Effectiveness of the Psychological Capital Intervention Model on Organizational Procrastination of Skill Workers in Iran Khodro Diesel Company, Iran

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Abstract

Background: The Luthans intervention model is an educational model designed and developed to enhance psychological capital and psychological capital is a concept mainly obtained based on the theory and research in positive psychology and is used in workplace. Objectives: The current study aimed to investigate the effectiveness of psychological capital intervention, developed by Luthans, on the organizational procrastination. Patients and Methods: The statistical population consisted of 600 skill workers in Iran Khodro Diesel company, Tehran, Iran, of whom 60 participants were selected using the random sampling method. Participants were divided in two groups (control and experiment groups). Measurement tools included Organizational Procrastination Scale (OPS) and the Luthans Intervention Program was performed only on the experimental group. Results: Multivariable variance analysis showed that pretest and posttest difference of procrastination scale and subscales were affected by intervention and had a lower level in the experimental group, compared with the control group. Results of the univariate tests showed that the difference of procrastination scale and subscales were significant in both posttest and follow-up stages according to descriptive results. Conclusions: The Luthans intervention model and method led to a decrease in the rate of organizational procrastination; therefore, it was recommended to hold some courses such as the Luthans intervention program.

Keywords: Intervention Study, Procrastination, Workers

1. Background

The Luthans intervention model is an educational model designed and developed to enhance psychological capital (1, 2). Psychological capital is a concept mainly obtained based on the theory and research in positive psychology and is used in workplace (3). Hope, optimism, self-efficacy, and resiliency are the components of psychological capital upon which measurement and management can be applied (4, 5). Hope is a motivational state and is composed of 3 elements: agency, design, and goal (6). Optimism is a relatively fixed and general internal attribution to positive events. Self-efficacy means certainty about required abilities to achieve success, and believes in the ability to overcome challenging tasks. Resiliency is known as the positive mental capability to return, deal with problems, and change positively toward achievement and progress, which helps individuals to accept responsibility (7).

In the Psychological Capital Intervention model (PCI) developed by Luthans, some programs are designed in order to promote psychological capital with a focus on each of its components. For example, regarding hope, some educations are arranged to teach appropriate, useful, and accessible targeting. Then, the ways of identification and utilization of various paths are investigated in research objectives. In the field of optimism, some programs are used to identify and separate real optimism from unrealistic optimism and also increase the level of positive attributions. Self-efficacy is provided through programs such as feedback, positive reinforcement, and substitution reinforcement. Moreover, some measures are taken to...
strengthen resiliency particularly through tenacity. Trust in capabilities affects the results of the events and the use of opportunities to promote and progress (2, 8).

The PCI is tested in several educational and service institutions. According to the results, this model increases psychological capital as well as learning incentives, while it decreases negative attitudes toward work (9). It also affects organizational performance (10, 11). Guy showed that PCI educational model can decrease stress and increase resistance to environmental pressures as well as entrepreneurship. Therefore, it is suggested that organizations design programs using this model and its educational structures as tools toward progress. A study by Alipur et al. (12) showed that this model can improve people’s mental health. The results of another research showed that this model and its educational structures were effective in decreasing work burnout (13). Moreover, the results of another study, which tested the model with pretest-posttest implementation with a control group, indicated that this model had positive effects on the promotion of psychological capital, increasing self-confidence, and decreasing the feeling of helplessness, pessimism, the feeling of personal insufficiency, and hopelessness and it can be used to deal with problems associated with workplace as well as the effectiveness of management policies and procedures (2, 10).

Procrastination is a challenge for many organizations (14). Organizational procrastination means postponing, procrastination, disregard, and negligence to professional tasks and responsibilities. Psychologists think that procrastination puts off works supposed to be done and is related to performance (15). If procrastination continues, it changes into a habit and leads to less self-efficacy (16). It also leads to an increase in stress, failure, and lack of access to goals followed by waste of time and resources and negative outcomes in mental health (17). However, research shows that this phenomenon is universally pervasive and 15% to 20% of adults have procrastination as a permanent problem (18). Therefore, it seems necessary to find strategies to decrease it. As a result, researchers investigate different factors related to procrastination. Steel (18) believes that procrastination depends on various factors such as fear of failure, hopelessness, depression, inability to manage time, and work problems. Ozer et al. (19) considered fear of failure, idleness, and resistance against control as the causes of procrastination. Moreover, investigations showed that procrastination is associated with some features such as hopelessness, lack of personal accomplishment, depression, feeling of personal insufficiency, shyness, low self-esteem, anxiety, social phobia, forgetfulness, disorderliness, lack of energy, and behavioral inflexibility and it is possible to reduce procrastination with changing them.

In recent years, several studies were performed in the field of psychological capital with some variables and job and organizational problems such as performance and job satisfaction (3), anxiety and stress in workplace (10), organizational citizenship behavior (20), attitudes toward work, absenteeism and job turnover, and work burnout (13). The results of these studies showed a significant relationship between psychological capital and such variables. Moreover, the results of the studies show the effectiveness of the Luthans educational model (10, 11) on some variables such as the feeling of personal insufficiency, hopelessness, pessimism, self-efficacy, and resiliency can change performance significantly. Therefore, it may affect procrastination, which is under the influence of the mentioned variables. This is especially true about performance, because procrastination is known as lack of appropriate performance (15). Thus, it can be possible to increase psychological capital through the Luthans intervention model and as a result decrease organizational procrastination. If the effectiveness of this model is confirmed, it can be used to decrease organizational procrastination.

2. Objectives

This article aimed to investigate the effectiveness of the Luthans intervention model on the organizational procrastination in industrial environments.

3. Patients and Methods

3.1. Population and Statistical Sample

In the current quasi-experimental research performed based on the pretest-posttest design with a control group, statistical population included experts working in Iran Khodro Diesel Company, Tehran, Iran, with a total number of 650 people. Sample size and numerical variables were calculated according to the following formula:

\[
n = \left( \frac{z_{1-\alpha} + z_{1-\beta}}{d} \right)^2
\]

\[
= \left( \frac{1.645}{0.536} \right)^2
\]

\[
= \frac{2.485}{0.536}
\]

\[
= 4.636^2
\]

\[
= 21.4943
\]

\[
= 21.52
\]

\[
d = \frac{|\mu_1 - \mu_0|}{\sigma}
\]

\[
= \frac{2.5}{4.67}
\]

\[
= 0.53533
\]
According to the above equation, approximately 22 subjects were selected and according to the possibility of loss of samples and negative effects on ultimate results, 30 participants were selected for each group based on the systematic random sampling method and randomly assigned into experimental and control groups. Inclusion criterion was the skill workers of Iran Khodro Diesel Company who had university education. Exclusion criteria were any history of mental problems, psychological and psychiatric treatment, and attendance less than 7 intervention sessions.

3.2. Measurement Tools

The scale of organizational procrastination measurement was used for data collection. This scale was developed by Saffarinia and Amirkhaniazlighi. The scale measures the rate of employees’ procrastination in their tasks. The questionnaire consists of 25 items and 3 subscales of insufficiency, emotional disruption, and work avoidance and evaluates procrastination on a range of 5 degrees from 1 to 5. Sixteen items are used to evaluate insufficiency, while 5 items are used for emotional disruption and 4 items for work avoidance. To evaluate the total reliability of the test, insufficiency, mental anxiety, and work avoidance showed the formal reliability of 0.75, 0.642, and 0.734, respectively. The coefficient of internal consistency with Chronbach’s alpha was 0.892 for total scale and 0.709, 0.885, and 0.555 for mental anxiety, insufficiency, and work avoidance, respectively (21). Social negligence questionnaire designed by Saffarinia was used to investigate simultaneous validity and the result was 0.633. Factor analysis was used to determine the scale reliability and according to the results, more than 0.47 variance scores were explained with this scale. Moreover, the results of factor analysis showed that the 3-factor model had proper fitness (http://www.drsaffarinia.ir).

3.3. Implementation Method

After clarifying the research objectives to the subjects and asking for their cooperation, organizational procrastination scale was implemented for primary estimations. Then, participants were randomly divided into an experimental and a control groups and the experimental group received educational programs based on the Luthans educational model for 10 two-hour sessions. Educational sessions were held once a week. In the current study, individuals received education in a group of 30 participants (the goals are listed in Table 1). To comply with ethical considerations, it was announced that the results would be confidential and the analysis would be done in a group. It should be noted that during the study, members of the control group did not receive any interventions. Since Iran Khodro Diesel Company is very big with a physical space of about 4000 km$^2$ and given that participants were selected from experts, it was impossible for members of the 2 groups to contact directly and continuously to exchange information about the contents of intervention sessions. However, in a session held for collection of posttest data, some questions were raised regarding the relationship of members of the 2 groups during the previous months. The results showed a weak relationship among participants and therefore, information exchange in high amounts was rejected. At the end of the course, organizational procrastination scale was completed by all participants again and posttest data were obtained. Another test was implemented 2 months later to measure sustainability of outcomes.

4. Results

In the current study, the Luthans educational intervention was used as independent variable with 2 levels (being in intervention group or in control group). The scale of procrastination and sub-scales of insufficiency, mental anxiety, and work avoidance were proposed as dependent variables; therefore, MANCOVA analysis was used in the study.

At the end, data were analyzed with SPSS version 16. First, some demographic characteristics of participants were determined (Table 2).

![Table 2. Demographic Characteristics of the Participants](http://www.drsaffarinia.ir)

The data in Table 2 shows similar characteristics of both groups regarding the level of education, gender, employment, and work experience. Since there were no differences between the variables in the pretest, t test was used to investigate the distribution of variables. Results
showed no significant difference between the experimental and control groups in the pretest phase ($t = 0.110$ and $P = 0.263$).

The Kolmogorov-Smirnov test was used and the results showed that all variables ($P > 0.05$ and $Z = +1.96$ to $-1.96$) had normal distribution. The current study used MANCOVA and ANCOVA to test the hypothesis.

The Levin test was used to investigate the presupposition of variance equality. The results showed that for the scale of procrastination and sub-scales of insufficiency, mental anxiety, and work avoidance, variance equality was confirmed and they met presupposed requirements to be used in statistical tests (Table 3).

As can be observed in Table 3, pretest and posttest differences in the scale of procrastination and subscales of insufficiency, mental anxiety, and work avoidance were in a lower level in the experimental group compared with the control group. Significance of these changes can be determined through inferential statistics. Inferential results of MANCOVA such as Pillai trace (0.159, 0.205), Wilk Lambda (0.841, 0.795), Hotling tracing (0.189, 0.258), and Roy largest root (0.189, 0.258) showed significant changes both in pretest and follow-up stages.

The results of univariable tests are presented in Table 4.

Based on the data provided in Table 4, $F = 9.253$ was significant at $P < 0.05$. In other words, there was a significant difference between the posttest scores of procrastination between the experimental and the control groups by adjusting for the effect of pretest; insufficiency $F = 399.9$ was significant at $P < 0.05$. In other words, there was a significant difference between the insufficiency of test and posttest scores in the control group by adjusting for the effect of pretest and the difference was significant. Mental anxiety ($F = 4.665$) was significant at $P < 0.05$. Also, work avoidance ($F = 4.546$) was significant at $P < 0.05$. In other words, there was a significant difference in posttest scores between the experimental and control groups by adjusting for the effect of pretest.

Results of covariance analysis at follow-up stage are listed in Table 5.

According to Table 5, the follow-up studies showed that after 2 months the Luthans method resulted in the reduction of procrastination and inefficiency components, mental anxiety, and work avoidance.

5. Discussion

The current study investigated the effectiveness of the Luthans intervention model on decreasing organizational procrastination of employees in industrial centers. Participants’ demographic information (Table 2) showed that in both groups, characteristics such as degree of education, gender, type of employment, and experience were almost similar. Descriptive indicators associated with procrastination and each sub-scale, are presented in Table 3. According to Table 3, the scores of pretest in procrastination and its sub-scales showed a slight difference in the 2 groups, but the average of posttest scores was lower in the intervention group, compared with that of the control group.

In other words, implementation of intervention program based on the Luthans educational model had positive effects on employees’ procrastination and reduced it. These findings were consistent with the results of Li (11). The current study results showed that the Luthans model can affect the incentive to work and change inefficient methods and also affect people’s willingness to continue strengthening activities. Abbas and Raja (22) showed that people with higher psychological capital did more efforts to use new work strategies and perform their work-related affairs in determined time period. In a study by Norman et al. (23), psychological capital was introduced as a powerful predictive factor in relation to negligence and work misbehaviors. Avey et al. (24) found that psychological capital had negative relationship with some variables such as job dissatisfaction and delay in performing tasks and an increase in psychological capital leads to a decrease in these variables. Moreover, psychological capital decreased procrastination and affected organizational commitment positively (25). Mental capital increased self-confidence and created positive attitudes toward life and job. As a result, procrastination and delay decrease, and the level of interaction among employees increases (4). In a study by Waterman (26), it was suggested that an increase in components of mental capital can lead to self-confidence, happiness, and interest in job and life. Roberts et al. (27) considered psychological capital as a determining factor in decreasing job stress, negligence, and uncivil behaviors.

Luthans et al. (1, 10) through the educational intervention increased the mental capital of the organization as well as its financial returns. Studies performed by Avey, Luthans and Youssef (24) showed that an increase in psychological capital led to better job performance, job management, and performance. Therefore, it is possible to decrease procrastination, work burnout, and job problems through increasing psychological capital (25).

Another finding of the current study was that the Luthans intervention had positive effects on procrastination sub-scales (insufficiency, mental anxiety, and work avoidance) and decreased them. This finding was consistent with the results of Luthans et al. (10). They found positive relationship among psychological capital with organizational atmosphere, implementation of decisions, and performance. Etebarian et al. (28) found a relation-
Table 3. Descriptive Indicators of Pretest and Posttest Differences in the Study Groups

| Components  | Pretest | Posttest | Follow-Up |
|-------------|---------|----------|-----------|
|             | Experimental Group | Control Group | Experimental Group | Control Group | Experimental Group | Control Group |
| Insufficiency | 51.33 ± 8.5 | 51.60 ± 10 | 29.67 ± 8.2 | 50.57 ± 9.9 | 27.30 ± 5.3 | 45.03 ± 7.3 |
| Mental anxiety | 17.50 ± 4 | 16.80 ± 3 | 10.33 ± 3.5 | 15.23 ± 3.2 | 8.13 ± 2.9 | 15.13 ± 3.2 |
| Work avoidance | 12.70 ± 2.9 | 12.13 ± 2.7 | 6.17 ± 2.5 | 11.57 ± 2.8 | 5.43 ± 2.4 | 10.90 ± 3.6 |
| Procrastination | 81.53 ± 11.2 | 80.07 ± 14.5 | 46.17 ± 11 | 77.37 ± 14 | 40.67 ± 8.9 | 71.07 ± 12.3 |

Data are presented as mean ± SD.

Table 4. The Results of Univariable Tests in the Intervention and Control Groups

| Components  | MM | df | SM | F | Sig. |
|-------------|----|----|----|---|------|
| Insufficiency | 450.404 | 1 | 450.404 | 13.866 | ≤ 0.001 |
| Group | 303.334 | 1 | 303.334 | 9.339 | ≤ 0.001 |
| Error | 1656.578 | 50 | 32.4 |
| Pretest | 19.070 | 1 | 19.070 | 3.447 | ≤ 0.02 |
| Group | 25.149 | 1 | 25.149 | 4.546 | ≤ 0.03 |
| Error | 282.169 | 50 | 5.5 |
| Mental anxiety | 15.303 | 1 | 15.303 | 4.665 | ≤ 0.03 |
| Group | 16.950 | 1 | 16.950 | 5.167 | ≤ 0.02 |
| Error | 167.304 | 50 | 3.2 |
| Pretest | 882.486 | 1 | 882.486 | 11.767 | ≤ 0.001 |
| Group | 693.970 | 1 | 693.970 | 9.253 | ≤ 0.001 |
| Error | 3824.895 | 50 | 74.9 |

Table 5. Results of Covariance Analysis of Procrastination and its Components at Follow-up Stage

| Components  | SM | df | MM | F | Sig. |
|-------------|----|----|----|---|------|
| Insufficiency | 450.404 | 1 | 450.404 | 13.866 | ≤ 0.001 |
| Group | 303.334 | 1 | 303.334 | 9.339 | ≤ 0.001 |
| Error | 1656.578 | 50 | 32.4 |
| Pretest | 19.070 | 1 | 19.070 | 3.447 | ≤ 0.02 |
| Group | 25.149 | 1 | 25.149 | 4.546 | ≤ 0.03 |
| Error | 282.169 | 50 | 5.5 |
| Mental anxiety | 15.303 | 1 | 15.303 | 4.665 | ≤ 0.03 |
| Group | 16.950 | 1 | 16.950 | 5.167 | ≤ 0.02 |
| Error | 167.304 | 50 | 3.2 |
| Pretest | 882.486 | 1 | 882.486 | 11.767 | ≤ 0.001 |
| Group | 693.970 | 1 | 693.970 | 9.253 | ≤ 0.001 |
| Error | 3824.895 | 50 | 74.9 |

According to their findings, it is possible to obtain positive effects by increasing psychological capital.
Hodges (4) concluded that an increase in psychological capital can decrease postponing of the activities and increase the level of proper performance. A study by Luthans et al. showed that an increase in optimism toward workplace hope led to more incentives and better performance and consequently decreased insufficiency and work avoidance (10).

5.1. Conclusions

Conclusions were made based on the results of tests among the employees in an industrial organization; therefore, the generalization of the results to the personnel’s of other organizations should be done with precautions, which is one of the limitations of the current study. To improve the concept of psychological capital in the scientific literature, further researches are still required.

Finally, it can be said that since the concept of psychological capital is recently introduced into scientific texts, more researches are needed to provide robust results. However, the results of the current study provided some evidence that the Luthans intervention model can decrease employees’ organizational procrastination. Therefore, given the effectiveness of this program the following recommendations can be given: Due to the importance of psychological capital and its impacts on variables such as procrastination, work burnout, efficiency, and job satisfaction, organizations and institutes should be more aware of its role and hold educational courses such as the Luthans intervention program in workplace to improve psychological capital and consequently reduce procrastination. Researchers are recommended to study the follow-up step among employees of organizations and consider different categories such as gender, age, and education separately to determine long-term effects and the rate of their stability and survival.

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| Session | Subscale | Contents |
|---------|----------|----------|
| First   | Hope, optimism, self-efficacy, resiliency | Providing definitions of hope and hopelessness and characteristic of hopeful people. |
|         |          | Describing concepts such as optimism, pessimism, real and unreal optimism and their difference. |
|         |          | Providing definitions of self-efficacy and discussing the characteristics of self-efficient people. |
|         |          | Providing definitions of resiliency and discussing the characteristics of resilient people. |
|         |          | Investigating the amount of hope and life satisfaction in participants and creating motivation. |
|         |          | Introducing the concept of learned helplessness and its role in optimism and pessimism. |
| Second  | Hope, optimism, self-efficacy, resiliency | Discussing the role of learned helplessness in reducing self-efficacy. |
|         |          | Providing definitions of resistance and introducing its components (commitment, challenge, and control). |
|         |          | Informing participants of the role of goals in creating and increasing hope. |
| Third   | Hope, optimism, self-efficacy, resiliency | Familiarizing participants with the process of attribution and the concept of control. |
|         |          | Investigating the relationship between motivation, will, and self-esteem with self-efficacy and feedback technique. |
|         |          | Concentrating on commitment, and using some techniques in order to promote it. |
|         |          | Familiarizing participants with the ways to obtain clear and attainable goals. |
| Fourth  | Hope, optimism, self-efficacy, resiliency | Familiarizing members with internal, external, overall, specific, stable, and unstable attributions and the role of each one in optimism. |
|         |          | Investigating and discussing the ways to increase self-esteem and self-efficacy and use positive feedback technique. |
|         |          | Concentrating on challenge, how problems change into challenges, and increasing the willingness to confront them. |
|         |          | Teaching how to split a big goal into smaller ones in order to increase the likelihood of achieving them. |
| Fifth   | Hope, optimism, self-efficacy, resiliency | Familiarizing the members with the role of attributes in optimism. |
|         |          | Concentrating on control and discussing the ways to increase a sense of control on life. |
|         |          | Informing participants of how to formulate clear and concrete objectives. |
| Sixth   | Hope, optimism, self-efficacy, resiliency | Teaching how to create and develop positive internal attributions. |
|         |          | Using substitution reinforcement technique through providing global and regional examples of self-efficient people. |
|         |          | Familiarizing participants with problem-based and excitement-based strategies and their role in increasing resiliency. |
|         |          | Familiarizing members with the role of determining daily goals in achieving bigger goals and how to perform it. |
|         |          | Using the technique of unfavorable events analysis into more unfavorable in order to promote optimism level. |
| Seventh | Hope, optimism, self-efficacy, resiliency | Familiarizing participants with scientific ways of problem solving and their practical role in increasing self-efficacy. |
|         |          | Familiarizing participants with direct or problem-based strategies and encourage them to use these strategies more. |
|         |          | Familiarizing members with the ways to use various paths in achieving their goals. |
| Eighth  | Hope, optimism, self-efficacy, resiliency | Using the technique of unfavorable events analysis and determining positive outcomes of these events in order to increase the level of optimism. |
|         |          | Inviting a successful and self-efficient person in order to use concrete patterns in increasing self-efficacy. |
| Session   | Topics                                      | Activities                                                                 |
|-----------|---------------------------------------------|-----------------------------------------------------------------------------|
| Ninth     | Hope, optimism, self-efficacy, resiliency   | Familiarizing participants with indirect and excitement-based strategies and encouraging them to use these strategies when needed and in high stress conditions. |
|           |                                             | Familiarizing members with the ways to change barriers into challenges in order to achieve goals. |
|           |                                             | Concentrate on personal and environmental capabilities and talents in order to increase the level of self-efficacy. |
|           |                                             | Using direct reinforcement and substitution reinforcement through discussion previous achievements in order to increase self-efficacy. |
|           |                                             | Discussing the role of control location in resilience and the use of positive self-expression to increase resiliency. |
| Tenth     | Hope, optimism, self-efficacy, resiliency   | Reviewing the previous materials and having practical exercise in order to increase the level of hope. |
|           |                                             | Reviewing the previous materials and having practical exercise in order to increase the level of optimism. |
|           |                                             | Reviewing the previous materials and having practical exercise in order to increase the level of self-efficacy. |
|           |                                             | Reviewing the previous materials and having practical exercise in order to increase the level of resiliency. |