Does a Toy a Day Keep the Stress Away?

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ABSTRACT
In recent years, more and more workers have begun placing toys in their office for decoration, entertainment, mental and physical relaxation, or as a way of bonding with coworkers. Some scholars have found that office toys decrease stress and improve job performance. Others have found that they divert attention from work and thus reduce job performance. The current study explores the relationship between job stress and job performance and investigates whether office toys have a moderating effect on this relationship. Based on a review of the literature, the authors propose two hypotheses. Hypothesis 1 states that job stress and job performance have an inverted U-shaped curve rather than a linear relationship. Hypotheses 2 states that office toys have a moderating effect on the relationship between job stress and job performance. The hypotheses were tested in a survey of 104 general office workers in Taiwan using a questionnaire administered electronically. The results support Hypothesis 1, but do not support Hypothesis 2.

Keywords: Office toy, stress, job performance, pressure
1. INTRODUCTION

This study explores the relationship between job stress and job performance and investigates whether office toys have a moderating effect on this relationship. Office toys for the most part are novel, special, and attractive to behold. In recent years, the number of toys appearing in offices has increased, in part because many commercial enterprises, such as convenience stores, offer toys, dolls, and other “fun” merchandise as prizes as part of their publicity or promotional campaigns. These toys are designed mainly to be decorative and provide pleasure. In addition, there are many businesses and websites that specialize in toys which they promote as a way of relieving stress or promoting creativity in the workplace.

To some adults, certain toys symbolize their childhood memories. Such toys give them a sense of belonging and companionship. These feelings affect both the mind and body by reducing fatigue and boredom and mitigating the effects of stress in a competitive, tiring, or static work environment. Although stress can inspire workers and improve work efficiency, an excessive amount of stress is counterproductive, leading to depression, insomnia, and other physical and mental disorders. Workers under too much stress are not likely to work at the optimum level. Their performance often deteriorates, and many suffer burnout and other adverse effects. To address these issues, this study has three research purposes:

1. To explore the relationship between job stress and job performance
2. To investigate whether office toys influence the relationship between job stress and job performance
3. To use the research findings to make recommendations for improvement

2. LITERATURE REVIEW

This section reviews the literature as it relates to job stress, job performance, the relationship between the two, the types and purposes of office toys, and the relationship between toys and job stress.

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2.1. Job Stress

People face different types of stress on a daily basis. Students, for example, face academic stress, communities face economic stress, families face financial stress, and many people face stress on the job and in their daily efforts to get along with other people. The issue of stress, therefore, cannot be ignored, although scholars have different definitions of the term.

Ivancevich and Matteson [1980] organized and classified stress into three types: stimulus, reaction, and stimulus-response. *Stimulus stress* refers to stress resulting from the external environment, which may generate intense irritation in some individuals. *Reaction stress* refers to the psychological or physiological response that an individual experiences while pressured by events, people, or other stimuli. *Stimulus–reaction stress* takes individuality into account, including the importance of individual cognition and judgment, and depends on the individual's perception of stress as to whether they consider themselves to be stressed.

Zhang [1988] defined stress in general as the physiological or psychological state of tension experienced by an individual who feels threatened or pressured by events or people in his or her life. This state of tension gives rise to an uncomfortable and unpleasant emotional experience.

Job stress refers to pressures that occurs specifically in the work environment. French et al. [1974] defined work stress as the harmful physical and emotional responses that occur when an individual's ability, availability, and resources do not match the demands and requirements of his or her job. According to Yates [1979], work stress derives from internal processes of the individual as well as the individual’s role in the organization, career development issues, interpersonal relationships at work, the organizational structure and environment, and a number of factors outside the organization.
2.2. Job Performance

According to Campbell [1987], job performance refers to behaviors that employees engage in while at work that contribute to organizational goals. Motowidlo and Van Scotter [1994] divided job performance into two categories: task performance and contextual performance. Task performance refers to behaviors that help transform raw materials into goods or services or support the organization’s ability to do so. Examples include selling merchandise or services, operating a machine, or engaging in a professional activity such as teaching. Contextual performance refers to behaviors that maintain or improve the environment necessary for the organization to function effectively. Examples include helping and cooperating with others, volunteering to carry out duties that are not part of the job, and following organizational rules.

2.3. Job Stress and Job Performance Relationship

Many scholars have addressed the relationship between job stress and job performance. Some, like Spector and Jex [1998], found that work stress has a direct adverse effect on job performance. Others such as Meglino [1977] and Huber [1981] found that there is not a simple linear relationship between the two. Instead, they proposed that the relationship is an inverted U-shaped curve. In their view, job stress up to a certain extent can help stimulate employees and actually improve job performance. After a certain point, however, stress can cause negative effects, such as insomnia, irritability, and increased error rate, which can lead to a decline in job performance.

Williams and Cooper [2002] found that job stress can affect performance results, resulting in one of three states: positive, negative, or neutral (Figure 1). They stated that all people need a certain amount of stress in their daily life. Individuals who have no stress at all or who experience the least amount of stress would become bored and fall into the “boredom zone” depicted in Figure 1. Individuals who experience a moderate amount of stress would be at ease and thus
fall into the “comfort zone.” Those who experience a higher level of stress would fall into the “stretch zone.” As the amount of stress increases even higher, they would fall into the “strain zone,” and, at the highest level, they would be unable to handle the stress and would fall into the “panic zone.”

Source: William and Cooper [2002]

**Figure 1. Job Stress and Job Performance Curve**

2.4. Office Toys

Wang [2007] classified office toys into six types:
- Construction toys
- Dolls, animals, and related toys
- Transportation toys
- Thinking toys
- Sports toys
- Collectible toys
According to Wang [2007], office toys, regardless of type, serve several purposes. They provide diversion as a play thing, serve as décor, represent the personal characteristics of an individual, divert attention, create an energizing force, and trigger certain favorable responses.

Wu [2008] found that office toys serve as a “healing system” for adults by meeting four basic needs: space landscaping needs, emotional needs, self-dependent needs, and sociability needs. *Space landscaping needs* refers to the hopes of individuals that they can give their office a friendly, pleasant human touch by decorating the space in such a way that it causes others to relax. *Emotional needs* refers to psychological or mental requirements that are expressed as feelings. *Self-dependent needs* refers to reliance on one’s own strengths and abilities to the extent that it builds self-image [Solomon, 1983]. *Sociability needs* refers to the desires of every human being to talk and engage with other people in a friendly, companionable way.

In the current study, we define office toys as products used in a work environment for decoration, play, the relief of stress, or other purposes not necessarily related to job content.

### 2.5. Relationship of Office Toys to Job Stress

In a study by Wang [2007], 60% of the subjects said that playing with toys in their spare time at work can relieve job stress and nearly half said that decorating their office with toys would reduce stress while on the job.

Chen [2008] found that, from a cognitive behavioral perspective, stress derives from an individual’s negative interpretation of an event or stimulus. If an event is viewed positively, or even neutrally, by an individual, it will not generate stress. When stress occurs in the workplace, it is exhibited in the individual’s emotions and behavior. Reasonable emotions and behavior require no remedy. Unreasonable emotions or behavior, however, require tools that will convert the sentiment and action into acceptable forms. Office toys can serve that purpose.
Some scholars see a direct linear relationship between job stress and job performance, whereas others believe that the relationship has an inverted U-shaped curve. In either case, scholars agree that excessive stress at work will have an adverse impact on job performance. By relieving excessive stress or preventing it from happening, office toys can help individuals maintain good job performance. The use of office toys, therefore, would change the curve of stress and performance. At the stress-performance positive relationship stage, office toys would decrease stress and increase performance. On the other hand, at the stress-performance negative relationship stage, office toys would increase the individual’s toleration of stress.

3. Methodology

As shown in Figure 2, the research framework and assumptions of the current study assume the following order verification:

**H1:** Work stress and job performance will show an inverted U-shaped curve.

**H2:** Office toys will moderate the relationship between work stress and job performance.

![Research Hypotheses for Current Study](image)

**Figure 2. Research Hypotheses for Current Study**
These two hypotheses were tested in a survey of 104 general office workers, using an electronic questionnaire that contained two main schema: “job stress” and “job performance.” For the job stress scale, which was adopted from Ye [2006], we asked study participants to respond to certain statements using a five-point scale ranging from 1 = “strongly disagree” to 5 = “strongly agree.” The statements in this section of the questionnaire included, for example, “I often cannot sleep because of worry about the progress at work,” and “I often use drugs because of work.” In the job performance section of the questionnaire, we included 16 statements, such as “When a problem occurs on the job, I always have a solution.” For the job performance scale, which was revised from Fang [2000], we used a six-point scale ranging from 1 = “strong disagree” to 6 = “strongly agree.” To analyze the survey data, we used the SPSS 20.0 statistical software package.

4. RESULTS AND DISCUSSION

For this study, we administered an electronic questionnaire consisting of two parts: statements pertaining to job stress, and statements pertaining to job performance. We retrieved 104 valid responses. The demographics of the respondents are shown in Table 1 (gender variable) and Table 2 (age variable).

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Effective Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25</td>
<td>24.0</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Female</td>
<td>79</td>
<td>76.0</td>
<td>76.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 2

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Effective Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-25 years</td>
<td>63</td>
<td>60.6</td>
<td>60.6</td>
<td>60.6</td>
</tr>
<tr>
<td>26-30</td>
<td>26</td>
<td>25.0</td>
<td>25.0</td>
<td>85.6</td>
</tr>
<tr>
<td>31-35</td>
<td>5</td>
<td>4.8</td>
<td>4.8</td>
<td>90.4</td>
</tr>
<tr>
<td>36-40</td>
<td>3</td>
<td>2.9</td>
<td>2.9</td>
<td>93.3</td>
</tr>
<tr>
<td>Over 40</td>
<td>7</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

With regard to the reliability of the questionnaire, the Cronbach’s alpha is shown in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Scale</th>
<th>Item</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job stress</td>
<td>13</td>
<td>0.78</td>
</tr>
<tr>
<td>Job performance</td>
<td>16</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Using curvilinear regression analysis, we defined the relationship between job stress and job performance as an inverted U-shaped curve, as shown in Figure 3. The regression coefficient is at a significant level ($\beta = -1.075, p < 0.001$); thus Hypothesis 1 (H1) is supported.

After that, we calculated whether office toys influence the relationship between job stress and job performance. We obtained the coefficient for job stress and job performance (Table 4), for having office toys (Table 5), and for not having office toys (Table 6).
Figure 3. Relationship Between Job Stress and Job Performance

Table 4
Coefficients for Job Stress

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standard Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Job stress</td>
<td>3.575</td>
<td>0.165</td>
<td>1.995</td>
<td>21.623</td>
</tr>
<tr>
<td>Job stress ** 2</td>
<td>-0.738</td>
<td>0.063</td>
<td>-1.075</td>
<td>-11.648</td>
</tr>
</tbody>
</table>
We then placed $\beta_1$, $\beta_2$, $Se\beta_1$, and $Se\beta_2$ into formula, and calculated the coefficient difference to be 1.57.

$$\frac{\beta_1 - \beta_2}{\sqrt{(Se\beta_1)^2 + (Se\beta_2)^2}} = 1.57$$

Next, we used T distribution, where $\alpha=0.05$, $n=\infty$, and standard normal critical value =1.645. The result, 1.57<1.645, shows that there is no difference. Thus, Hypothesis 2 (H2) is not supported.
5. CONCLUSION

This study explored the relationship between job stress and job performance and the moderating effect of office toys on this relationship. Previous studies have shown that office toys can reduce stress among individuals who work in high-pressure situations by creating a diversion, providing an opportunity for play and relaxation, and encouraging coworkers to socialize. The inverted U-curve depicting the relationship between job stress and job performance indicates that low or moderate stress can promote job performance whereas severe stress leads to a decline in job performance.

The current study posed two hypotheses. The results support Hypothesis 1 (the inverted U-curve), but do not support Hypothesis 2 (the moderating effect of office toys on the relationship between job stress and job performance).

One of the limitations of the current study is the types of office toys included in the research. Whether different kinds of toys would influence the relationship between job stress and job performance is good topic for future research. Future studies are encouraged because the topic of office toys is an interesting one, and the issue of whether they improve job performance is important.

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