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Hazel Bayindir  
hazelbayindir@gmail.com

Begüm Özmeriç  
begumozmeric@gmail.com

Deniz Büküşoğlu  
denizbukusoglu@gmail.com

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# Improving human-cat interactions: Designing an environment to cope with stress at work and educational areas

Hazel Bayındır  
Begüm Özmeriç  
Deniz Büküşoğlu

## ABSTRACT

This study investigates the interaction between human and cats as the means to explore positive impacts of cats on people. The sample of the study is constituted at Izmir University of Economics (IUE) main cafeteria. The study was conducted in the fall of 2013-2014 academic years. To collect data about these subjects, case study method was applied. During the process of case study, the observation technique was utilized to understand human-cat interaction. The study outcome proposed a design framework to improve the interaction between human and cats to overcome with stress in work and educational life like exams. The design therefore contributes to the improvement of psychological and physical health.

**Keywords:** design research, design process, psychosocial effects of cats, human-cat interaction, cats

## 1. Introduction

For many people, one of the factors related to stress is work. According to Lazarus (1966), ‘Stress is the negative feelings and beliefs that arise when individuals perceive that they cannot adequately cope with the demands being made on them or with demands being made on them or with threats to their well-being’. Stress causes negative on people’s physical and psychological health; heart diseases, hypertension, loss of libido, muscular aches, anger, anxiety, and depression (Nordqvist, 2013).

This paper focuses on the stressors of instructors and students in the Izmir University of Economics. For instructors, dissatisfaction from job, sedentary behaviors at work, being limited and insecure in working conditions are the main stressors for work life (Porensky, 2014). For students, exams, assignments and the relation with their instructors cause the stress and pressure.

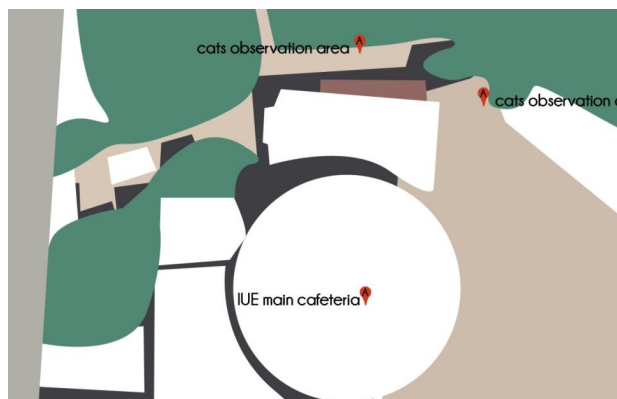
However, it is possible to manage and reduce stress level. Basic methods that help people to cope with stress include taking social support, writing or talking about ones problems, try new activities or hobbies, time management for spend time efficiently, doing sports and commune with nature. This study focused on designing a solution by involving nature and animals in daily life to cope with stress.

The aim of this paper is to understand the psychosocial effects of animals on human beings and how these effects could be minimized in campus by design. This research proposes an environmental design for residents of IUE to assist them in distancing themselves from stressful working and educational conditions.

## Methodology

The aim of this research was to understand the effects of animals on human psychological, physical and emotional health and how design might make a contribution to improve these factors. Qualitative case study such as literature review, case studies, observations and photo-documentation were conducted in the project. Literature review was conducted to investigate how design makes a contribution to interaction between human and cats in order to reduce daily stress level of instructors and students. All identified sources were examined for relevant references. As a result of the research it had been proposed a design which might help to minimize the negative factors of daily life on people by increasing the interaction between human and cats.

Our observations were conducted at Izmir University of Economics main cafeteria where cats live and the place that they frequently interact with people (Figure 1). People and cats relation is observed during the lunchtime of the university and to identify the interaction and to not notice the significant point's photographs were taken.



**Figure 1:** Izmir University of Economics, Main Cafeteria Plan

Cross-case synthesis was applied to analyze the data. 307 photographs of 10 cats were taken and categorized based on the interaction type; feeding or petting and ignoring the existence of cats. The similarities between people behavior and cats demeanors were compared. The obstacles that limit the interaction between human and cats were framed as a design problem. To identify new product, a design proposal was generated. In the design proposal

section, the following questions were answered; why, what, who, when, where and how.

## Effects of Animals on Physical and Psychological Health of Human Being

In literature research, it was focused on the effects of human-animal interaction on psycho-social variables; empathy, social interactions and on human mental and physical health, including effects on hormones, heart rate and blood pressure.

In relevance to physical health, studies showed that interaction with cats may reduce the blood pressure and increase the level of epinephrine. It decreases glucocorticoid (i.e., stress hormone) levels in humans. For example, Research Centre for Human-Animal Interaction (ReCHAI) found that interacting with animals could increase oxytocin level and it increases pain thresholds of human (cited in Braun, 2009). This indicates that interacting with animals could help in altering human hormones and help to overcome with stress.

According to Associate Professor Rebecca Johnson from the MU Sinclair School of Nursing, the College of Veterinary Medicine and director of ReCHAI, animals offer unconditional love and acceptance. Negative impacts from societal problems such as inactivity and obesity could be improved by increasing the interaction between people and animals (cited in Braun, 2009).

In addition, many people cannot overcome the feeling of loneliness and isolate themselves from society. Thus they start to struggle with depression and stress (Souter & Miller, 2007). Loneliness could be tackled by improving the relations with animals. According to Banks and Banks (2002, 2005), dogs help to reduce the effect of loneliness (cited in Beetz, Uvnäs-Moberg, Julius & Kotrschal, 2012).

It has been proven that relation with animals facilitates to cope with stress (Hansen et al., 1999 cited in Beetz et al., 2012). For instance; taking care of animals, spending time with them, watching an aquarium or listening sound of birds enables to be in an optimist mood. Thus, being with animals has opportunities to

manage these kinds of problems without any reinforcement.

Johnson (2009) mentioned that human-animal interaction provides positive impact on our lives. Interacting with animals helps to improve ability of eye contact, empathy, face memory, trust, social skills, positive self-perception, and generosity and decreases depression (Heinrichs et al., 2003; Kosfeld et al., 2005; Ohlsson et al., 2005; Zak et al., 2005, 2007; Domes et al., 2007; Guastella et al., 2008; Jonas et al., 2008; Savaskan et al., 2008; Rimmele et al., 2009; Cardoso et al., 2011 cited in Beetz et al., 2012). People staying in facilities like nursing homes that have animals were observed to smile more often, and be open to make conversations. A study which was made in a Veteran's Hospital revealed that the residents became extraverted and had more verbal interactions when a dog was made a present in the room than when there was no dog in the room (Holcomb et al., 1997 cited in Beetz et al., 2012). In addition, it was seen that in a Special Care Unit of a nursing home, dogs grew the interaction among people who had Alzheimer's disease (Edwards and Beck, 2002 cited in Beetz et al., 2012). These cases indicate that being with animals adds quality to social relations.

Design initiatives were taken to produce environments that encourage human-animal interactions. Cat cafés is the one of good example for these places. It was founded in 1998, Tokyo firstly. (Zannoni, 2013) and became famous in worldwide. For example, there are cat cafés in Japan, Vienna, Russia, Germany, China, Thailand, the UK and France. People go to these cafes to relax and spend time with cats. Other examples are Dalhousie University in Canada, Aberdeen University and Nottingham Trent University. The universities prepared a new project for their students'. During the exam weeks, they designed a room that was full of puppies and this project conducted to help students about their stress management, till the end of their exam period.

As a result, in the university atmosphere, interacting with cats could help to reduce stress of the instructors and students.

### Analysis

Our case study collected 307 photographs of 10 cats and 12 students and instructors in Izmir University of Economics (IEU). Photographs were categorized regarding to the types of interaction that people had with cats; petting, feeding and ignoring the cats.

Our observations show that 4 of 12 people paid attention for feeding, petting and playing with them. During the observation, it was seen that if one of the people around the area start to interact with cats, other people want to attend this interaction. However, the number of people interacting is not high. Despite the number of cats, there were few people who interact with cats. 1 of 4 fed the cats by their hands (Figure 2), 2 of 4 only petted the cats (Figure 3) and the last person played with them (Figure 4).



Figure 2: People feeding cats.



Figure 3: People petting cats.



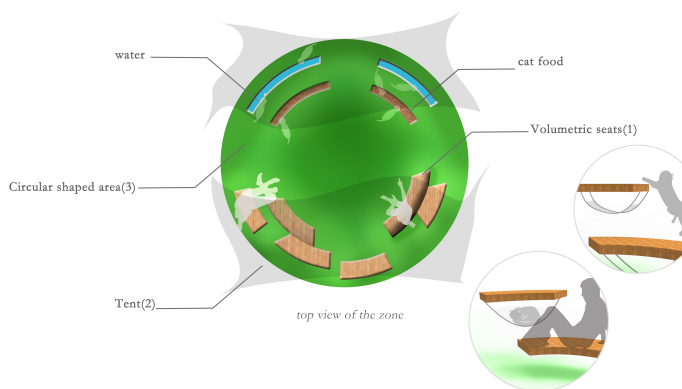
Figure 4: People playing with cats.

The observation also documented that most people were afraid of touching and interacting with cats. We believe that these numbers should be increased. Since working life is a stressful for instructors and course load for students, encouraging the interaction between human and cats might be an alternative solution to minimize their stress level and enhance their efficiency in their work and duties.



### Design Proposal

Based on the observations and precedent studies, the aim of new design is to create and organize a zone in university that allows instructors and students to interact with cats, as the means overcome their daily stresses. The designed area will be used mostly during members' leisure times effectively to supply flexible hours according to their schedule. Due to the zone, education life stress of students and instructors might decrease and their efficiency and desire might increase about their duties and work. In addition, residents of IUE in all status might come together in the designed environment and may constitute social interaction. Hereby, the bond between campus members might be improved. Moreover, in the area, people might supply basic needs of cats and care them. Thus, people feel better and gain self-confidence because of being responsible of cats.



(1) Provides human-cat interaction in people's leisure time. Added components and arrangement of seats provide human-cat interaction.

(2) Available to use in every weather condition.

(3) Provides the relationship between cats and human by positioning them face to face.

**Figure 5:** Proposed design outcome.

During process of interior design of area, furniture, colors, materials, textures and light should be considered based on psychological factors. Reason why to take attention of cats, natural raw materials may be preferred as much as possible. The colors such as yellow, orange and green might be used because these colors have a positive impact on emotional moods such as refreshment, confidence and physical comfort (Wright, n.d.).

As a future plan, IUE may be taken as a pilot university to test the practicality and impact of integrating an environment that encourages human-cat

interactions. Throughout the results, it may be adapted to the other education or working fields according to their conditions. Thus, both members and cats ensure a mutual benefit in terms of students their concern about cats may strengthen.

### Conclusion

There are numerous researches and reports about the importance of animals in human psychology. However, this paper attends to interaction of cats and humans in a different perspective by connecting it with design. In addition, it provides a solution to reduce stress of instructors and students.

After the clarifying the problems, we decided to design an environment that could encourage human-cat interactions in the university. During the design process was informed by rigorous studies on existing projects, and papers about psychological effects of cats on people. Observations of human-cat interactions were conducted. We found that most people ignored the existence of cats while few people paid attention and interacted with them. With these data informing our project, it is believed that the new design could provide a healthy and safe environment for students, instructors and cats.

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