



ENHANCING CREATIVE PERFORMANCE IN WORK ENVIRONMENTS

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Abstract: The aim of this study is to determine the impact of employees' creative personality, physical work environment and social work environment items on creative performance of employees to find the most influential elements. In addition, the study intends to investigate association between employees' creative performance and their satisfaction and turnover intention. Based on regression analysis of data from 102 employees in 18 small sized companies, we conclude that the employees' "creative personality", among the physical work environment items "providing privacy", among the social work environment items "produce new idea", "being effective" and "sufficient resources" independently have a significant influence on employees' creative performance. It is also found that employees' creative performance has a positive moderate association with "job satisfaction" and a negative weak association with "turn over intention".

Keywords: *Creative performance, work environment, job satisfaction, turnover intention*

1. Introduction

Creativity is defined as producing novel and potentially useful ideas for solving problems and for developing new products, services, processes, systems, work methods (Amabile, 1988). Since creative ideas turn ordinary companies into market leaders, encouraging creativity in the work environment has become a major concern for gaining a competitive edge and success of companies. Employees' individual characteristics and the work environment play a critical role in idea generation, success and long-term survival of organizations (Shalley & Gilson, 2004). A work environment is able to stimulate creativity because it provides physical and social stimuli that give rise to the generation of new ideas. Creativity is part of how individuals learn and adapt to their environments and organizations and it can be a key driver of organizational growth and performance. Work environments that stimulate creativity will improve employee's mood in terms of job satisfaction and intention to leave or turnover intentions (Shalley et al., 2000).

The objective of this study is to fill the research gaps by investigating the impact of employees' personality, physical work environment and social work environment items on creative performance of employees. How work environments must be designed in order to encourage creativity is a new question to the field of human factors and needs more investigation. In addition, the study intends to measure the effect of employee creativity on their satisfaction and turnover intention that to the best of our knowledge has not been investigated previously.

2. Theoretical Background

2.1. Creative personality in work environment

Creative performance of employees depends somewhat on individual characteristics, such as cognitive style, relevant knowledge and personality traits (Dul et al., 2011). Gough (1979) introduced the concept of creative personality as personality traits and characteristics that are related to creativity. Few empirical studies use the creative personality concept in organizational settings to assess the effect of creative personality on the creative performance of employees (e.g., Dul et al., 2011; Madjar et al., 2002; Oldham & Cummings, 1996; Unsworth, Brown, & McGuire, 2000; Zhou, 2003). These studies found contradictory results. Some of the previous studies found a direct relationship between creative personality of employees and creative performance (e.g., Dul et al., 2011; Oldham & Cummings, 1996; Unsworth, et al., 2000), while others did not (e.g., Madjar et al., 2002; Zhou, 2003). The objective of this study is to figure out if employees' personality has a significant direct influence on their creative performance or not.

2.2. Physical work environment

There are a few number of studies that have correlated the items of physical work environment to creative performance of employees in the work environment (Martens, 2011; Dul et al., 2011). "Since the 1920s, social science has tended to ignore the physical work environment" (Baldry, 1997, p. 365). A review study of 45 taxonomies of work environments for creativity (Hunter et al., 2007) shows that only one taxonomy (Alencar & Bruno-Faria, 1997) studied the effect of physical environment. This research field is still in its lacking in empirical evidence and researchers are still at the beginning of understanding how work environment designs influence creativity. Therefore there is a need to conduct further studies on the effect of physical work environment on creative performance of employees. Amabile et al., (1996) stated "[p]hysical environments that are engineered to be cognitively and perceptually stimulating can enhance creativity" (p. 249). Some of the previous empirical studies proposed that certain features of the physical work environment could have a positive influence on creative performance. Indoor natural plants and a window view (Shibata & Suzuki, 2002; Stone, 1998) can enhance employees' creative performance.

Color could provide a stimulating (e.g., pink, red, yellow, orange, or red violet,) or a relaxing experience (e.g., blue, blue violet, or green) (Dul et al., 2011). McCoy and Evans (2002) found that physical work environment with cool colors negatively affect creativity, while warm colors have no stimulating influence on creativity. However, Ceylan et al. (2008) found that the work environments with primary cool colors foster creativity. The amount of light in the work environment affects the creative performance, depending on the color temperature of light (Knez, 1995). Also, the type of materials used in the work environment affect creativity (Ceylan et al., 2008). Spatial layout also has an impact on creative performance of individuals at a work environment. Crowded spaces could affect employees' concentration negatively (e.g., Stokols et al., 2002). Having privacy which is being provided by physical work environment elements and being secluded from others' view influence creative performance (Aiello et al., 1977; Stokols et al., 2002). Furniture of the work environment could also affect creative performance of the employees (Ceylan et al., 2008).

Indoor climate of the work environment, such as humidity, temperature and air quality, affect the employees' creativity (Hygge & Knez, 2001; Dul & Ceylan, 2014). Positive sounds, such as background music, absence of noise and silence (Stokols et al., 2002) and positive odors like fresh air (Knasko, 1992) in a work environment stimulate creative performance. However, Lee (2016) could not find that positive smell has an impact on creativity. The availability of information sources, such as up to date technologies and computers in the work environment could stimulate creativity (Reiter-Palmon & Illies, 2004). Since, there is a limited amount of literature that have associated the physical work environment to creativity, this study considers physical aspect of work environment for more investigation. Findings of current study about effective elements of the physical work environment provide the understanding of how certain aspects of work environment enhance creative performance of employees. In this way, designers and architects may consider this investigation to design proper working environments to enhance creative performance of employees and accordingly foster their job satisfaction and loyalty.

2.3. Social work environment

Various literature reviews suggested that several elements of social work environment could motivate creativity of people (e.g. George, 2008; Shalley et al., 2004; Shalley & Gilson, 2004; Zhou & Shalley, 2003). "The predictive power of social macro-phenomena ... is much greater than that of any discrete variable studied in laboratory experiments" (Meusburger, 2009:136). The goal of the present paper is to examine the effects of social work environment elements on employees' creative performance. These findings are important to managers and designers who want to design work environments that encourage creativity.

2.4. Job Satisfaction

Job Satisfaction is related to the employees' positive affective degree about employment in their work environment (Vroom, 1964). This study aims at finding out if creativity has any influence on job satisfaction of employees.

2.5. Turnover Intentions

Turnover intention at work environment means the degree of employee voluntary movement (separations) of an organization (Price, 1977). Employees may think about leaving their job for any reason; the objective of this study is to find if creative performance of employees can mitigate their turnover intention.

2.6. Hypotheses

On the basis of the above arguments, we propose the following model (Figure 1) and hypotheses:

H1: Employees' creative personality has a significant influence on their creative performance

H2: The more an employee perceives his/her physical work environment elements properly designed, the higher his/her creative performance

H3: The more an employee perceives his/her social work environment elements properly designed, the higher his/her creative performance

H4: Employees' creative performance will have a positive association with job satisfaction and a negative association with turnover intention

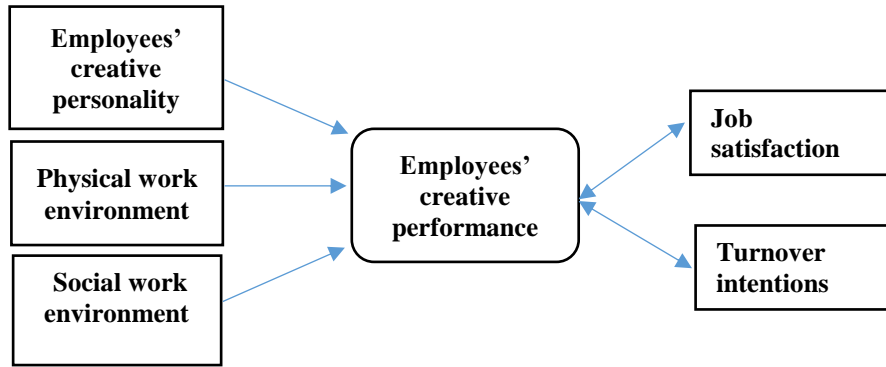


Figure 1. Proposed model of the study

3. Methodology

3.1. Participants

The data were collected from 115 employees working in 18 different small and medium-sized enterprises (SMEs) all of which were established in the recent years, in Ankara, Turkey. The respondents were knowledge workers like marketers, managers, and designers who perform “brain work” (Dul et al., 2011). The study focused on only interior space of the work environments. The study selected 18 companies (SMEs) and then total of 115 responses (6 or 7 for each company) were collected using convenience-sampling approach. After eliminating the incomplete responses, 102 surveys were used for the final analysis (88.6% response rate). The participation of the subjects were on voluntary basis.

3.2. Instrument

The instrument of this study is a questionnaire that consists of the following headings: Demographic, employees ‘creative personality, physical work environment, social work environment, employees’ creative performance, job satisfaction and turnover intention.

This study used 16 positively related adjectives to measure creative personality of employees. The measure was adapted from Gough’s (1979) Adjective Check List. Participants were asked to rate 14 creativity-supporting elements of their present physical and 15 of their present social work environments. These elements were determined from the literature review (Amabile et al., 1996; Dul et al., 2011; Dul & Ceylan 2011; 2014; McCoy, 2005).

To measure employees’ creative performance, the eight-item scale from Zhou and George (2001) and Choi et al. (2009) was used. Employees’ satisfaction was measured with 6-items scale that was selected out of 18-items of Brayfield and Rothe (1951) measure. Turnover intentions was measured with 3-items that is adopted from literature (Shalley et al., 2000; Van Dick, et al., 2004).

4. Results

The survey was conducted with 102 employees who are working at an office. Among the participants, 66% are male and 34% are female. Ages of the participants ranged from 18 to 59 years ($M = 28.7$; $SD = 5.8$). Education level frequencies are provided and it is found that a major number of participants have

bachelor's degree (41.5%) and master's degree (38.7%). Length of employment of the participants ranged from 0 to 13 years ($M= 3.5$; $SD=2.7$).

To find how dimensions of work environment (physical and social environment) as the independent variables affect the employees' creative performance as dependent variables, ordinary least squares (OLS) regression analysis is used. Analysis of items of physical work environment revealed that "providing privacy" ($\beta=0.26$, $t= 2.06$, $p=0.04$) has a positive influence on employees' creative performance (statistically significant at $p<0.05$).

Analysis of 15 independent items of social work environment led to following results. "Produce new idea" ($\beta=0.36$, $t= 3.54$, $p=0.001$), "being effective" ($\beta=0.28$, $t= 2.75$, $p=0.007$), "sufficient sources" ($\beta=-0.23$, $t= -2.29$, $p=0.024$) with a negative effect; and, were found to predict employees' creative performance.

The linear regression analysis is used to find if "creative personality" has any significant effect on employees' creative performance. Results revealed that "creative personality" ($\beta=0.29$, $t= 3.03$, $p=0.003$) predicts employees' creative performance.

This study aims at finding if employees' "creative performance" has any association with "job satisfaction" and "turnover intentions". Results of gamma analysis showed that employees' "creative performance" and "job satisfaction" has a positive moderate association ($G=0.47$, $p=0.001$) with each other. On the other hand, results revealed that "creative performance" has a negative weak association with "job satisfaction" ($G=-0.28$, $p=0.02$).

5. Discussion

This study intends to determine the role of the employees' personality, physical and social work environment on fostering their creative performance. In addition, it aimed to find if there is any association between creative performance, satisfaction and turnover intentions of employees. On the base of these arguments, the study proposed some hypotheses.

First hypothesis (H1) posited that employees' 'creative personality has a significant influence on their creative performance. Results of the linear regression analysis showed that "creative personality" predicts employees' creative performance. These findings were similar to our initial hypothesis. Therefore, H1 is not rejected. This result is in line with the previous findings (e.g., Gough, 1979; Oldham & Cummings, 1996; Unsworth et al., 2000) that emphasized the role of creative personality in fostering creativity. However, findings are not in line with some of the previous studies that did not find any direct relationship between creative personality and employee's creative performance (e.g., Madjar et al., 2002; Zhou, 2003).

Second hypothesis (H2) posited that the more an employee perceives his/her physical work environment elements properly designed, the higher his/her creative performance. Results showed that only "providing privacy" has an influence on employees' creative performance. Therefore, H2 is not rejected. In the study, "providing privacy" was a key word that consisted mean of three options (In my workplace, there is a possibility of being secluded from the presence or view of others, having conversational privacy, and face-to-face communication by using circular seating). This finding is in line with some previous studies that found "providing privacy" (Aiello et al., 1977; Stokols et al., 2002) as important element in fostering employees' creativity.

Third hypothesis (H3) posited that the more an employee perceives his/her social work environment elements properly designed, the higher his/her creative performance. "Produce new idea", "being

effective” and “sufficient resources” were found as influential elements of social work environment. Therefore, H3 is not rejected. These findings support the literature where it is mentioned that several elements of social work environment can motivate creativity of people (e.g. George, 2008; Shalley et al., 2004; Shalley & Gilson, 2004; Zhou & Shalley, 2003). In addition, results of the study showed that the predictive capability of elements of social work environment is higher than the other variables (Meusbürger, 2009; p. 136)

Last hypothesis (H4) posited that employees’ creative performance will have a positive association with job satisfaction and a negative association with turnover intention. Results of the Gamma test showed that employees’ “creative performance” and “job satisfaction” have a positive moderate association. In addition, “creative performance” and “turn over intention” have a negative weak association. These findings support the hypothesis, therefore H4 is not rejected. These findings are in line with our expectations.

This study intends to investigate the impact of employees’ creative personality, physical work environment and social work environment items on creative performance of employees to find the most influential elements. In addition, the study aims to find if there is any association between employees’ creativity, their satisfaction and turnover intention, which to the best of our knowledge has not been investigated previously. The findings of the study may help designers and researchers in the field of human factors and ergonomics to encourage creative performance of employees and accordingly foster their job satisfaction and loyalty.

6. References

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