



Effectiveness of CREW Program on relational energy of the employees¹

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Abstract. *Purpose.* This study aimed to determine the effectiveness of CREW intervention on the relational energy of employees in Isfahan Gas company. *Method.* The research was a quasi-experimental study with pretest, posttest and control group design. The sample consisted of 30 volunteer staff of Gas company who randomly assigned to experimental and control groups. Relational energy questionnaire (2016) was administered on both groups in the pre-test and post-test stages. CREW intervention administered on the experimental group for eight sessions each one 90 minutes. The control group received no intervention. The data was analyzed through ANCOVA by SPSS-23. *Findings.* The results suggested that there was a significant difference between experimental and control groups following the intervention. Accordingly, CREW intervention enhanced relational energy of employees in the post-test. The findings of this study suggested that administrators and authorities of organizations use CREW intervention to enhance the positive interpersonal relationships and relational energy of their personnel. *Originality.* According to our search in previous studies, no research has been found to examine the effectiveness of the CREW intervention on relational energy of employees, but our findings were concordant with the reports, in which it was suggested that CREW was effective on enhancing civility, respect and trust, and improvement of interactions among the personnel.

Key words: CREW intervention, relational energy, industrial-organizational psychologists.

DOI: 10.17323/2312-5942-2022-12-1-43-50

Introduction

Interpersonal relationship is thought to be a major source of energy for people in the workplace. Relational energy was regarded as a psychological resource which is resulted from positive interpersonal relationships and can increase the working capacity (Quinn, Spreitzer, Lam, 2012). Whenever the personnel give positive energy on behalf of their managers and colleagues, they will work with more enthusiasm, will be satisfying their administrators with attempting more and more to enhance their performance (Owens, Baker, Sumpter, Cameron, 2016). Relational energy may enhance job satisfaction, commitment (Cole, Bruch, Vogel, 2012), emotional attachment (Parker, Gerbasi,

¹ The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Porath, 2013), work engagement and workflow (Owens et al., 2016), psychological wellbeing (Sonnetag, Mojza, Demerouti, Baker, 2012), job motivation (Owens et al., 2016; McDaniel, 2011), and productivity (Amah, 2016). Also, according to conservation of resources theory, relational energy has enhancing effect on confrontation with stressors, and a decreasing effect on job burnout (Sonnetag et al., 2012).

The giver of energy with his (her) interpersonal relationship has an important role in changing the monotonous and boring workplace, into an exciting pleasant and interesting environment in which psychological safety can be promoted (Owens et al., 2016). Through enhancement of relational energy, the quality of interpersonal relationships will be improved (Amah, 2017), the personnel would be reinforced to do their best in difficult jobs (Owens et al., 2016), and the organizational goals will be achieved (Cole et al., 2012). Moreover, relational energy has a prominent role in organizational learning (Cross, Baker, Parker, 2003) and knowledge sharing (Baker, 2019), and a decreasing effect on work-family conflicts (Amah, 2016), and turnover (Parker, Gerbasi, 2016). Employees receiving positive energy from their leaders, become efficiently able to find new resolutions for the challenging situations (Cole et al., 2012). Accordingly, relational energy leads to positive consequences through acting as a reversible beneficial source for the members of organization (Cole et al., 2012).

For this reason, it is necessary that the organizations would be trying to enhance relational energy in their personnel, to promote their performance. O. E. Amah believed that the relational energy might be increased through building and developing the positive interpersonal relationship (Amah, 2018). Furthermore, K. Cameron emphasized that relational energy is expressed and received through positive interpersonal relationship among the personnel of any organization; and this leads to its reinforcement and increasing its chance to take place more (Cameron, 2013). As the quality of interpersonal relationships improves, people's need for positive regard is satisfied and their energy is increased (Carmeli, 2009). Relevant training programs can be implemented to enhance the quality of interpersonal relationships to increase the relational energy of employees.

CREW is a training intervention in which the personnel become able to develop effective relationship with the others and improve their teamwork. It is an acronym for Civility, Respect and Engagement in the Workplace; and is designed by United States Department of Veterans Affairs in 2005 (Armstrong, 2017). The intervention is concentrated on improving the relationships among colleagues (Leiter, Laschinger, Day, Oore, 2011), and emphasized on the reinforcement of civility, respect, and engagement in the workplace (Osatuke, 2009). The intervention is composed of structured exercises to develop relational skills and team cohesion (Armstrong, 2017), through which respectful interactions in the workplace is promoted (Osatuke, Cash, Belton, Dyrenforth, 2017). During CREW exercises the colleagues talk with each other, and become aware from their viewpoints, and their past experiences. Through recognizing each other, their attitude toward colleagues turn to be positive, and the fundamental attribution error (Ross, 1977) turn to be less. Therefore, people are less likely to attribute the behavior of others to internal factors and consequently the cohesion between individuals would be increase (Osatuke et al., 2017). Employees can refine their dysfunctional communication patterns by participating in this intervention and use constructive communication techniques (Leiter et al., 2011). Based on the findings, it can be concluded that the CREW intervention provides relational energy by enhancing the quality of interpersonal interactions (Osatuke et al., 2013).

In the recent years CREW program was extensively expanded. A training of CREW intervention enhanced the individual's ability to identify incivility and helped them to respond to those behaviors (Armstrong, 2017). Moreover, a training CREW intervention on the has advanced the sense of civility, respect, trust and job satisfaction in healthcare personnel (Leiter et al., 2011). A training of CREW

was advantageous in abating incivility behavior and absenteeism in the workplace (Gillen et al., 2017). This study was designed as an attempt to investigate the effectiveness of CREW intervention on the relational energy among the Gas corporation personnel in Isfahan province.

Methods

Statistical population and sampling methods

This was a quasi-experimental study with pretest, posttest, and a control group design. The statistical population was comprised of all the personnel of central office of Gas corporation in Isfahan province in 2018–2019. The sample consisted of volunteer staff for the study who were randomly assigned to experimental and control groups. Because of lack of evidence in literature of relational energy effect size, we designed pilot study to calculate effect size. The effect size was 0/53. By using power analysis calculations by G*Power (statistical power: 0/8, *df*: 1, one tail hypothesis), the size of arm were calculated 15 (in treatment group and control group). At first, it was declared that an intervention will be made for those personnel who are eager to promote their relational skills, and then 30 individuals who were volunteer to take part in the intervention were selected as the sample. They were randomly divided into experimental and control groups, and the intervention administered on the experimental group.

The analysis of demographic variables shown that the age range of the participants was from 29 to 58 years, 13.3% were single and 86.7% married. Their education ranged from associate (3.3%) to master (63.3%) degrees, 76.7% were male and 23.3% were female. Among the sample members, one was manager and others were staff.

The instruments

In this study, 5-item relational energy questionnaire (Owens et al., 2016) was used and assessed for the first time in Iran. The items in the original English measure refer to “this person”, but, the researchers in the Persian translation of the relational energy questionnaire used the word “colleagues” instead of “this person”. For example, the first item of this questionnaire is “I feel invigorated when I interact with my colleague”. The answers were scored from “1” (absolutely disagree), to “7” (absolutely agree).

The questionnaire reliability is 0.96 (Owens et al., 2016). Moreover, the validity of this scale through correlations with perceived social support and leader-member exchange questionnaires, were respectively reported as 0.49 and 0.45, which were significant at the level of $p < 0.001$. In our study the *Cronbach's alpha* coefficient for the questionnaire found as 0.81. The data was analyzed by SPSS-23, with the analysis of covariance.

The study design and organization

After selecting the sample and assigning the subjects into experimental and control groups, both of groups were asked answer to relational energy questionnaire as the pretest phase of the study. Then CREW was administered on experimental group for eight sessions, each one 90 minutes; afterwards, in post test phase they were asked to complete the questionnaire again, and the data was analyzed to find possible effect of CREW training on relational energy.

In this study, the authors considered efficacy, benchmarking, adherence, and manipulation check in order to investigate the fidelity of CREW (Hildebrand et al., 2012). The authors used two general questions to assess the efficacy and the benchmarking. Questions 1 and 2, were asked from the subjects to investigate the efficacy and benchmarking.

1. Do you believe that CREW would be effective on promoting relational energy of the personnel in Gas corporation?

2. To what extent do you think that relational energy of the personnel would be improved through CREW?

Since Average of participants' answers to questions related to efficacy and benchmarking were 3.89 and 71.40% respectively, it can be asserted that both were confirmed. Necessary materials and guidelines were obtained from Veterans Health Administration (VHA) national center for organization development, before implementing the CREW; and then the intervention accomplished according to their guidelines. Furthermore, the results were sent to the VHA national center for organization development, which was consequently approved by the center. Accordingly, the adherence to CREW was confirmed.

Moreover, Instructions of CREW intervention was given to three experts with necessary information about its implementation. The experts were mastered in field of education of CREW communicational skills. Our purpose was to study the concept of manipulation check. Therefore, the experts were asked some questions and the Cohen's κ coefficient of concordance was calculated. One of the questions that was answered by the experts was to what extent the implementation of CREW intervention may be associated with the mentioned program instructions. The κ coefficient of concordance was obtained as 0.90, which reflected a high level of agreement among the raters, and hence the manipulation check to CREW was confirmed. Finally, since the components of benchmarking, efficacy, adherence, and manipulation check in the present study were confirmed, it can be concluded that the CREW intervention has fidelity.

Results

As depicted in Table 1, the values of Shapiro — Wilk were not found significant neither in experimental nor in control group ($p > 0.05$). Accordingly, it can be concluded that the distribution of scores is normal. Furthermore, Levene's test showed that the variance for both of groups is equal ($F = 1.15, p = 0.29$).

Table 1. Descriptive indices of relational energy scores, Shapiro — Wilk test results

Variable	Groups	Pretest				Posttest			
		Descriptive Indices		Shapiro — Wilk Test		Descriptive Indices		Shapiro — Wilk Test	
		Mean	SD	Statistic	p-value	Mean	SD	Statistic	p-value
Relational Energy	Experiment	26.06	4.51	.89	.07	3.26	3.55	.89	.07
	Control	26.46	2.74	.91	.17	26.40	2.69	.90	.11

The changes in the mean of relational energy at the pre-test and post-test stages are shown in Figure 1.

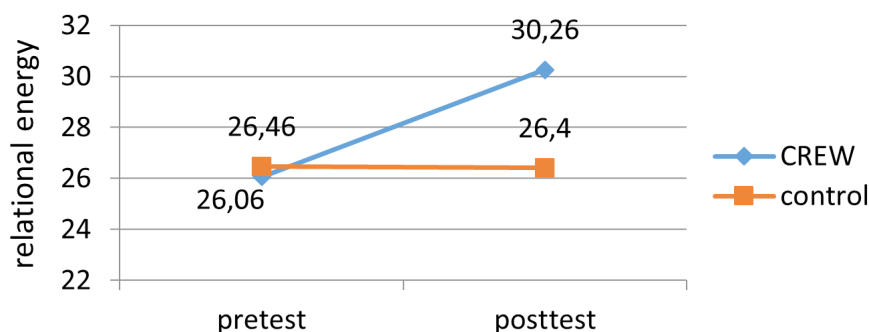


Figure 1. Mean of relational energy in experimental and control groups in pre-test and post-test

In addition, the results of the homogeneity of regression slopes have been shown in Table 2.

Table 2. Results of the homogeneity of regression slopes

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	p-value
Group * Pretest	Relational Energy	2.58	1	2.58	1.93	.17

According to this table, the values of the F statistic for the relational energy variable is not significant, so the homogeneity of the regression slope assumption is met. Since the assumptions of covariance were regarded in this study, we have used ANCOVA to analyze the possible effectiveness of CREW on the relational energy of the personnel. The results of ANCOVA are depicted in Table 3.

Table 3. The results of ANCOVA

Dependent Variable	Source	Sum of Squares	df	Mean Square	F	p-value	Partial Eta Squared	Observed Power
Relational Energy	Pretest	241.14	1	241.14	174.15	.01	.86	1
	Group	130.70	1	130.70	94.39	.01	.77	1
	Error	37.38	27	1.38				
	Total	24474	30					

As shown in table 3, there was a significant difference in relational energy between the experimental and control groups ($p = 0.01$, $F = 94.39$). According to the difference of mean values of relational energy in pretest and post-test (26.06 and 30.26 respectively), it can be concluded that CREW training was effective on enhancing the subject's scores in post-test. The size of effect was 0.77, which means 0.77 of the changes in scores was due to the training of CREW — strictly speaking, the intervention explained about 77% of the individual differences in post-test scores not attributable to pre-test.

Discussion

The present study was accomplished with the aim of investigating the effectiveness of CREW intervention on the relational energy of employees of central office of Gas corporation in Isfahan province. The fidelity of CREW was confirmed, and the results showed that the intervention was effective on enhancing the relational energy in the employees of Gas company. According to our search in previous studies, no research has been found to examine the effectiveness of the CREW intervention on relational energy of employees, but our findings were concordant with the reports, in which it was suggested that CREW was effective on enhancing civility, respect and trust, and improvement of interactions among the personnel (Gillen et al., 2017; Leiter et al., 2011; Armstrong, 2017).

To explain the results of the present study, it can be said that relational energy is a major component of organizational energy which is created and transmitted when people interact with each other (Amah, 2018). Through improvement of the relationships between people, relational energy increases and develops between individuals (Amah, 2018). CREW intervention helps to create positive relationships through improving of individual's relationship skills (Armstrong, 2017). Therefore, the CREW intervention provides relational energy by enhancing the quality of interpersonal interactions (Osatuke et al., 2013).

Participants in this study, discussed about civil and uncivil behaviors during the CREW intervention. They improved different communication skills such as problem solving, cooperation, and empathic behavior in this educational program, and they learned to consider the civility and respect while communicating with others. These learnt skills helped employees to relate positive communication with coworkers. positive interactions increase the relational energy of individuals by satisfying the need for positive attention in individuals and enhancing their positive emotions (Carmeli, 2009; McDaniel, 2011).

Conclusion

Because the activities of the employees of the Gas company are highly dependent, it is essential for employees to interact with cooperators. In conclusion, it was so vital to implement the CREW intervention in this company, because CREW intervention lead to improving interpersonal communications. Then, the bond between individuals is fortified and their relational energy would be strengthened.

The findings of this study suggested that administrators and authorities of organizations use CREW intervention to enhance the positive interpersonal relationships and relational energy of their personnel.

The authors have not profited from the study results and might not be motivated to obtain a certain result. The authors wish to appreciate the Gas corporation of Isfahan province for their cooperation during accomplishing this study.

Limitations

Like other studies, this study had some limitations, including unavailability of some managers, and their busy timing schedule. Since there was no placebo in our study, the expectation effect might be occurred for the participants, and this can be regarded as a limitation of the study.

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Received 02.09.2020

Эффективность программы CREW для повышения энергии отношений у сотрудников

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Аннотация. Цель. Это исследование было направлено на определение эффективности внедрения обучающей программы «Вежливость — Уважение — Вовлечённость — Работа», ВУВР (CREW²) для увеличения энергии сотрудников в газовой компании Исфахан. *Метод.* Исследование представляло собой квазиэксперимент с претестовым и посттестовым замерами и контрольной группой. Выборка состояла из 30 добровольцев-сотрудников газовой компании, которые случайным образом были распределены на экспериментальную и контрольную группы. Анкета энергии отношений (2016 г.) применялась в обеих группах для претестового и посттестового замеров. Вмешательство было осуществлено в форме тренинга, который проводился в экспериментальной группе в течение восьми занятий, каждое по 90 минут. Контрольная группа не подвергалась никакому вмешательству. Собранные эмпирические данные были проанализированы путём ANCOVA с помощью SPSS-23. *Результаты.* Результаты показали, что после вмешательства была значительная разница между экспериментальной и контрольной группами. Соответственно, проведение тренинга по программе ВУВР усилило энергию отношений сотрудников в посттестовом замере. Результаты этого исследования показали, что администрация и руководство организаций используют обучающую программу ВУВР для улучшения позитивных межличностных отношений и энергии отношений своего персонала. *Оригинальность.* Согласно итогам нашего поиска в предыдущих исследованиях, не было найдено ни одного исследования по изучению эффективности использования ВУВР для повышения энергии отношений сотрудников, но наши результаты согласуются с отчётами, в которых предполагалось, что данная обучающая программа может быть эффективной для увеличения энергии отношений сотрудников, повышения вежливости, уважения и доверия, а также улучшения взаимодействия между сотрудниками.

Ключевые слова: обучающая программа ВУВР; энергия отношений; индустриально-организационные психологи.

2 CREW — аббревиатура от английских слов *Civility* (вежливость), *Respect* (уважение), *Engagement* (вовлечённость) и *Workplace* (на рабочем месте). ВУВР — обучающее мероприятие, в ходе которого персонал получает возможность развивать эффективные отношения с другими людьми и улучшать свою командную работу. Программа разработана Министерством по делам ветеранов США в 2005 году. Кроме всего, здесь возможна игра слов: акроним CREW имеет русский эквивалент «ЭКИПАЖ». *Прим. ред.*