of forces which act on members to remain in the group. These forces may depend on the attractiveness or unattractiveness of either the prestige of the group, members of the group, or the activities in which the group engages" [43].

Cohesiveness can be subdivided into two groups. First group is the, "Group Integration" which refers to "a member's perception of the group as a totality". The second group is the "Attraction To Group" which refers to "a member's personal attraction to the group". Both of the groups can be focused on either the social or the task aspects of the group [44].

Cohesive group members have cooperation, support and open communication between them. They have strong morale and group spirit [43]. There are no conflicts or contrary opions regarding the strategies to achieve their goals [45].

III.2.3. Supervisor Support

Supervisor's support can be defined simply as the availability of helping behaviors from the direct supervisor [46]. Perceived supervisor support, refers to the "employees's belief that their supervisors care about them and value their contributions" [47].

Organizational support theory proposes that employees tend to assign the organization humanlike characteristics and interpret their favorable or unfavorable treatment as an indication of being favored or disfavored by them. Employees develop overall beliefs whether the the organization gives value to their contributions and cares about their welfare in order to determine the organization's willingness to reward increased work effort and to satisfy socioemotional needs [48].

When employees perceive that their organization gives value and cares about them, the incorporation of organizational memberhsip is encouraged and they carry out more prosocial acts for the organization. Organizational support would increase involvement as it creates trust that the organization will notice and reward efforts of the employees [48].

Therefore, support from the supervisor builds a favorable relationship between the employee and the organization and positive interactions among the supervisor and the employee leads to a constructive relationship between the the two parties [49].

III.2.4. Autonomy

Autonomy can be defined as a person's freedom of choice and perception of not feeling under the control of any internal or external force. Autonomy represents a

highly integrated internal motivation that is even inherently intrinsic [50].

An employee's work environment can be considered as autonomy-supportive when his or her manager;

- Assumes the employee's perspective
- Offers more level of choice
- Encourages self-initiation
- Explains the reason of why an employee must execute certain tasks
- Creates a work climate where employees have among them [50].

Autonomy and freedom, which can be described as "granting eployees high autonomy and a sense of ownership and control over their work", would enhance intrinsic motivation and the controlling events would undermine intrinsic motivation [51]. Increased autonomy will give employees more flexibility in defining their role as they will have greater discretion to decide how to perform the work [52].

Autonomy, the employees' perceived control over how they perform their job, including work procedures, scheduling and task variety, increases perceived organizational support by indicating the organization's trust in employees to decide how they carry out their job [48].

Autonomy support creates positive employee behavioral changes, increases performance, job satisfaction, creates positive work attitudes and better organization citizenship behavior [50].

III.2.5. Task Orientation

Task orientation is defined as "a shared concern with excellence of quality of task performance in relation to a shared vision or outcomes, which would normally include evaluations, modifications and critical appraisals of work practice" [53]. It refers to a common concern of the team members for ensuring good performance outcomes [54].

Task orientation is evidenced by emphasis on the accountability of individuals and teams, systems for evaluating performance and methods for obtaining goals. It describes a general commitment to excellent performance of tasks joined with an environment that supports the adoption of improvements to existing policies, procedures, and methods [55].

III.2.6. Work Pressure

The terms "work pressure" and ""work stress" are usually used interchangeably [56].

Workload pressure can be defined as the "unrealistic expectations for what people can achieve in this organization, too many distractions from project work, insufficient time to do projects" [57].

Work pressure is the sum of all amount of work or workload and the time period set for finishing that work as compared with the individual's ability to cope.

If an employee fails to meet the work demands within the available period of time, work pressure problem, which can cause work stress, arises. Work stress can make employees feel extremely tired, depressed and exhausted, and can even lead to illness [56].

III.2.7. Clarity

Clarity relates to the extent whether employees know what to expect in their daily routine worklife and how explicitly rules and policies are communicated to them. When there is clarity, the job duties and the importance of these duties are clearly defined.

As employees know clearly what is expected from them, the tension resulting from role ambiguity decreases and the likelihood of successful accomplishment of responsibilities increases. Previous research has shown that there is a positive relationship between task clarity and job satisfaction of employees.

The clarity of organizational goals can provide supervisors and peers an evaluation of employee's performance in obtaining such goals. This kind of evaluation of an employee's work is critical, as it helps to increase job satisfaction by the clarification of job performance expectations [28].

III.2.8. Control

Managerial Control refers to the degree of rules and pressures which are used by the management in order to keep employees under control.

According to a research in workplace control, perceived control is a predictor of important outcome variables like job satisfaction, performance, involvement, motivation, stress, absenteeism and turnover [58].

The importance and role of management control has been broadly discussed in the literature. Researchers agree upon the necessary control mechanisms for the selective control of employee behaviour. The reasearch

has also showed that there are some negative effects of control that has an affect on the performance of employees which cannot be neglected. Control has also a negative effect on intrinsic motivation.

III.2.9. Innovation

The concepts of innovation and creativity concepts are often used interchangeably in the literature [59]. While creativity is the production of new ideas, innovation is the transformation of these new ideas into a new product or service, or an improvement in a process [60].

Innovation is the adoption of an idea or behaviour can be a system, policy, product, service etc., which is new to the adopting organization [61].

Innovation process typically occurs through four different stages: idea generation, screening, feasibility and implementation. Creativity can be considered as the idea generation component of the innovation process [62]. Creativity is an internal process of bringing new ideas, while innovation refers to the practical application of new ideas [59]. Creativity without innovation is a diminished value, but we can also say that no innovation is possible without the creative processes that make the first step of the innovation process [63].

Amabile et al. [64] makes a distinction between the creativity and innovation concepts as follows: "Like other researchers, we define creativity as the production of novel and useful ideas in any domain. We define innovation as the successful implementation of creative ideas within an organization". Between the idea generation process and the innovation process, a filtering process should take place. The ideas are changed into value-driven innovations. Figure 4 illustrates the position of innovation as a result of creativity [65].

III.2.10. Physical Comfort

In most cases, the employer's aim is to increase the productivity level of the employee's. According to a study which was executed by American Society of Interior Designers, dissatisfaction with the physical workplace is the second most important reason of turnover. There is an important relationship between the employee's psychology and their work environment [66].

Working conditions like working hours and rest times, lighting, ventilation, cleaning, safety, voice level and physical environment has a great effect on the employees as they spent most of their time in the work environment. Bad physical settings may increase work accidents and create stress, dissatisfaction and tiredness among the workers [67].

IV. THE RELATIONSHIP BETWEEN CREATIVITY AND THE WORK ENVIRONMENT

Creativity is complicated and it is in affected by various individual-level, contextual and environmental variables.The literature about creativity proposes that employee creativity is a function of their perceptions regarding the work environment for creativity [22].

The researchers started conducting studies about environmental factors which are conductive to creativity, as they realised the impact of social environments on the degree of creative behaviour [68].

Amabile et al. [64] have developed an instrument called KEYS, which is used to assess the work environment factors that are necessary for organizational creativity. This study consisted of eight scales, six of which were identified as "stimulant scales" and two of which were identified as "obstacle scales".

The scales that encourage creativity are [64]:

Organizational encouragement: Encouragement of idead generation through fair, constructive judgment and evaluation of ideas, reward and recognition of creativity and a shared vision or organizational goals.

Supervisory encouragement: Supervisors, who shows a good work model, supports the team's work, gives value to individual contributions and sets appropriate goals.

Work group supports: Stimulation of creativity through a diversely skilled work group which has good communication, openness to ideas, trust and commitment to the work.

Freedom: Freedom to choose what work to do and how to do and feeling control over one's work.

Sufficient resources: Acess to appropriate resources such as funds, materials, information and facilities.

Challenge: A sense of feeling that the work is important and challenging.

The scales which are negatively related to creativity are:

Organizational Impediments: Internal political problems, rough criticism of ideas, and rigid management structures.

Workload Pressure: Time pressure and unrealistic expectations and distractions from creative work [69].

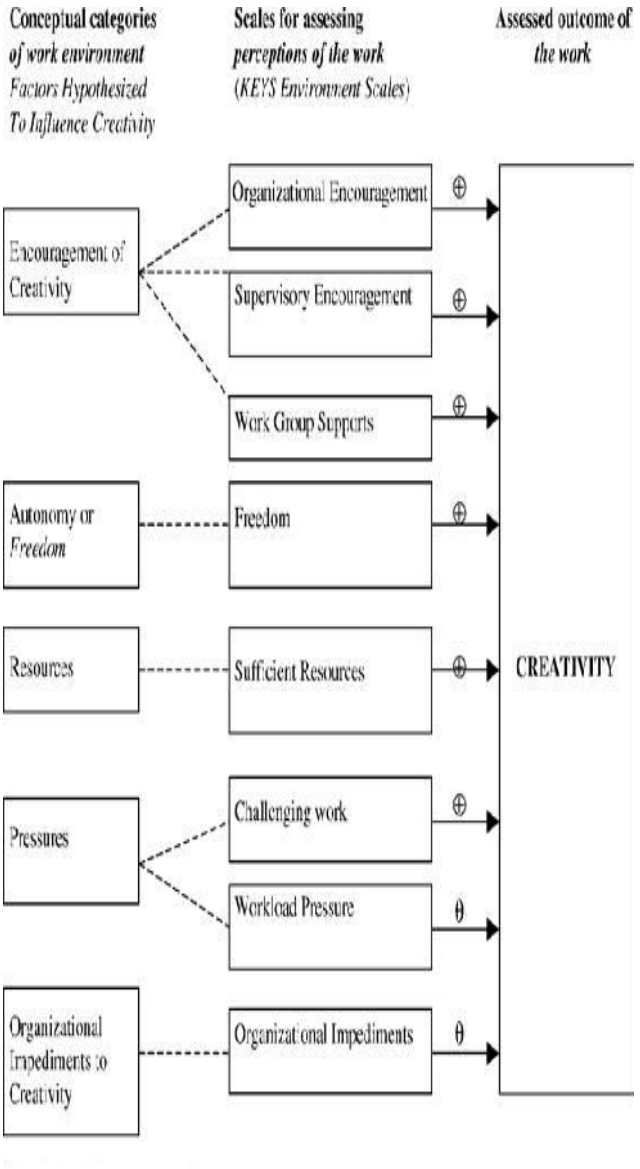

Figure.1. Keys Environment Scales

Source: Amabile, T. M., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996). Assessing the work environment for creativity. Academy of Management Journal. 39(5), 1154-1185.

Another study was conducted and identified five dimensions of organizational climate that influence creativity [70]:

Goal Emphasis: Is the extent whether employees know organizational goals set for creativity and innovation.

Mean Emphasis: Is "the extent that the methods and procedures for creativity and innovation are conveyed to employees" [70].

Reward Orientation: Is the extent that employees are rewarded as a result of their creative and innovative outputs.

Task Support: Is the extent that employees are feeling supported by necessary resources such as funds, materials, equipments, etc. which are needed to perform creative work.

Socioemotional Support: Is "the extent that employees believe that the work environment provides the interpersonal support necessary to feel free to function creatively" [70].

A research was made to examine the factors that effect creativity in complex social settings which are selected from the largest 1000 firms of Turkey [71]. As a result, at individual level, problem solving and adaptation ability factors were found to have positive relationship with creativity. At group level, group diversity and group commitment were found to have positive relationship with creativity. An empirical study was conducted to explore the relationships between creative work environment, organizational culture and affective employee attitudes [72]. The results of his study showed that there is a strong positive association between challenging nature of work, innovative top managements and work related employee attitudes [72].

Eren and Gündüz (2002) tried to examine how the characteristics of the work environment) affect creativity at work by collecting data from managers of 126 firms which are selected from the largest 500 firms of Turkey. The work environment factors used in this study are organizational encouragement, supervisory encouragement, work group supports, autonomy and freedom, communication, challenging work and pressures. The factors which were found to have positive effect on creativity are organizational encouragements, work group supports, autonomy and freedom, challenging work and pressures. The communication factor was found to have negative effect on creativity. The factors which were used in this study are similar to the ones which were identified by Amabile's scale KEYS.

V. RESEARCH DESIGN AND METHODOLOGY

V.1. Research Objectives

The purpose of the study is to specify the the effects of the work environment on the creativity level of employees. By this way, a detailed understanding of creative work environment will be acquired.

In order to investigate the relationship between work environment and creativity, the following theoretical framework was developed.

The dependent and independent variables can be seen in the Figure 1. As it is obvious, the dependent variable of this study is the creativity level of the employees. The independent variables of the study are the work environment factors: co-worker cohesion, supervisor support, autonomy, work pressure, clarity, control, innovation, physical comfort, involvement and task orientation.

V.2. Research Question

The major purpose of this study is to explore the effects of the work environment factors on employee creativity. Therefore, the research question of this study is based on *what are the work environment factors that affect the creativity of employees?*

Q1. What are the work environment factors that affect the creativity of employees?

V.3. Hypothesis

The study's intentions and the previous researches help to indicate the hypotheses of this study. In the light of the previous studies, the following hypotheses are formed:

Hypothesis.1: At least one of the work environment factors has a relationship with the creativity of employees.

Than, in order to test which of the work environment factors has a relationship with the creativity of employees the following hypotheses are developed.

Hypothesis.1a: There is a positive relationship between co-worker cohesion and employee creativity

Hypothesis.1b: There is a positive relationship between supervisor support and employee creativity

Hypothesis.1c: There is a positive relationship between autonomy and employee creativity

Hypothesis.1d: There is a negative relationship between work presure and employee creativity

Hypothesis.1e: The is a positive relationship between clarity and employee creativity

Hypothesis.1f: There is a negative relationship between control and employee creativity

Hypothesis.1g: There is a positive relationship between innovation and employee creativity

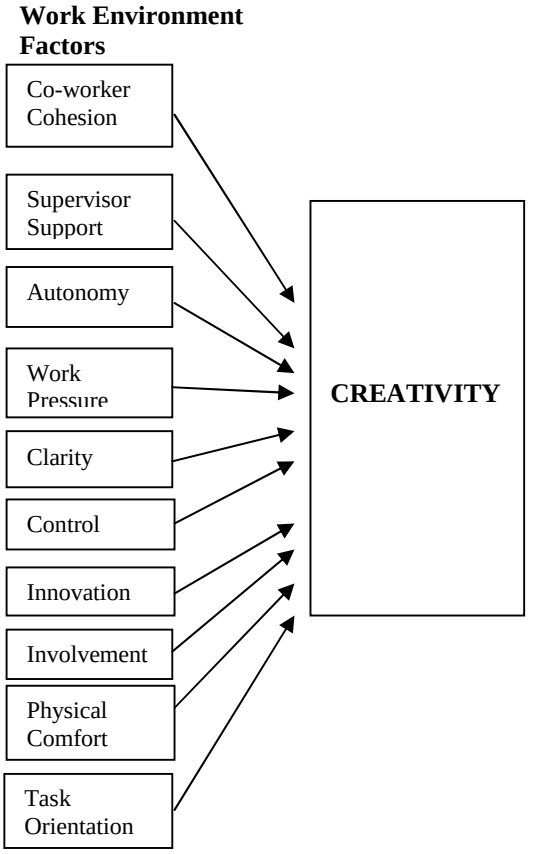

Figure.2. The Conceptual Framework

V.4. Sample

Basically, data was collected from 154 individuals and their supervisors who work in two different companies operating in white goods sector. The data is collected from Arçelik A.Ş. and Vestel Beyaz Eşya Sanayi ve Tic. A.Ş., which are one of the biggest companies operationg in white-goods sector in Turkey. According to the Turkey's Top 500 Industrial Enterprises-2008 report which was published by Istanbul Chamber of Industry, Arçelik A.Ş. ranked as the first company in white-goods sector whereas, Vestel Beyaz Eşya Sanayi ve Tic. A.Ş ranked as the third company in white-goods sector. The employees were randomly selected within the organizations. Data was collected from the employees and their supervisors, working in different departments of the two organizations. The more detailed information about the demographic specisifications of the participants such as gender, age, marital status, seniority and education level will be presented in the findings section of the study.

V.5. Instruments

Survey, generally used in social sciences is the method which will be used for the data collection. There are several reasons for the choice of survey as the method. Before all else, experimentation and observation are not always possible to do. That is why; researchers often prefer to ask questions to the participants rather than observing their behaviors. The advantage of questionnaire is not only it costs low but also it reduces the biases caused by the characteristics and the skills of the interviewers [73]. It is better for the accuracy of the answers of the participants to leave them alone while they are giving answers to the questions. The participants also not feel any time pressure since they do not have to give an answer in a limited time. They have time to think about their work environment which is important for the accuracy of the answers [73]. On the other hand, I recognize the potential disadvantages of this method such as no opportunity for probing and no control over who fills the questionnaire and take these possibilities into consideration [73].

In this study, two different questionnaires were administered; one survey was prepared to the employees in order to measure factors related with work environment and the other was prepared for their direct supervisors in order to measure their creativity.

V.5.1. Work Environment Scale

It is searched for an appropriate scale which has already validated. There are various scales which aim to measure the work environment. I decided to use the measure of Work Environment Scale (WES) to assess work environment of the respondents.

The WES is a person-organization fit measure that focuses on the social climate of work environments and measures employee preferences for three dimensions of work environment settings:

1. system maintenance;
2. goal orientation; and
3. relationship dimensions.

System maintenance refers to how orderly and organized the work setting is, how clear it is in its expectations, and how much control it maintains. Goal orientation refers to the degree to which an environment encourages or stifles growth through providing for participation in decision making and autonomy, maintaining a task orientation, and providing job challenge and expectations for success and accomplishment. The relationship dimension refers to the degree of interpersonal factors in a work environment, such as the social interaction and cohesion among workers, and the friendship and support provided by co-workers and management [37]. Work Environment Scale was translated to Turkish by Özalkuş in 1995, so items were taken from this study.

The work environment questionnaire, which was delivered to employees, starts with an informed consent in which the researcher introduces herself and gives short information about the study, its educational purpose and the confidentiality of the participants' answers. In the first part of the questionnaire, there were 90 items that aim to measure work environment perception of the respondents.

The items of each factor of the work environment can be seen below:

Autonomy:	Q4, Q14, Q24, Q34, Q44, Q54, Q64, Q74, Q84
Clarity:	Q7, Q17, Q27, Q37, Q47, Q57, Q67, Q77, Q87
Control:	Q8, Q18, Q28, Q38, Q48, Q58, Q68, Q78, Q88
Coworker Cohesion:	Q2, Q12, Q22, Q32, Q42, Q52, Q62, Q72, Q82
Innovation:	Q9, Q19, Q29, Q39, Q49, Q59, Q69, Q79, Q89
Involvement:	Q1, Q11, Q21, Q31, Q41, Q51, Q61, Q71, Q81
Physical Comfort:	Q10, Q20, Q30, Q40, Q50, Q60, Q70, Q80, Q90
Supervisor Support:	Q3, Q13, Q23, Q33, Q43, Q53, Q63, Q73, Q83
Task Orientation:	Q5, Q15, Q25, Q35, Q45, Q55, Q65, Q75, Q85
Work Pressure:	Q6, Q16, Q26, Q36, Q46, Q56, Q66, Q76, Q86

34 items were reverse coded: Q3, Q4, Q7, Q10, Q11, Q12, Q15, Q18, Q21, Q23, Q27, Q30, Q32, Q36, Q39, Q43, Q46, Q49, Q50, Q51, Q57, Q59, Q62, Q63, Q66, Q69, Q70, Q71, Q75, Q77, Q82, Q84, Q85, Q88

Items were measured on a 5-point scale ranging from "I totaly disagree" to "I totaly agree" in the reseach questionnaire and 34 items of the work environment questionnaire were reverse scored. Participants are asked to rate her or his agreement with each of the statements.

Higher scores indicated positive perception of the work environment.

In the second part of the employee questionnaire, the personal questions are asked. Sex, type of education, age, years of experience in the current company, name and marital status are asked.

V.5.2. The Creativity Scale

In the management literature, the creativity is usually measured by three techniques. First method is self-rating in which employees are asked to rate their own creativity. The second method is consensual assessment technique, in which two or more knowledgeable experts with relevant backgrounds, experience and education; provide independent ratings regarding the creativity of each outcome [3]. And the third method is supervisor-ratings of creativity which involves asking supervisors to rate their employees' creativity. Since the first method, self-reported creativity, can contain a certain level of bias, it was not preffered. The second one, consensual assessment is also eliminated because is usually available for workers in creative professions like R&D workers or scientists and requires at least two experienced observers. As the third method, supervisor-rating, has been identified as effective measure of creative performance [74], supervisor evaluations was preffered in the present study. Thus, creativity of employees was assessed by their supervisors by using 9 of 13 items which was developed by George and Zhou. 9 of the 13 items which are related with creative behaviour were used and 4 of the 13 items which are related to a separate "innovative behaviour" concept were not used.

The creativity questionnaire, which was delivered to the supervisors, starts with an informed consent in which the researcher introduces herself and gives short information about the study, its educational purpose and the confidentiality of the participants' answers. This questionnaire consists of one part, and there were 9 items that aim to measure creativity of employees.

Items were measured on a 5-point scale ranging from "I totaly disagree" to "I totaly agree". Supervisors were asked to indicate their assessment for each of the 9 items. Their responses were averaged for an overall score.

V.6. The Procedure

The questionnaires are delivered to the participants in Arçelik A.Ş. by the researcher who works in Human Resources Department of the company. The data was gathered from the participants in Vestel A.Ş. via the Human Resources Department of the organization. Since it is not allowed to get all employees' list of the organization and contact them directly, I make a request from the Vestel A.Ş.'s HR responsible to deliver my questionnaire to their employees and added that it is crucial to select the participants randomly for a representative sample. Sufficient time is given to all participants to turn back the questionnaires. Lastly, an electronic letter is sent to all participants in whom the researcher says thanks to them via Human Resources Responsible. After the completion of work environment survey, the creativity survey, which has to be completed by the direct supervisors of the employees, was distributed by the same way.

V.7. Statistical Methods Used To Analyze Data

Statistical analyses of the research were done to investigate the relationship between perceived work environment factors and the employee's creativity level and the personal factors such as gender, age, education level and current company experience level.

The data which was collected was initially analyzed by reability and factor analysis. Factor analyses were conducted by SPSS 13 (Statistical Package for Social Sciences) software. After recoding the reverse-scored items, the work environment questionnaire was analyzed to ensure its reliability. Reability analysis is also conducted to the creativity questionnaire. In addition to Reliability Analysis, Factor Analysis is conducted in order to find out if similar factors are obtained and to eliminate the items with low reabilities.

Additionally, during the data analysis; Descriptive Statistics, Multiple Regression, Independent Sample T-Test, Pearson Correlation and One-Way ANOVA are conducted in order to obtain the main results of the study.

VI. FINDINGS

VI.1. Descriptive Analyses of the Respondents

Descriptive information about the sample is displayed in the following tables. The tables provide details about the demographic characteristics of the respondents such as gender, age, marital status, education level and year of experience with the current company.

Table.1. Demographic Characteristics of the Sample

	Frequency (n)	Percent (%)	Valid Percent
Gender			
Female	60	31,4	31,4
Male	131	68,6	68,6
Total	***191***	***100,0***	***100,0***
Age			
Between 21-30	64	33,5	33,5
Between 31-40	59	30,9	30,9
Between 41-50	42	22,0	22,0
51 or More	26	13,6	13,6
Total	***191***	***100,0***	***100,0***

Table.1. Demographic Characteristics of the Sample (cont.)

Education Level	Frequency (n)	Percent (%)	Valid Percent
High School or Lower	6	3,1	3,1
2- Year College (Associates)	15	7,9	7,9
4-Year College (BA, BS)	116	60,7	60,7
Master's Degree or Higher	54	28,3	28,3
Total	***191***	***100,0***	***100,0***
Current Company Experience			
Less Than 3 Years	77	40,3	40,3
Between 4-7 Years	41	21,5	21,5
Between 8-11 Years	22	11,5	11,5
12 Years and More	51	26,7	26,7
Total	*191*	*100,0*	*100,0*

As shown in Table.1, there are 60 female and 131 male subjects in the sample. Females constitute 31, 4%, males constitute 68, 6% of the overall sample. The age distribution of the respondents. 33,5% of the respondents are aged between 21-30, 30,9% of the respondents are aged between 31-40, 22% of the respondents are aged between 41-50 and 13,6% of the respondents are aged 51 or more. I is seen that 60,7% of the sample have university degree, 28,3% of the sample have master's degree, %7,9 of the sample have 2-Year College (associates) degree and only 3,1% of the sample have high degree or lower. The current company experience characteristics of the sample. 40,3% of the respondent's current company experience is under 3 years, 21,5% of the respondents current company experience is between 4-7 years, 11,5% of the respondents current company experience is between 8-11 years and 26,7% of the respondents is 12 years or more.

VI.2. Analysis of Data

VI.2.1. Reliability Analysis

Cronbach alpha method is used for the reliability analyses of the work Environment and the creativity scale and scientifically high internal consistency is found for the present study. The cronbach alpha is 0, 908 for the work environment scale and 0, 860 for the creativity scale. Therefore, again it can be said that the scales are reliable.

VI.2.2. Factor Analysis

Factor analysis has been performed for both of the creativity and the work environment questionnaires.

VI.2.2.1.Factor Analysis of the Creativity Questionnaire

Kaiser Meyer Olkin Measure of Sampling Adequecy of the creativity questionnaire was found as 0,828 which is over the acceptable level (>.50). This indicates that the sample and date was adequate in order to apply factor analysis. The Bartlett Test of Sphericity was found to be 0,000 which represents a meaningful factor analysis.

After the factor analysis of 9 items which was used in order to assess creativity levels of the employees, it has been found that one factor explained 64,330% of the total variance. The Creativity Factor Analysis Report can be seen in Table 2.

Table.2.Factor Analysis of Creativity

	Items	Factor Loadings
Q4	Is a good source of creative ideas	0,864
Q7	Comes up with creative solutions to problems	0,829
Q2	Comes up with new and practical ideas to improve performance	0,806
Q6	Often has new and innovative ideas	0,799
Q1	Suggests new ways to achieve goals and objectives	0,794
Q9	Suggests new ways of performing work tasks	0,786
Q3	Suggests new ways to increase quality	0,760
Q5	Exhibits creativity on the job when given the opportunity to	0,742
Q8	Often has a fresh approach to problems	0,660
	Mean	***3,114***
	% of the variance explained	***64,330***
	Cronbach α	***0,860***

VI.2.2.2.Factor Analysis of the Work Environment Questionnaire

Kaiser Meyer Olkin Measure of Sampling Adequecy of the work environment questionnaire was found as 0,833 which is over the acceptable level (>.50). So the sample and date was adequate to apply factor analysis. The Bartlett Test of Sphericity was found to be 0,000 which represents a meaningful factor analysis.

In this study, after the factor analysis it has been found that the nine factors explained the 66,442 % of the total variance as presented in following tables.

The items which have loadings less than 0, 50 and which have low reliabilities have been extracted from factor analysis.

As a result of factor analysis, items Q13, Q33, Q53 and Q63, which are related with supervisor support, have been dropped and 5 items have been used for assessing supervisor support factor.

As a result of factor analysis, items Q12, Q42 and Q62 which are related with coworker cohesion have been dropped and 6 items have been used for assessing coworker cohesion factor.

As a result of factor analysis items Q4, Q54, Q64, Q74 and Q84 which are related with autonomy factor have been dropped and 5 items are used for assessing autonomy factor.

As a result of factor analysis, none of the items which are related with innovation have been dropped, so 9 items are used for assessing innovation factor.

As a result of factor analysis, items Q26, Q36 and Q66 which are related with work pressure have been dropped and 6 items are used for assessing work pressure factor.

As a result of factor analysis, items Q40 and Q70 which are related with physical comfort have been dropped and 7 items are used for assessing work pressure factor.

As a result of factor analysis, items Q27, Q77 and Q87 which are related with clarity have been dropped and 6 items are used for assessing clarity factor.

As a result of factor analysis, items Q8, Q68 and Q88 which are related with control have been dropped and 6 items are used for assessing control factor.

Task Involvement factor was formed by 10 items from original task orientation and involvement scales which were merged into single factor as a result of factor analysis. 5 of the items are related with involvement and 5 of them are related with task orientation.

Table.3. Factor Analysis of Work Environment– Supervisor Support

	Items	Factor Loadings
Q3	Supervisors tend to talk down to employees	0,707
Q83	Supervisors really stand up for their people	0,690
Q43	Supervisors often criticize employees over minor things	0,659
Q73	Employees discuss their personal problems with supervisors	0,622
Q23	Supervisors tend to discourage criticisms from employees	0,614
	Mean	***3,212***
	% of the variance explained	***8,195***
	Cronbach α	***0,816***

Table.4.Factor Analysis of Work Environment– Coworker Cohesion

	Items	Factor Loadings
Q22	People take a personal interest in each other	0,752
Q52	Employees often eat lunch together	0,703
Q72	Employees often talk to each other about their personal problems	0,673
Q82	Often people make trouble by talking behind others backs	0,670
Q32	Employees rarely do things together after work	0,530
Q2	People go out their way to help a new employee feel comfortable	0,511
	Mean	***3,418***
	% of the variance explained	***7,660***
	Cronbach α	***0,751***

Table.5. Factor Analysis of Work Environment– Autonomy

	Items	Factor Loadings
Q24	Employees are encouraged to make their own decisions	0,664
Q14	Employees have a great deal of freedom to do as they like	0,604
Q74	Employees function fairly independently of supervisors	0,584
Q34	People can use their own initiative to do things	0,538
Q44	Supervisors encourage employees to rely on themselves when a problem arises	0,514
	Mean	***2,979***
	% of the variance explained	***6,762***
	Cronbach α	***0,677***

Table. 6. Factor Analysis of Work Environment– Work Pressure

	Items	Factor Loadings
Q76	There are always deadlines to be met	0,721
Q6	There is constant pressure to keep working	0,695
Q56	It is very hard to keep up with your work load	0,627
Q86	People often have to work overtime to get their work done	0,618
Q16	There always seems to be an urgency about everything	0,611
Q46	There is no time pressure	0,603
	Mean	***3,298***
	% of the variance explained	***5,959***
	Cronbach α	***0,735***

Table.7. Factor Analysis of Work Environment – Physical Comfort

	Items	Factor Loadings
Q60	The colors and decorations make the place warm and cheerful to work in	0,854
Q20	The lighting is extremely good	0,809
Q80	The furniture is usually well arranged	0,741
Q90	The rooms are well ventilated	0,723
Q30	Work space is awfully crowded	0,626
Q10	It sometimes gets too hot	0,563
Q50	The place could stand some new interior decorations	0,512
	Mean	***3,366***
	% of the variance explained	***7,214***
	Cronbach α	***0,842***

Table.8. Factor Analysis of Work Environment– Innovation

	Items	Factor Loadings
Q19	New and different ideas are always being tried out	0,783
Q29	This place would be one of the first to try out a new idea	0,782
Q59	New approaches to things are rarely tried	0,728
Q79	There is fresh, novel atmosphere about the place	0,727
Q9	Doing things in a different way is valued	0,672
Q49	The same methods have been used for quite a long time	0,654
Q89	Things always seem to be changing	0,630
Q39	Variety and change are not particularly important	0,506
Q69	Things tend to stay just about the same	0,502
	Mean	***3,744***
	% of the variance explained	***8,337***
	Cronbach α	***0,862***

Table.9. Factor Analysis of Work Environment– Clarity

	Items	Factor Loadings
Q37	The responsibilities of supervisors are clearly defined	0,740
Q47	The details of assigned jobs are generally explained to employees	0,601
Q7	Things are sometimes pretty disorganized	0,597
Q67	Fringe benefits are fully explained to employees	0,577
Q17	Activities are well planned	0,540
Q57	Employees are often confused about exactly what they are supposed to be	0,520
	Mean	***3,141***
	% of the variance explained	***6,409***
	Cronbach α	***0,742***

Table.10. Factor Analysis of Work Environment– Coworker Cohesion

	Items	Factor Loadings
Q58	Supervisors are always checking on employees and supervise them very closely	0,777
Q38	Supervisors keep a rather close watch on employees	0,601
Q78	Employees are expected to conform rather strictly to the rules and customs	0,753
Q48	Rules and regulations are pretty well enforced	0,601
Q28	People are expected to follow set rules in doing their work	0,560
Q18	People can wear wild looking clothing while on the job if they want	0,556
	Mean	***1,874***
	% of the variance explained	***7,253***
	Cronbach α	***0,640***

Table.11. Factor Analysis of Work Environment– Task Involvement

	Items	Factor Loadings
S15	There is a lot of time wasted because of inefficiencies	0,914
S51	Few people ever volunteer	0,820
S71	It is hard to get people to do any extra work	0,798
S65	Employees work very hard	0,784
S41	People put Suite a lot of effort into what they do	0,779
S5	People pay a lot of attention to getting work done	0,749
S55	There is an emphasis on “work before play”	0,705
S1	The work is really challenging	0,639
S35	This is highly efficient, work-oriented place	0,570
S81	The work is usually very interesting	0, 560
	Mean	***3,271***
	% of the variance explained	***8,653***
	Cronbach α	***0,751***

VI.2.3. Pearson Correlation Tests

After conducting the factor analysis and calculating the factor scores, in order to see if there is multicollinearity exists between them Pearson Correlation Test was conducted. No multicollinearity has been found between them since their Pearson Correlation Coefficient (r) is smaller than 0,70. The results of the analysis are presented in Table.12.

Table.12. Pearson Correlations between Factors

		Creativity	SS	CC	AU	CL	CO	PHY	WP	INN	TI
Creativity	Pearson Corr.	1	0,678**	0,459**	0,629**	0,614**	-0,346**	0,414**	-0,191	0,250**	0,696**
	Sig.(2-tailed)		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	N	191	191	191	191	191	191	191	191	191	191
SS	Pearson Corr.	0,678**	1	0,462**	0,584**	0,610**	-0,296**	0,374**	-0,342**	0,252**	0,664**
	Sig.(2-tailed)	0,000		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	N	191	191	191	191	191	191	191	191	191	191
CC	Pearson Corr.	0,459**	0,462**	1	0,311**	0,344**	-0,200**	0,269**	-0,115**	0,217**	0,426**
	Sig.(2-tailed)	0,000	0,000		0,000	0,000	0,006	0,000	0,000	0,003	0,000
	N	191	191	191	191	191	191	191	191	191	191
AU	Pearson Corr.	0,626**	0,584**	0,311**	1	0,581**	-0,214**	0,329**	-0,157**	0,209**	0,582**
	Sig.(2-tailed)	0,000	0,000	0,000		0,000	0,003	0,000	0,030	0,004	0,000
	N	191	191	191	191	191	191	191	191	191	191
CL	Pearson Corr.	0,614**	0,610**	0,344**	0,581**	1	-0,366**	0,501**	-0,209**	0,237**	0,697**
	Sig.(2-tailed)	0,000	0,000	0,000	0,000		0,000	0,000	0,004	0,001	0,000
	N	191	191	191	191	191	191	191	191	191	191
CO	Pearson Corr.	-0,346**	-0,296**	-0,200**	-0,214**	-0,366**	1	-0,291**	-0,157**	-0,164**	-0,351**
	Sig.(2-tailed)	0,000	0,000	0,006	0,003	0,000		0,000	0,030	0,023	0,000
	N	191	191	191	191	191	191	191	191	191	191
PHY	Pearson Corr.	0,414**	0,374**	0,269**	0,329**	0,501**	-0,291**	1	-0,213**	0,133**	0,470**
	Sig.(2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000		0,003	0,000	0,000
	N	191	191	191	191	191	191	191	191	191	191
WP	Pearson Corr.	-0,191**	-0,342**	-0.115**	-0157**	-0,209**	-0,157**	-0,213**	1	-0,046**	-0,061**
	Sig.(2-tailed)	0,008	0,000	0,000	0,030	0,004	0,030	0,003		0,000	0,000
	N	191	191	191	191	191	191	191	191	191	191
INN	Pearson Corr.	0,250**	0,252**	0,217**	0,209**	0,237**	-0,164**	0,133**	-0,046**	1	0,270**
	Sig.(2-tailed)	0,000	0,000	0,003	0,004	0,001	0,023	0,000	0,000		0,000
	N	191	191	191	191	191	191	191	191	191	191
TI	Pearson Corr.	0,696**	0,664**	0,426**	0,582**	0,697**	-0,351**	0,470**	-0,061**	0,270**	1
	Sig.(2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	191	191	191	191	191	191	191	191	191	191

SS:Supervisor Support, CC:Coworker Cohesion, AU:Autonomy, CL:Clarity, CO:Control, PHY:Physical Comfort, WP:Work Pressure, INN:Innovation, TI:Task Involvement

**Correlation is significant at the 0.05 level(2-taied)

We can also see that all of the factors of work environment showed significant correlations with creativity. Seven of the factors, Supervisor Support, Coworker Cohesion, Autonomy, Clarity, Physical Comfort, Innovation and Task Involvement, have shown positive significant correlations with creativity (p<0,005). Two of the factors, Control and Work Pressure, have shown negative significant correlation with creativity (p<0,005).

By using Table.12 and Table.13 in order to interpret correlation between the work environment factors and creativity, we can say that, the results indicate:

- a moderate positive correlation (r=0,678) between supervisor support and creativity (p<0,005)

- a weak positive correlation (r=0,459) between coworker cohesion and creativity (p<0,005)

- a moderate positive correlation (r=0,626) between autonomy and creativity (p<0,005)

- a moderate positive correlation (r=0,614) between clarity and creativity (p<0,005)

- a week negative correlation (r=-0,346) between control and creativity (p<0,005)

- a week positive correlation (r=0,414) between physical comfort and creativity (p<0,005)

- a very week negative correlation (r=-0,191) between work pressure and creativity (p<0,005)

- a very week negative correlation (r=0,250) between innovation and creativity (p<0,005)

- a moderate positive correlation (r=0,696) between task involvement and creativity (p<0,005)

Table.13. Pearson Correlation Coefficient Interpretation

Pearson Correlation Coefficient (r)	Correlation
0,00-0,25	Very weak correlation
0,26-0,49	Weak correlation
0,50-0,69	Moderate correlation
0,70-0,89	Strong correlation
0,90-1,00	Very strong correlation

VI.2.4.Regression Analysis

As no multicollinearity has been found between the work environment factors, multiple regression analysis can be conducted by using all the 9 factors.

Since all of the variables of the study are measured on an interval scale and there is more than one independent variable, we can place them in a multiple regression analysis and analyze how much of the variance in the dependent variable is explained when all of our independent variables are theorized to simultaneously influence it.

In order to test if the work environment factors significantly explain the variance in the creativity level of employees, linear regression analyses were conducted. By this way, we can see their contribution to the dependent variable. Creativity is the dependent variable in this model. The following regression estimation is used:

$$Y1= ß0+ ß1X1+ ß2X2+ ß3X3+ ß4X4+ ß5X5+ ß5X6+ ß5X7+ ß5X8+ ß5X9$$

Y1 shows the creativity of employees and Xi's show the independent variables.

Table.14.Model summary of Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,792(a)	,627	,608	,48173

Predictors: (Constant), Task Involvement, Work Pressure, Innovation, Control, Coworker Cohesion, Physical Comfort, Autonomy, Clarity, Supervisor Support

From the Table.14 and Table.15 we can see that, R Square is 0,627, F is 33,771 and Significance level is 0,000, so we can say that the regression results indicate that, the independent variables jointly explained 62,7% of the variance in the dependent variable, creativity. (F=33,771, p<0, 05).

Table.15.Regression Analysis of Work Environments and Creativity

	Sum of Squares	df	Mean Square	F	Sig.
Reg.	70,735	9	7,837	33,771	,000a
Residual	42,004	181	,232		
Total	112,540	190			

a. Predictors: (Constant), Task Involvement, Work Pressure, Innovation, Control, Coworker Cohesion, Physical Comfort, Autonomy, Clarity, Supervisor Support

b. Dependent Variable: Creativity

Table.16. Coefficients of Regression Analysis

Dependent Variable: Creativity Independent Variables	Beta	t Value	P Value
Constant		-0,080	0,936
Supervisor Support	0,213	2,911	0,004
Coworker Cohesion	0,116	2,217	0,028
Autonomy	0,232	3,808	0,000
Clarity	0,053	0,748	0,456
Control	-0,087	-1,671	0,096
Physical Comfort	0,031	0,560	0,576
Work Pressure	-0,047	-0,871	0,385
Innovation	0,013	0,280	0,780
Task Involvement	0,281	3,699	0,000
R=0,792; **R²**=0,627; **F Value**=33,771; **P Value**=0,000			

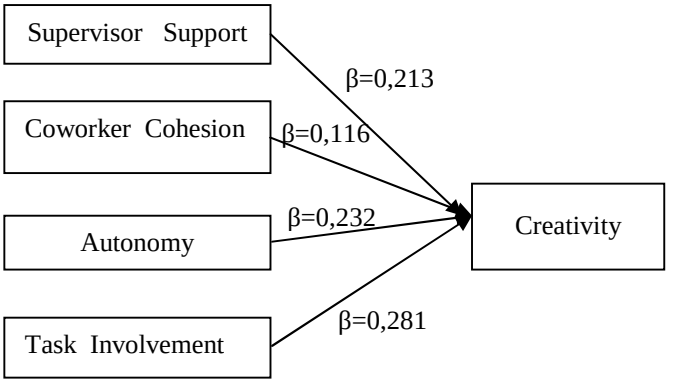

Figure.3. The Revised Research Model of Creativity after Multiple Regression

When we conduct regression analysis again with our four factors which were found significant in our first regression analysis, we get the Tables.17-19.

Table.17. Model summary of Second Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,784(a)	,615	,606	,48281

Predictors: (Constant), Task Involvement, Coworker Cohesion, Autonomy, Supervisor Support

From the Table.17 and Table.18 we can see that, R Square is 0,615, F is 74,196 and Significance level is 0,000, so we can say that the regression results indicate that, the independent variables jointly explained 61,5% of the variance in the dependent variable, creativity. (F=74,196, p<0, 05).

Table.18. Second Regression Analysis of Work Environments and Creativity

	Sum of Squares	df	Mean Square	F	Sig.
Reg.	69,182	4	17,296	74,196	,000a
Residual	43,358	186	,233		
Total	112,540	190			

a. Predictors: (Constant), Task Involvement, Coworker Cohesion, Autonomy, Supervisor Support
b. Dependent Variable: Creativity

Table.19. Coefficients of Regression Analysis

Dependent Variable: Creativity **Independent Variables**	**Beta**	**t Value**	**P Value**
Constant		-1,916	0,057
Supervisor Support	0,273	3,916	0,000
Coworker Cohesion	0,142	2,350	0,020
Autonomy	0,271	4,132	0,000
Task Involvement	0,421	5,038	0,000
R=0,784; **R²**=0,615; **F Value**=74,196; **P Value**=0,000			

VI.2.5. Testing the Hypothesis

In order to test Hypothesis.1 and its sub-hypothesis, Multiple Regression Analysis has been performed.

Hypothesis.1

Ho: None of the work environment factors has a relationship with the creativity of employees.

Ha: At least one of the work environment factors has a relationship with the creativity of employees.

It may be seen from Table.19 that, significance level of our regression model is 0,000. Thus, at least one of the work environment factors has a relationship with the creativity of employees.

Sig. =0,000<0, 05 **reject Ho**

As Hypothesis.1 has been supported and it has been found that at least one of the work environment factors has a relationship with the creativity of employees, we have to analyze the significance levels of the each independent variable in our regression model.

Hypothesis.1a

Ho: There is not a positive relationship between co-worker cohesion and employee creativity

Ha: There is a positive relationship between co-worker cohesion and employee creativity

Sig. =0,028<0, 05 **reject Ho**

It may be seen from Table.20 that, Hypothesis.1a has been supported at the 0, 05 significance level (Beta=0,116, t: 2,217, p=0,028). Therefore, we can say that there is a positive relationship between coworker cohesion and creativity.

Hypothesis.1b

Ho: There is not a positive relationship between supervisor support and employee creativity

Ha: There is a positive relationship between supervisor support and employee creativity

Sig. =0,004<0, 05 **reject Ho**

It may be seen from Table.20 that, Hypothesis.1b has been supported at the 0, 05 significance level (Beta=0,213, t: 2,911, p=0,004). Therefore, we can say that there is a positive relationship between supervisor support and creativity.

Hypothesis.1c

Ho: There is not a positive relationship between autonomy and employee creativity

Ha: There is a positive relationship between autonomy and employee creativity

Sig. =0,000<0, 05 **reject Ho**

It may be seen from Table.20 that, Hypothesis.1c has been supported at the 0, 05 significance level (Beta=0,232, t: 3,808, p=0,000). Therefore, we can say

that there is a positive relationship between autonomy and creativity.

Hypothesis.1d

Ho: There is not a negative relationship between work pressure and employee creativity

Ha: There is a negative relationship between work pressure and employee creativity

Sig. =0,385>0, 05 **fail to reject Ho**

It may be seen from Table.20 that, Hypothesis.1d has not been supported at the 0, 05 significance level (Beta=-0,047, t: -0,871, p=0,385). Therefore, there is not a negative relationship between work pressure and creativity.

Hypothesis.1e

Ho: There is not a positive relationship between clarity and employee creativity

Ha: There is a positive relationship between clarity and employee creativity

Sig. =0,456>0, 05 **fail to reject Ho**

It may be seen from Table.20 that, Hypothesis.1e has not been supported at the 0, 05 significance level (Beta=0,053, t: 0,748, p=0,456). Therefore, there is not a positive relationship between clarity and creativity.

Hypothesis.1f

Ho: There is not a negative relationship between control and employee creativity

Ha: There is a negative relationship between control and employee creativity

Sig. =0,096>0, 05 **fail to reject Ho**

It may be seen from Table.20 that, Hypothesis.1f has not been supported at the 0, 05 significance level (Beta=-0,087 t: -1,671, p=0,096). Therefore, there is not a negative relationship between control and creativity.

Hypothesis.1g

Ho: There is not a positive relationship between innovation and employee creativity

Ha: There is a positive relationship between innovation and employee creativity

Sig. =0,780>0, 05 **fail to reject Ho**

It may be seen from Table.20 that, Hypothesis.1g has not been supported at the 0, 05 significance level (Beta=0,013 t: 0,280, p=0,780). Therefore, there is not a positive relationship between control and creativity.

Hypothesis.1h

Ho: There is a positive relationship between physical comfort and employee creativity

Ha: There is not a positive relationship between physical comfort and employee creativity

Sig. =0,576>0, 05 **fail to reject Ho**

It may be seen from Table.20 that, Hypothesis.1h has not been supported at the 0, 05 significance level (Beta=0,031 t: 0,560, p=0,576). Therefore, there is not a positive relationship between control and creativity.

Hypothesis.1i

Ho: There is not a positive relationship between task involvement and employee creativity

Ha: There is a positive relationship between task involvement and employee creativity

Sig. =0,000<0, 05 **reject Ho**

It may be seen from Table.20 that, Hypothesis.1i has been supported at the 0, 05 significance level (Beta=0,281, t: 3,699, p=0,000). Therefore, we can say that there is a positive relationship between task involvement and creativity.

As it is indicated before, independent variables coworker cohesion, supervisor support, autonomy and task involvement are found to explain the 62, 7% of the variance in the dependent variable creativity. (F=33,771, p<0, 05).

VII. CONCLUSION AND DISCUSSION

As indicated before, this research attempts to examine work environment factors which have an effect on creativity. Although there were previous researches in the literature, which tried to find out the relationship between work environment and creativity, those studies were mostly conducted among the R&D workers or scientists which were focusing on product creativity and using the KEYS: Assessing the Climate for Creativity scale which was constructed by a research on 120 R&D scientists and technician to determine the major stimulant to creativity in R&D. One of the important contributions

of this study is that there is not a study conducted before attempting to figure out how employee creativity differs by using the factors of the Work Environment Scale (WES). Using a combination of creativity definitions, creativity can be defined as the formation of novel, appropriate and useful ideas by employees. [4]. Based on this view, we can say that creativity can be seen in every department of an organization, that's why this study was conducted within various departments of two organizations. In addition to this, in Turkey, there was a gap seen in the literature regarding the relationship between work environment and creativity.

After the factor analysis, nine work environment factors (Supervisor Support, Coworker Cohesion, Clarity, Control, Innovation, Autonomy, Task Involvement and Physical Comfort) were identified and Multiple Regression Test is conducted to find out their importance in their contribution to creativity. As a result of our emprical study, it was seen that work environment is a contributing factor towards creativity.

The four work environment factors which were found to have effect on creativity are:

- Supervisor Support
- Coworker Cohesion
- Autonomy
- Task Involvement

The findings in the present study demonstrate that the factors 'Supervisor Support', 'Coworker Cohesion', 'Autonomy' and 'Task Involvement' have positive significant relationships with creativity, however the effect of the factors 'Clarity', 'Control', 'Innovation' and 'Physical Comfort' are found to be insignificant. Thus, Hypothesis.1a, Hypothesis.1b, Hypothesis.1c and Hypothesis.1i have been supported while Hypothesis.1d, Hypothesis.1e, Hypothesis.1f, Hypothesis.1g and Hypothesis.1h are rejected.

Moreover, although it is not the central concern of our study (and thus not the subject of formal hypotheses), our results also revealed that there is no significant difference found between the males and females. Also, no relation has been found between the education level and creativity. In addition to this, the results also indicated that there was no significant difference between the creavity levels of two companies: Arçelik and Vestel.

As organization's are facing very though competition today, the terms 'creativity' and 'innovation' are very important concepts in today's business. The most important result of this study is that, work environment plays an important role in creativity. With this thesis, it is hoped to provide a detailed picture of the situation in Turkey which will give crucial insights and awareness about the work environment factors affecting the creativity of the employees. So hopefully this research will be helpful for organizations aiming to have creativity within the organization.

Consequently, this study attempts to examine and present the findings of a research on the creativity and work environment which was conducted in Arçelik A.Ş. and Vestel Beyaz Eşya Sanayi ve Tic. A.Ş., which are two leading companies operationg in white-goods sector in Turkey.

The findings in the present study demonstrate that work environment is a contributing factor towards creativity. In other words, work environment factors can affect creativity. Supervisor Support, Coworker Cohesion, Autonomy and Taks Involvement factors are found to have positive significant relationships with creativity.

The factor which was labeled as task involvement is found to be the most influential factor on creativity. The factor which was renamed as Task Involvement, measured the degree of emphasis on work efficiency and to extent to which employees are committed to their jobs. Task Involvement factor was formed by 10 items from original task orientation and involvement scales which were merged into single factor as a result of factor analysis. 6 of the items are related with involvement and 4 of them are related with task orientation. The original Task Orientation scale measures the extent to which the work environment emphasizes efficiency and good planning and the original Involvement scale measures the extent to which workers are concerned about and committed to their jobs. On the other hand, our new scale combines these two original scales and measures the degree of emphasis on work efficiency and to extent to which employees are committed to their jobs.

Among the factors of the work environment, supervisor support is found to be one of the factors that support creativity. A significant positive relationship was found between the supervisor support and creativity. Previous studies also propose that employees will be more creative if they perceive their immediate supervisors support them and their work [20]. Five important supervisor support items found in the factor analysis are the relationship-oriented behaviours which focus on socioemotional actions. As mentioned before, task-oriented behaviors are the ones which focus on getting the job done, like planning and monitoring work, managing resources and clarifying roles of the members whereas relationship-oriented behaviors focus on socioemotinal actions like being personally friendly and supportive to the employees and concerning their feelings and welfare. Therefore, we can say that positive supportive

relationship-oriented behaviors of supervisors, has a great effect on creativity of employees. So, the supervisors who want to have creativity in workplace should engage in relationship-oriented beviours like, supporting team work, good communication and interaction, appreciating individual contributions, giving constructive feedback, welcoming new ideas and serving as a good model [20].

Another work environment factor which was found to have an effect on creativity in this study is autonomy. The multiple regression results indicated a significant positive relationship between autonomy and creativity. In other words, autonomy increases creativity of employees. This finding is consistent with previous findings. Eren and Gündüz [72] have also found that the factor autonomy and freedom affects creativity in a positive way. It was also stated that autonomy increases the intirinsic motivation, which makes a person to explore various pathways and alternatives which will lead to novel, alternative solutions that will be more appropriate successful than the obvious path [75]. So, we can say that the employees will be more creative when they have autonomy in achieving their goals.

One of the other important findings of this study is about the effect of co-worker support on creativity. A significant positive relationship was found between co-worker support and creativity. This means that, co-worker support increases creativity of employees. This finding is also consistent with the previous studies. In another research [64] it was found that, employees are more creative when they have supportive and encouraging coworkers in their work teams. It was also found significant positive relationship between coworker cohesion and creativity [76]. Furthermore, in another study which was conducted in Turkey [72], the results indicated a positive relationship between work group supports and creativity. As it was stated, employees are expected to be more creative when they have supportive coworkers, as this increases their intrinsic motivation, which in turn, results in higher creativity of employees [77].

However, several factors which were expected to influence creativity turned out to be irrelevant. These included work pressure, clarity, control, innovation, and physical comfort.

Although it is not the central concern of our study (and thus not the subject of formal hypotheses), our results also revealed that there is no significant difference found between the males and females. So, we can say our study show that there is no difference between males and females in terms o creativity. A research was conducted and included students from three different marketing classes [78]. Their finding is similar to our study; the creativity scores found in their study did not indicate any difference between males and females [78]. On the other hand, another survey was conducted with 320 Jamaican adolescents to determine gender differences in creative performance [77]. It was found that females are found to be more creative than the males. In contrast to Richardson's study, sex did not play a part in the creativity in the present research. One reason could be that the sample used in Richardson's study was Jamaican adolescents, while the sample used in the present study was employees in Turkey. The age, occupational, and cultural compositions of the two samples could have contributed to the contradictory findings. Another reason for this contrary finding could be due to sample size composition. For example, females constitute 31,4%, while the males constitute 68,6% of the overall sample, which might have hindered the effect of sex. In addition to this, in this study, the results also indicated that there was no significant difference between the creavity levels of two companies: Arçelik and Vestel.

Also, the prediction regarding the effect of education level on creativity is not supported since a relation between the education level and creativity is not found.Based on the inductively derived from the direct observations and intuitions; the researcher was expected to discover a tendency as being more open to change and creative while an individual gains new perspectives by education. The finding in our study implies that education level is not an indicator of an individual's creativity. Simonton found a curvilinear (U-shaped) relationship between education and creative performance [78]. Among the less educated, an increase in education was accompanied by an increase in creative performance, whereas, among the more educated, an increase in education led to a decrease in creative performance. As further, it was found that Executive MBA students scored significantly lower than the undergraduate students, in their study [78].

REFERENCES

[1] Pretorius, M.; Millard, S.M. & Kruger, M.E.(2005). Creativity, innovation and implementation: Management experience, venture size, life cycle stage, race and gender as moderators. *South African Journal of Business Management*, 36(4), 55-68

[2] Amabile, T.M. & Conti, R. (1999). Changes in the Work Environment for Creativity during Downsizing. *Academy of Management Journal*. 42(6), 630-640.

[3] Egan, T.M. (2005). Factors Influencing Individual Creativity in the Workplace: An Examination of Suantitative Empirical Research. *Advances in Developing Human Resources*, 7(2), 160-181.

[4] DiLiello, T.C. & Houghton, J.D. (2006). Maximizing organizational leadership capacity for the future: Toward a model of self-leadership, innovation and creativity. *Journal of Managerial Psychology*, 21(4), 319-337.

[5] Gilson, L.L.; Mathieu, J.E.; Shalley, C.E. & Ruddy, T.M. (2005). Creativity and standardization: Complementary or conflicting drivers of team effectiveness? *Academy of Management Journal*, 48(3), 521–531.

[6] Isaksen, S.G.; Puccio, G.J. & Treffinger, D.J. (1993). An ecological approach to creativity research: Profiling for Creative Problem Solving. *The Journal of Creative Behaviour*, 21(3), 149-170.

[7] Yahyagil, M.Y. (2005). Organizational Creativity: An Empirical Exploration, and a Guide for Practitioners. *İstanbul University Journal of Business Faculty*, 35(2), 81-110.

[8] Ryhammar, L. & Brolin, C. (1999). Creativity research: Historical considerations and main lines of development. *Scandinavian Journal of Educational Research*, 43(3), 259-273.

[9] Fleith, D.S. (2002). Creativity in the Brazilian culture. (Eds.: Lonner, W.J.; Dinnel, D.L.; Hayes, S.A. & Sattler, D.N.). *Online Readings in Psychology and Culture* (Unit 5, Chapter 3). Center for Cross-Cultural Research, Western Washington University, Bellingham, Washington. (http://www.wwu.edu/~culture). [Erişim tarihi: 24.012008].

[10] Garavelli, A.C. & Gorgoglione, M. (2006). Supporting Creative Teams in Organizations. *International Studies of Management and Organization*, 36(1), 8-23.

[11] Amabile, T.M. (1992). Social Environments that Kill Creativity. (Eds.: Gryskiewicz, S.S. & Hills, D.A.). *Readings in Innovation*. Greensboro, N.C.: Center for Creative Leadership, 1-17.

[12] Süvarioğlu, S. (1994). A Creative Thinking Program: Assessment of Effectiveness. *Unpublished PHD Thesis*. İstanbul: Marmara University, Institute of Social Sciences.

[13] Brennan, A. & Dooley, L. (2005). Networked Creativity: A Structured Management Framework for Stimulating Innovation. *Technovation*, 25(12), 1388-1399

[14] Byrge, C. (2006). The Discipline of Thinking- in Creative Processes. *Unpublished Master Thesis***.** Kopenhag: Aalborg University, Business Faculty, Denmark.

[15] Amabile, T.M. (1998). How to kill creativity. *Harvard Business Review*, 76(5), 76-87.

[16] Reiter-Palmon, R. & Illies, J.J. (2004). Leadership and creativity: understanding leadershipfrom a creative problem-solving perspective. *Leadership Quarterly*, 14(4) 15, 55-78

[17] Altekin, S. (2002). Assessment of Effectiveness of a Creative Thinking Training Program. *Unpublished Master Thesis***.** İstanbul: Boğaziçi University, Social Sciences Institute.

[18] Baer, M. & Oldham, G.R. (2006). The Curvilinear Relation Between Experienced Creative Time Pressure and Creativity: Moderating Effects of Openness to Experience and Support for Creativity. *Journal of Applied Psychology*. 91(4), 963-970.

[19] Blau, G.J. & Boal, K.B. (1987). Conceptualizing How Job Involvement and Organizational Commitment Affect Turnover and Absenteeism. *Academy of Managernent Review*, 12(2), 288-300.

[20] Amabile, T.M.; Schatzel, E.A.; Moneta, G.B. & Kramer, S.T. (2004). Leader Behaviors and the Work Environment for Creativity: Perceived Leader Support. *Leadership Suarterly***,** 15(1), 5-32.

[22] Politis J. D. (2004). Transformational and Transactional Leadership Predictors of the 'Stimulant' Determinants to Creativity in Organizational Work Environments. *The Electronic Journal of Knowledge Management*, 2(2), 23-34.

[23] Torres-Coronas, T. & Gascó-Hernández, M. (2005). Improving Virtual Teams Through Creativity. *Encyclopedia of Information Science and Technology*, 9(3), 1419-1424.

[24] West, M.A. (2005) Sparkling Fountains or Stagnant Ponds: An Integrative Model of Creativity and Innovation Implementation in Work Groups. *Applied Psychology: An International Review*, 51(3), 355-424.

[25] Ford, C.M. (1996). A Theory of Individual Creative Action in Multiple Social Domains. *Academy of Management Review*, 21(4), 1112-1142.

[26] Hickman, L.J. (1997). The Impact of Executive Team Excellence and the Work Environment on Organizational Creativity. *Unpublished Phd Thesis*. Maryland: University of Maryland.

[27] Amabile, T.M.; Barsade, S.G.; Mueller, J.S. & Staw, B.M. (2005). Affect and Creativity at Work. *Administrative Science Quarterly***,** 50(3), 367-403.

[28] Wright, B.E. & Davis, B.S. (2003). Job Satisfaction in the Public Sector: The Role of the Work Environment. *The American Review of Public Administration*, 33(1), 70-90

[29] Suvagondha, P. (2003). Relationships among Creative Style Preference, Job Satisfaction, and Work Environment. *Unpublished Phd Thesis*. San Diego: Alliant International University.

[30] Lacefield, P.K. (1989). The Relationship of Work Environment and Area of Practice to Burnout in Registered Nurses. *Unpublished Phd Thesis.* Kentucky: University of Louisville.

[31] Levering, R. (2007). Creating a Great Place To Work: Why Is It So Important and How It Is. (Done.http://resources.greatplacetowork.com/article/pdf/levering_web.pdf). [04.05.2008].

[32] Oh, H. (2002). The Relationship between Work Environment Factors and Organizational Knowledge Creation Process. *Unpublished Phd Thesis*. Minnesota: University of Minnesota.

[33] Guzman, M.J. (2007). The Mediating Role of Motivation and Job Satisfaction in Work Environment-Outcome Relationships. *Unpublished Phd Thesis*. Los Angeles: University of Central Florida.

[34] Martin, S.C. (1993). Stimulants and Barriers to Creativity in the Work Environment of Nurse Managers. *Unpublished Master Thesis*. Pitsburg: DuSuesne University.

[35] Kwasniewska, J. & Necka, E. (2004). Perception of the Climate for Creativity in the Workplace: the Role of the Level in the Organization and Gender. *Creativity and Innovation Management*, 13(3), 187-196.

[36] Murray, A.I. (1989). Top Management Heterogeneity and Firm Performance. *Strategic Management Journal*, 11(5), 125-141.

[37] Westerman, J.W. & Yamamura, J.H. (2007). Generational preferences for work environment fit: effects on employee outcomes. *Career Development International*, 12(2), 150-161.

[38] Lawler, E.E. III. & Hall, D.T. (1970). Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation. *Journal of Applied Psychology***,** 54(40), 305-312.

[39] Hafer, J.C & Martin, T.N. (2006). Job Involvement or Affective Commitment: A Sensitivity Analysis Study of Apathetic Employee Mobility. *Journal of Behavioral and Applied Management*, 5(2), 88-101.

[40] Hallberg, U.E. & Schaufeli, W.B. (2006). Same Same But Different? Can Work Engagement Be Discriminated from Job Involvement and Organizational Commitment? *European Psychologist*, 11(2), 119–127.

[41] Elankumaran, S. (2004). Personality, Organizational Climate and Job Involvement: An Empirical Study. *Journal of Human Values*, 10(2), 117-130.

[42] Shapcott, K.M.; Carron, A. V.; Burke, S.M.; Bradshaw, M. & Estabrooks, P.A. (2006). Member Diversity and Cohesion and Performance in Walking Groups. *Small Group Research*, 37(6), 701-720.

[43] Carless, S.A. & De Paola, C. (2000). The Measurement of Cohesıon in Work Teams. *Small Group Research*, 31(1), 71-88.

[44] Chang, A. & Bordia, P. (2001). A Multidimensional Approach to the Group Cohesion–Group Performance Relatıonship. *Small Group Research*, 32(4), 379-405.

[45] Sullivan, P.J. & Windsor, Feltz, D.L. (2001). The Relatıonshıp between Intrateam Conflict and Cohesion within Hockey Teams. *Small Group Research*, 32(3), 342-355.

[46] Dunbar, K. (1997). How scientists think: On-line creativity and conceptual change in science. (Ed.: Ward, T.B.; Smith, S.M. & Vaid, J.). *Creative thought: An investigation of conceptual structures and processes*. Washington, DC: American Psychological Association, 461–493.

[47] Aselage, J. & Eisenberger, R. (2003). Perceived Organizational Support and Psychological Contracts: A Theoretical Integration. *Journal of Organizational Behavior*, 24(5), 491-509.

[48] Rhoades, L. & Eisenberger, R. (2002). Perceived Organizational Support: A Review of the Literature. *Journal of Applied Psychology*, 87(4), 698–714.

[49] Eisenberger, R.; Aselage, J.; Sucharski, I.L. & Jones, J.R. (2004). Perceived organizational support. (Eds.: Coyle-Shapiro, J.; Shore, L.; Taylor, S. & Tetrick, L.). *The employment relationship: Examining psychological and contextual perspectives.* New York: Oxford University Press.

[50] Choi, J.N. (2007). Group composition and employee creative behaviour in a Korean electronics company: Distinct effects of relational demography and group diversity. *Journal of Occupational and Organizational Psychology*, 9(2), 213-234.

[51] Garavelli, A.C. & Gorgoglione, M. (2006). Supporting Creative Teams in Organizations. *International Studies of Management and Organization*, 36(1), 8-23.

[52] McLeod, P.L.; Lobel, S.A. & Cox, T.H. (1996). Ethnic Diversity and Creativity in Small Groups. *Small Group Research*, 27(2), 248-263.

[53] Rose, J. & Schelewa-Davies, D. (1997). The Relationship between Staff Stress and Team Climate in Residential Services. *Journal of Learning Disabilities for Nursing, Health and Social Care*, 1(1), 19-24.

[54] Pirola-Merlo, A.P. & Mann, L. (2004). The Relationship between Individual Creativity and Team Creativity: Aggregating Across People and Time. *Journal of Organizational Behavior*, 25(2), 235-257.

[55] Anderson, N.R & West, M.A (1998). Measuring climate for workgroup innovation: development and validation of the team climate inventory**.** *Journal of Organizational Behavior*, 19(3), 235-258.

[56] Cady, S.H. & Valentine, J.(1999). Team innovation and perceptions of consideration What difference does diversity make? *Small Group Research***,** 30(6), 730-750.

[57] Koester, N. & Burnside, R.M. (1992). Climate for creativity: what to measure? What to say about it? (Eds.: Gryskiewicz, S.S. & Hills, D.A.). *Readings in Innovation.* Center for Creative Leadership, 69-77.

[58] Kacmar, M.; Zivnuska, S. & White, C.D. (2007). Control and exchange: The impact of work environment on the work effort of low relationship Suality employees. *The Leadership Suarterly*, 18(1), 69-84.

[59] Mostafa, M. (2005). Factors Affecting Organisational Creativity and Innovativeness in Egyptian Business Organisations: An Empirical İnvestigation. *Journal of Management Development*, 24(1), 7-33.

[60] Heye, D. (2006). Creativity and Innovation. *Business Information Review*, 6(2), 252-259.

[61] Damanpour, F. (1992). Organizational Size and Innovation. *Organization Studies*, 13(3), 375-402.

[62] Devett, T. (2004). Creativity and Strategic Management: Individual and Group Considerations Concerning Decision Alternatives in the Top Management Teams. *Journal of Managerial Psychology*, 19(2), 156-169.

[63] McLean, L.D. (2005). Organizational Culture's Influence on Creativity and Innovation: A Review of the Literature and Implications for Human Resource Development. *Advances in Developing Human Resources*, 7(2), 226-246.

[64] Amabile, T.M.; Conti, R.; Coon, H.; Lazenby, J. & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154-1185.

[65] Antonites, A.J. (2003). An Action learning approach to entrepreneurial creativity, innovation and opportunity finding. *Unpublished Phd Thesis*. Pretoria: University of Pretoria. (http://upetd.up.ac.za/thesis/available/etd06282004-124700). [02.04.2007].

[66] Khatib, M. (2002). A Proposal for the Future Work Environment. *Unpublished Master Thesis.* Milwaukee: Jordan University for Women.

[67] Alim, Ö. (2002). The Effect of Training and Development Opportunities and Physical Workplace Conditions on Job Satisfaction: An Application in Telecommunication Sector. *Unpublished Master Thesis*. İstanbul: Marmara University, Institute of Social Sciences.

[68] Paulus, P.B. (2000). Groups, Teams and Creativity: The Creative Potential Of Idea-generating Groups. *Applied Psychology: An International Review*, 13(4), 237-262.

[69] Amabile, T.M. & Conti, R. (1999). Changes in the Work Environment for Creativity during Downsizing. *Academy of Management Journal*, 42(6), 630-640.

[70] Taggar, S. (2002). Individual Creativity and Group Ability to Utilize Individual Creative Resources: A Multilevel Model. *Academy of Management Journal*, 45(2), 315-330

[71] Ceylan, A. & Savi, F.Z. (2003). Örgütsel Yaratıcılığa Etki Eden Faktörler Üzerine Bir Araştırma. *İstanbul Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, 17(6), 151-175.

[72] Eren, E. & Gündüz, H. (2002). İş Çevresinin Yaratıcılık Üzerindeki Etkileri ve Bir Araştırma. *Doğuş Üniversitesi Dergisi*, 8(3), 65-84.

[73] Nachmias, C.F. & Nachmias, D. (1996). *Research Methods in the Social Sciences*. 5th Ed. London: St. Martin's Press.

[74] Williams, S.D. (2004). Personality, attitude, and leader influences on divergent thinking and creativity in organizations. *European Journal of Innovation Management*, 7(3), 187-204.

[75] Shalley, C.E.: Zhou, J. & Oldham; G.R. (2004). The Effects of Personal and Contextual Characteristics on Creativity: Where Should We Go from Here? *Journal of Management*, 30(6), 933-958.

[76] McIntyre, F.S.; Hite, R.E. & Rickard, M.K. (2003). Individual Characteristics and Creativity in the Marketing Classroom: Exploratory Insights. *Journal of Marketing Education*, 25(2), 143-149.

[77] Richardson, A.G. (1986). Sex differences in creativity among a sample of Jamaican adolescents. *Journal of Creative Behavior*, 11(6), 147-153.

[78] Simonton, D K, (1983). Formal Education, Eminence and Dogmatism: The Curvilinear Relationship. *Journal of Creative Behavior*, 17(3), 149-162.

Aslı KÜÇÜKASLAN EKMEKÇİ

(aslikucukaslan@yahoo.com)

She is an Associate Professor of management and organization. She has a doctorate degree of Business Administration. Her interests are in management and organization, business administration, multinational management, international management and marketing. She has authored over 50 research papers in multiple editions and journals and books on these subjects.

Begüm TEKİN

(begum.tekin@arcelik.com)

She was born in 1982, in İzmir and graduated from İzmir Özel Türk Lisesi in 2000. She graduated from Ege University, Business Administration Department in 2005 and earned a Master's Degree from Marmara University, Management and Organization Department in 2008. She has been working as Human Resources Responsible in Arçelik A.Ş. since 2007.