

# Improvement Organizational Behavior of Newcomer Employees in Construction Projects Using On-The-Job Training Programs

**Mohammad Hossein Mahmoudi Sari**

Assistant Professor, School of Architecture and Urban Planning, University of Art, Tehran, Iran  
mahmoudi@art.ac.ir

## **Abstract**

Most of newcomer employees, especially in construction projects, have not full skills needed for a job. Participating in on-the-job training programs is generally recommended, but this condition may make them overscheduled and increase the project cost. The main purpose of this study is to assess whether a correlation existed between performance of newcomers and participating in an on-the-job training program. A questionnaire-based survey is developed attending about 140 newcomer employees working in two midsized EPC contractor company in Iran. Two methods are applied for results' cross checking. Firstly, trained employees as experimental group is analyzed for exam scores and employers opinion. Secondly, they assessed for degree of centrality in a limited group of staffs using Social Network Analysis method. The on-the-job training courses context is prepared according to basis of project management skills including time, cost, and duty control techniques. It is concluded that there is a significant relationship between project management on-the-job training courses and success rate of newcomers, even they may be overscheduled. Findings also show that organizational role and occupational level have statistically significant effect on efficiency of training programs.

**Keywords:** Newcomer Employee, Construction Project, On-the-job Training, Project Management, Questionnaire-based Survey, Social Network Analysis

## **1. Introduction**

In recent years, studying on newcomer employees' behavior and its effect on organization are majorly improved. Based on literature review, studying on newcomers to improve their satisfaction and to increase their ability to pass successfully their professional life was specifically considered by Benjamin and Hollings (1997). They used an ecological model to investigate the employee satisfaction. The satisfaction was defined by them as the success rate of newcomer to be able to fulfill all of the occupational commitments and even more than it without any interruption in their personal life. Some researchers used time management skills as preliminary basics to help the company newcomers to be able to better fulfill the occupational commitments (Zulauf and Gortner, 1999). Similar approach is taken into account to assess satisfaction rate in low-level labors newcomers (Corts et al. 2000). The satisfaction is selected as

the main objective parameters and special field surveying method is suggested to investigate occupational success in a case study.

Especially in developing countries, the newcomer employees have mainly a job as well as a lot of peripheral issues that can make their schedule busy. Combining occupational life and having a part or full time on-the-job training program for newcomer employees and interaction between the professional media and company duties has also been considered by some researches using multi criteria decision making basics (Elliot and Healy, 2001). They tried to present a theoretical framework for main and major parameters that can affect the occupational life of the overscheduled newcomer employees. This general approaches is continued by some researches using stronger and more complicated theoretical basis to better and more reliable interpreting and understanding internal consistency estimates (Henson, 2001).

Based on common context of previous researches, managing daily schedule is a common method to make an acceptable balance between lots of works that shall be carried out by a newcomer employee in an EPC contractor. But mostly it cannot be completely managed. Overwhelmed newcomers can be changed to tired peoples that cannot appropriately follow the requirements of the progressive era. So, a main goal named as newcomer satisfaction is defined to measure the capability of newcomers to manage their occupational life. Umbach and Porter (2002) presented complementary notes on this main goal variable. Some researches applied similar definition in a case study of surveying newcomer satisfaction in Michigan University as an organization (Bryant, 2015) based on 1373 respondents. Some others presented more detailed investigations into the importance of definition of measurable parameters to illustrate and indicate real condition of newcomers from satisfaction point of view (Elliot, 2003). Nonis and Wright (2003) presented an applicable method to moderate the effects of achievement striving and situational optimism on the newcomer employees' outcomes. They applied a site surveying method to clarify and validate the method and to prove it at least for newcomer labors. Time, as a main effective parameter on the newcomer employee commitments and ability to fulfill it, is also investigate by Ackerman and Gross (2003) to illustrate that time pressure is not always a restrictive and threaten parameter for occupational success of the company newcomers.

There are a lot of scientific approaches to investigate the overscheduled kids and to help and balance them! But about the newcomer employees, it seems that the issue is majorly inspected only considering time managing effects on occupational achievement and it is strongly dependent to occupational level and field of study. Considering newcomer satisfaction as an objective variable, the effect of external issues on the newcomer satisfaction rate is considered by some of the researchers to inspect the changing rate of it over the time (Dibiase, 2004). Nonis and Hudson (2006) examined the effect of both time spent for learning and working on occupational performance for newcomer employees. They suggested that some variables such as motivation and learning time significantly interact with ability to influence their occupational performance. Some researchers are involved into cost management effects on company staff. They assumed that the newcomer employees are main staffs of the company and analyze the effects of cost management skills on their satisfaction from company point of view as an organization (Krishnan, 2006). Some researches investigate the newcomers' satisfaction in a special occupational era using computer aided tools (Selwyn, 2007) and social network applications (Jorge et al. 2018) and presented that the main objective and independent variables that can affect the satisfaction can be varied from one professional field to another.

In this research and based on preliminary analysis on the problem defined before, it is decided to strength the newcomers with the power of project management techniques using on-the-job

training courses. For this purpose, the related literature are reviewed from this point of view that how the project management basics can be simplified to be able to understand and apply by newcomers. Based on a comprehensive literature review, a selective applicable framework for simplified project management concerns is defined. The framework is used in serial training programs. The main goal of the research is defined that how we can help the overscheduled company newcomers to be more balanced using basis of project management. Definition of hypotheses and research variables are done based on this main goal. A questionnaire based data gathering method is applied to investigate the effect of the improvement program on the newcomers. Some other data such as final examination scores as well as company employer opinion about the newcomers are used for cross checking and validation of the research results.

## 2. Research Methodology

The main criterion for developing the research methodology is to increase the success rate of the overscheduled newcomers in an on-the-job training program. Based on this main criterion, the dependent or objective variable of the research is defined. This objective can be indicated in a measurable item such as newcomer average ranking in middle and final examinations. It is necessary to categorize the studied newcomers into two main groups: newcomers that selected for implementation of training program, and a non disturbed control sample of newcomers that no special program is considered for them. For both categories, the objective variable is measured at the specified time intervals to evaluate the promotion paths of the studied samples. The tendency of participants to become more improved is controlled by hiding the final aims of the improving programs. Based on the clearly defined goal of the research, the main variables of this study are defined. For objective variables which show the measurable goal of the research, three main dependent variables are defined.

In a straightforward approach, improvement in newcomer employees' occupational ranking and can be assumed as main response variable. So, first dependent variable is improvement in occupational ranking of the newcomers in midterm examination comparing to the previous similar exams. For this purpose, a parameter defined as occupational improvement of newcomers based on midterm assessment ( $A_m$ ). Second one is similar measurable value but for final examination of the newcomer employees. So, occupational improvement of newcomers based on final assessment ( $A_f$ ) is defined. To evaluate these two objective variables, measurements on occupational ranking of the newcomers in final exam, occupational ranking in midterm exam and two other measurable objective variables including average score of newcomers in mid and final exam are considered.

To define the main independent variables, it is considered that how the project management body of knowledge can be applicable and useful for company newcomers. Based on this main question and due to the principles of the project management learning, the training extracurricular program is divided to three main categories including following topics: how to manage your time, how to manage you costs, and how to manage you scope in a daily program. Attending of the newcomer employees in these three training courses were selectively managed to be able to assess the effect of each training course on newcomer success rate. Based on this separation, three main independent variables in the research are defined as the level of effectiveness that a newcomer feel in each of the training courses for project management body of knowledge, for time ( $E_t$ ), cost ( $E_c$ ), and scope ( $E_s$ ) management tactics, separately. As an extra independent parameter and to evaluate attending to the project management courses as a whole, forth independent variable is defined as General effectiveness of project managing basics from

newcomer's point of view ( $E$ ), which is a summarized interpretation of three previously defined variables.

For cross checking of the measured dependent variables, some questions are considered in questionnaires to be asked from company leaders to indicate continuing improvement of the studied newcomers. The rate of improvement in a Likert 9-point scale is asked at several time intervals from the leaders and inspected as one of the objective dependent variables. Continuing improvement based on data gathered from all respondents along company newcomers and leaders is observed as one of the objective dependent variables of the research ( $C_i$ ). So, all respondents are judged all. To be able to evaluate the promotion and fostering of the newcomers under the project management learning, questionnaires are distributed and gathered at several time intervals. Total time of field investigations is selected as two occupational semester with a total length about 19 month. Totally six steps of data gathering are carried out including at the beginning of the program, at the end of it, and four internal gathering stages. So, another variable of the research can be defined as the time passing from implementation of project management training courses ( $t$ ).

To investigate the details of effectiveness rate of the project management learning on newcomers, a special social network is designed and all of the newcomer employees in the studied area including both attendant and non-attendant to project management courses are joined to it. A professional social network is created only for transferring technical data related to the occupational topics. To evaluate the program efficiency, Social Network Analysis (SNA) method is applied. The main dependent variable measured based this analysis is the centrality of each member of the network. This method is applied to evaluate the independent variables affect the objective. The results of social network analysis are applied to measure the outcomes. Selection various method for definition and measurement of these two types of variables is considered to prove that the results can be trusted. More details about how to create the technical social network and how to measure the members affect on each other are described in next session in research methodology. For cross checking and validation of the results came from questionnaires, success rate of each trainee newcomer are determined based on Social Network Analysis. SNA details procedure is selected as described in Mahmoudi Sari (2019).

### 3. Data Gathering

The data have been collected in two midsize EPC contractors in Iran which their head offices located in Tehran. The problem was raised when the preliminary studies show that the rate of occupational success in the newcomer employees is going to down. Based on a support received from the company management, a research set up to investigate the reasons and to inspect the remedial methods to improve the conditions. For data collecting, random sampling method is applied to indicate the real conditions of the respondents. To develop the appropriate methodology for the research, some main axes are selected to approach to the studied sample. Firstly, it has to be recognized that which newcomers are imposing overscheduled program and how this time schedule is interrupt them in their occupational progress. Secondly, it is considered that how the improvement program using serial training courses can affect the progress path of the studied newcomers. A questionnaire is prepared to gather data from the newcomers and company leaders. First part of the questionnaire is designed to recognize the main issue that interrupt the normal condition of newcomer. The context of the questions at the first part of questionnaire is to interpret the newcomer concerns about his or her working schedule and the training programs. The questions were designed to make differences between the newcomers that

are suffer real overscheduled conditions due to training courses and any other reason that can make a newcomer unsuccessful in his or her occupational duties. Some main questions are considered at the first part of the questionnaire. Here are some of these questions: How many main concerns are involved in your working program? What is the percentage of your weekly total useful time to be dedicated to search about unknown issues related to occupational works? Is there any time for being with your real friends or do nothing? Is it essential for you to have a success job in your occupational program? How many hours in your working program spent for being in technical social networks? Based on this type of questions, and analysis on replies at the first stage of the data gathering, a special group of the newcomers, that are more than 65 percent of all of the asked newcomers at the first stage, are categorized as learning-required. All of the main signs that based on psychological issues can be interpreted as a newcomer is learning-required is considered in these questions.

After analysis of the first stage of data gathering, the main step of the research is began. Second part of the questions is only designed for learning-required newcomers. This part is arranged for checking of the improvement level in the occupational success. This checking is done using two different ways to be able to cross checking of the results. First method is considered as the context of questions in second part of the questionnaires. These questions are asked and answered by all of the newcomers about their changing, improvement or deteriorating in their occupational condition. Data gathering is done at several stages after implementation of project management tactics during on-the-job training courses. The details of training courses will be explained later at this session. The questions are designed to measure how the programs can generally improve the occupational conditions of the newcomers and how to return tranquility to them. Several signs of balancing the newcomers are implied in the questions such as upcoming exam scores, more time for his or herself, more connection received from other newcomers about occupational issues, more potential for solving the general issues in occupational media, more satisfactory relationships with company leaders, more attending to group working in the company accomplished with other newcomers, and less anxiety.

About the improvement program, it is designed based on project management principals. None of the occupational newcomers know about the project management knowledge. So, main activity that is carried out in learning plan of the training course is to simplify the basics of project management to be able to apply by newcomers. The aim was to enable them to manage their occupational life and to mitigate the stress level of them. The training courses are designed as an learning program with two one-hour sessions in each week. The project management is considered in three main contexts. Firstly, time management tactics are considered as basis of the training courses. Special tips presented for conscious control of spending time for various activities along a occupational plan. Newcomers learned how they can increase their effectiveness and productivity using time management skills. Secondly, scope management skills are considered in training courses and newcomers learn how they can arrange a priority-based list for all of the to-do items along an occupational life. They learn how they can have more flexibility as well as a realistic point of view. Avoid any reworking and repetition by spending enough time for planning their scope of works as a newcomer employee is specially considered. They helped to be able to critical thinking to prevent any confusing and postponing their tasks. The newcomers learn about how they can have a clean mind when they switch from one to another occupational task. Thirdly, cost management considered to enable the newcomers more capable to manage all of their financial issues. They learn how they can identify effects of their works on the organizational costs.

The questionnaires are designed in accordance to the research methodology defined before considering variables and their types including independent and dependents. Firstly, measuring the independent variables is included in the questions context. The main independent variable that can affect the research goal is the effectiveness level of project management on-the-job training courses from newcomer’s point of view. How much do you think that the lessons can be applicable for balancing your occupational life and improving your occupational success? This main question is considered for design of questionnaires and divided to three main bodies of management knowledge including cost, time and scope management. Moreover, generally the participants asked for effectiveness of the training courses. The quantity and quality of connections between a centralized newcomer and their colleagues is also considered as a context question. All of the respondents are asked for these questions and answers are related to all other newcomers. Company leader’s satisfaction level is also considered in questionnaires which especially distributed and gathered from the company leaders. Rather than inspecting the changes in newcomer score in mid and final examination, the sense of the leaders about the newcomers is also investigated as a verifying and cross checking measurable data. The distribution and data gathering based on questionnaires have been carried out in six time steps in both companies. So, time is one of the main parameter that is considered in research methodology. Table 1 shows a general feature of respondents.

Table 1 - Participants features for newcomer employees and leaders

No.	Position	Feature	Frequency	Percent
1	<b>Newcomers</b>		<b>139</b>	<b>100</b>
2		less than 25	14	10.0
3	age	25 to 28	91	65.4
4	(year)	28 to 33	22	15.8
5		more than 33	12	8.8
6		female	82	58.9
7	gender	male	57	41.1
8	occupational	junior	109	78.4
9	level	senior	30	21.6
10	experiences	less than 1	55	39.5
11	before	1 to 2	24	17.2
12	entering the	2 to 3	28	20.1
13	company	3 to 4	15	10.8
14	(year)	more than 4	17	12.4
15	known-skill	weak	75	53.9
16	level	moderate	43	30.9
17		strength	21	15.2
18	<b>Leaders</b>		<b>14</b>	<b>100</b>
19	<b>Total Distributed Questionnaires</b>		<b>153</b>	<b>-</b>

All of the specifications and categorization of the participants are listed in this Table. One of the main independent variables of the research that it seems to be able to have influence on the result is the time period that a newcomer has experienced before entering the company. Gender, age, occupational level, and known-skill level are other independent variables that can affect the

outputs. The categorizations of the participants based on range of these independent variables are listed in this Table.

As the social network is one of the main important parts of newcomer employee’s occupational and personal life, a limited professional social network using appropriate context is developed and most of the respondents are joined to it. This is carried out to gain some extra data about changing newcomers’ life after attending the project management on-the-job training courses. The connections between the members are monitored and all of the members are asked for connection pattern of themselves and others. So, all members are judged by all of the members. Importance level and centrality of each member is analyzed based on the monitored connections quantity and quality. The connection pattern between the members are asked firstly from them and drawn based on the received data in questionnaires. These connection drawings are also rechecked based on the monitored connecting pattern between the members. A verified version of connection pattern is applied in Social Network Analysis as described before. It shall be noted that the number of connection regardless than receiving or sending type is verified. The type and strength of the connections and applicability of data transferred via social network is only estimated based on data gathered in questionnaires about all others.

#### 4. Data Analysis and Results

More than 150 distributed questionnaires are gathered after full or partially filled by participants. In data analysis, to generate a same media for output parameters to be compared and assessed, the results of ranking of newcomers based on outputs calculated from centrality checking in SNA are also categorized in a 9-point scale. The results presented here can be categorized into two main parts. Firstly, the reliability of received data via questionnaires is evaluated and verified using standard method. Secondly, research hypotheses are assessed using correlation factor method as well as tracing the gathered data on graphs. At the first stage and to verify and validate the responses received via questionnaires, it is noted that some questions are not answered by respondents in each questionnaire. To evaluate that how the gap of data may affect the results reliability, Cronbach’s Alpha method is applied. The numbers of useful and applicable data for each of the outputs or objectives variables is applied to calculate Cronbach’ Alpha to be able to check the reliability of the responses. Table 2 shows the number of applicable data received via questionnaires and applied to evaluate the output parameters in the research, named as  $N_e$  in Table 2. Because of the repetition of data gathering at several time steps, the numbers of useful and applicable data to calculate each of the objective parameters is according to minimum reliability level based on Cronbach’s Alpha method. The objective parameters that are designed based on social network analysis is not listed in Table 2.

Table 2 - Check of reliability in replies gathered for questionnaire-based objective variables using Cronbach’ Alpha calculated based on only effective received data ( $N_e$ ) in each parameter

Objective Variable	$N_e$	Cronbachs’ alpha	Objective Variable	$N_e$	Cronbachs’ alpha
$A_m$	121	0.725	$E$	142	0.933
$A_f$	131	0.722	$C_i$	139	0.821
$E_t$	126	0.681	$QN$	133	0.877
$E_c$	129	0.821	$QL$	127	0.956
$E_s$	132	0.921	$TS$	129	0.826

Correlation coefficient method is applied to evaluate the relationship between two variables, one is independent and another one is dependent (objective). This coefficient is defined as the covariance of the variables divided by the product of their standard deviations. Based on this method, the first hypothesis is assessed according to the results indicated in Table 3. As it can be seen in this Table, only for questionnaire-based objective variables the correlation coefficient with each of the dependent variables is calculated and listed. As an example, correlation coefficient between Occupational improvement of newcomers based on midterm assessment ( $A_m$ ) and General effectiveness of project managing basics on newcomers' occupational improvement ( $E$ ) based on answers gathered by questionnaires is 0.811.

Table 3 - Values of correlation coefficients between each-double variables based on processed data gathered at the end of study period on all experimental groups

	$E_t$	$E_c$	$E_s$	$E$
$A_m$	0.695	0.922	0.821	0.811
$A_f$	0.735	0.921	0.911	0.865
$C_i$	0.611	0.721	0.710	0.623
$QN$	0.811	0.829	0.866	0.895
$QL$	0.791	0.747	0.733	0.732
$TS$	0.725	0.711	0.812	0.921
$DC$	0.821	0.886	0.784	0.842
$EV$	0.962	0.921	0.974	0.941
$ES$	0.852	0.864	0.887	0.878

Based on calculated data presented in Table 3, it can be seen that except one of the objective variables ( $C_i$ ), all of the processed data shows that really, there is a significant and recognizable relationship between the effectiveness level of the training program with project management topics and improvement of overscheduled newcomer employees. As it can be interpreted from the correlation coefficient listed in Table 3, generally midterm assessment show lower and weaker effects of improvement program by training project management basics. Cost control, scope control, and lastly time control are respectively evaluated as useful and effective parameters to balance and improve occupational conditions of overscheduled newcomer employees. But these three bodies of project management knowledge including time, cost, and scope control have not the same contribution to balance overscheduled newcomer employees. Continuing evaluation of newcomers under the improvement program, hereinafter named as experimental group, show lower correlation factor for effectiveness of project management training courses. It seems that quantity of data receiving and sending between the members of local social network is significantly increased in experimental group. But from qualitative point of view, it seems that very weaker relationship can be seen.

To evaluate hypothesis 3, the effect of various respondents' specifications such as gender, occupational level and known-skill level are assessed. For assessment, all of the main objectives variables are considered. Firstly, the gender of the newcomer employees is inspected. As it is shown in Figure 1, using a radar graph, the average scores received from all participants are calculated and the integer part of it is selected to evaluate the overall effect of independent variables on objectives. The results are compared at the beginning of surveying period and at the end of project management training courses. Likert 9 point scale scoring is applied for evaluating all of the objective parameters to be able to compare them in a same manner. Classification and

stratification of the responses are made based on this 9 point scale. A comparison can be seen between Likert score received from the respondents for each of the 13 objective variables for overscheduled newcomer employees before and after implementation of project management training courses for females and males newcomers.

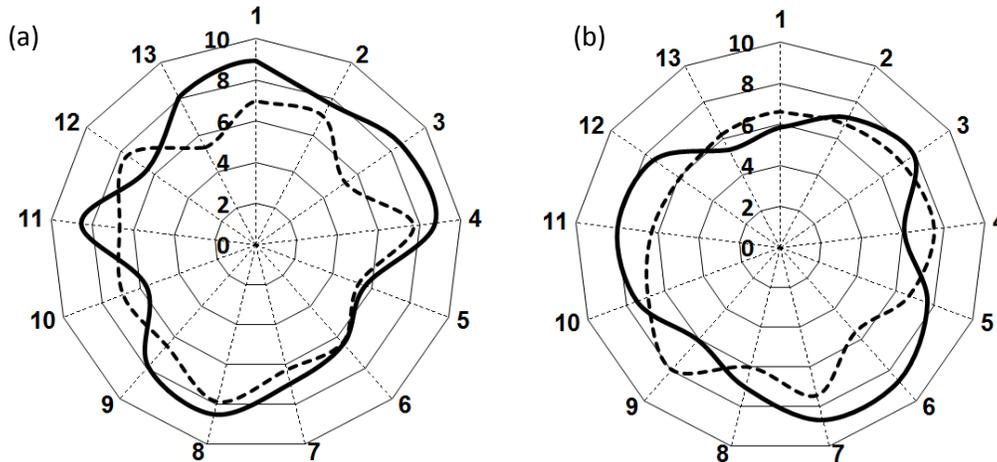


Figure 1 - Comparing Likert score for newcomer employees in 13 objective variables before (dash line) and after (continued line) implementation of project management on-the-job training courses, females (a), and males (b) newcomers

As it is illustrated in Figure 1, a general improvement is made in all objective variables but the rate of changing and improvement is significantly different. Details investigations show that for female newcomer employees, time managing tactics are more applicable and useful to be able to balance their occupational life. But for males, cost control skills find more applicable and effective to change and balance the newcomer employees. In an overall view, the effect of improvement program in male newcomers is generally more than females. Similar investigations are made to inspect the effect of occupational level on objective parameters. Gathered data are processed in two main divided categories including senior and junior newcomer employees.

All of the goal variables are also considered. Because of the importance of sensitivity analysis of the results to the occupational level, changes in none of the other independent variables are considered. Figure 2 shows the results comparing Likert score for overscheduled newcomer employees in 13 objective variables before and after implementation of project management on-the-job training courses separately for junior and senior newcomer employees. As it can be seen in this figure, general effects of training courses can be completely observed. Moreover, significant differences in effectiveness levels between senior and junior newcomers are achieved. The reason may be related to more understanding and capability for application of project management tactics by senior newcomers. It may also be related to social positions and more probability of them to have a job and so, paying more attention to the training course was essential for them. Analyzed data in Figure 2 also show that senior newcomers vote easily to extremes in 9 point scale while the juniors are majorly around the middle values.

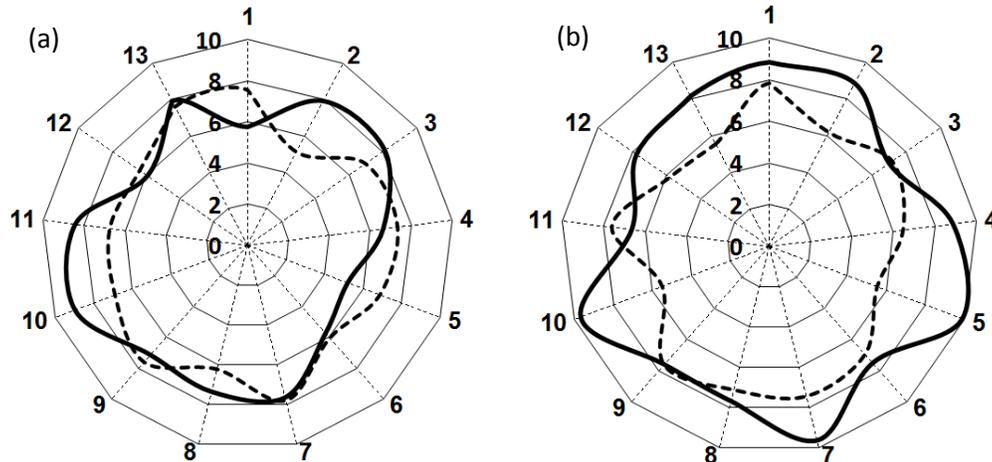


Figure 2 - Comparing Likert score for newcomer employees in 13 objective variables before (dash line) and after (continued line) implementation of project management on-the-job training courses, junior (a), and senior (b) newcomers

Complementary assessment is done using all gathered data which is divided to two main categories only based on their financial status. The known-skill level of respondents are categorized to three groups in Table 2, but here and based on preliminary analysis, it is concluded that merging two sub groups into one have no any deteriorative effect on the results. So, less than moderate and moderate classes in known-skill level of the newcomer employees are merged.

### 5. Conclusion

Field survey is carried out to investigate how learning of project management basics during on-the-job training courses can affect the occupational life of newcomer employees. Three main surveying methods are applied including questionnaire-based data gathering, cross checking of newcomers scores in midterm and final examinations, and centrality in a local occupational and technical social network designed for this research using Social Network Analysis. Junior and senior newcomers in two EPC contractor companies in Tehran, Iran are selected for field surveying as case study. Definition of research variables is done by selecting 13 measurable dependent objectives variables indicates the level of effectiveness for training programs. Project management basics divided to three simplified main chapters including time, cost, and scope or to-do list control tactics. Three main hypotheses are defined and assessed based on mentioned theoretical framework. Firstly, relationship between project management training courses and success rate of newcomers is considered. Secondly, effect of three bodies of project management knowledge including time, cost, and scope control is compared. Thirdly, effect of some independent variables in newcomers such as age, previous experiences, gender, occupational level and known-skill level are assessed on outputs.

It is concluded that the hypothesis is acceptable at least for studied newcomers with moderate and less than moderate known-skill level. For higher class of known-skill newcomers, results do not show a significant correlation between the improvement program and their occupational status. It seems that they have some issues not for lacking of management knowledge, but for something else that shall be more investigated. Similar method is applied to test the second hypothesis and it is rejected. The failure is caused by the significant differences between the

effectiveness levels of each of the project management bodies of knowledge on the output variables. Ranking of effectiveness level for these three bodies is different for various output variables, but it can be seen that usefulness of scope control tactics is significantly more than two others. It may be caused due to priority of scope management in occupational life of a newcomer rather than time or cost management. Even for newcomers with moderate and less than moderate known-skill level, scope control skills were preferable. Third hypothesis is generally approved because some of the independent variables related to newcomers' personal and social condition are significantly affect the results. But ranking of these variables based on gathered data cannot be done because of the high variety of ranking in various responses received from the respondents that make the convergence of ranking so hard. Based on a graph tracing method, it is concluded that after the first priority of scope control effect, time control for females while cost control for males is in the next priorities. Moreover, generally males find more than females the training courses useful. From occupational point of view, the improvement program was more useful for seniors rather than juniors. More investigations are required to explore the details of differences.

Considering personal life of newcomer employees as a “project”, can create new innovative routes in interdisciplinary researches applying project management knowledge to improve them. Definition of a combined theoretical framework using social network analysis can also be applied by researchers to improve adequacy of objective variables in organizational issues. The findings described here about simultaneous management of time, cost, and scope in newcomers employees life is an innovative approach to this issue and can create new research paths in the future.

## References

- [1] Ackerman, D.S., & Gross, B.L. (2003). Is time pressure all bad? Measuring between free time availability and newcomer performance perceptions. *Marketing Education Review*, 12, 21-32.
- [2] Benjamin, M., & Hollings, A., (1997). Newcomer satisfaction: test of an ecological model. *Journal of Newcomer employee Development*, 38(3), 213-229.
- [3] Bryant, J. (2015). Company of Michigan-Flint newcomer satisfaction presentation, Leadership Council Report, Retentions Solution, Noel Levitz ltd., 32.
- [4] Corts, D. P., Lounsbury, J., Saudargas, R.A., & Tatum, H.E., (2000). Assessing undergraduate satisfaction with an occupational department: a method and case study. *Newcomer employee Journal*, 34(3), 399-410.
- [5] Diabiase, D. (2004). The impact of increasing enrolment on faculty workload and newcomer satisfaction over time. *Journal of Asynchronous Learning Networks*, 8(2), 45-60.
- [6] Elliott, K.M. (2003). Key determinants of newcomer satisfaction. *Journal of Newcomer employee Retention*, 4(3), 271-279.
- [7] Elliott, K.M., & Healy M.A., (2001). Key factors influencing newcomer satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education*, 10, 1-11.
- [8] Krishnan, A., (2006). An application of activity based costing in higher learning institution: a local case study. *Contemporary Management Research*, 2(2), 75-90.
- [9] Henson, R.K. (2001). Understanding internal consistency reliability estimates: a conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development*, 34, 177-189.

- [10] Jorge D.P., Medero F., Barroso, J., & Leon F., (2018), A synchronous tool for innovation and improvement of company communication, counseling and tutoring: the WhatsApp experience, *EURASIA Journal of Mathematics, Science and Technology Education*, 14(7), 2737-2743.
- [11] Mahmoudi Sari, M.H., (2019), “An Investigation of Key Parameters Affecting the Successful Management of a Knowledge-Based Organization”, *International Journal of Administrative Science and Organization*, Vol.26, No.2, pp. 55-67.
- [12] Nonis, S.A., & Hudson G.I., (2006). Occupational performance of newcomer employees: influence of time spent studying and working. *Journal of Education for Business*, 81(3), 151-159.
- [13] Nonis, S.A., & Wright, D. (2003). Moderating effects of achievement striving and situational optimism on the relationship between ability and performance outcomes of newcomer employees. *Research in Higher Education*, 44(3), 327-346.
- [14] Selwyn, N. (2007). The use of computer technology in company teaching and learning: a critical perspective. *Journal of Computer Assisted Learning*, 23, 83-94.
- [15] Umbach, P.D. & Porter, S.R. (2002). How do occupational departments impact newcomer satisfaction? *Research in Higher Education*, 43(2), 209-233.
- [16] Zulauf, C.r., & Gortner, A.K., (1999). Use of time and occupational performance of newcomer employees: does studying matter?. In *Proceeding of Annual Meeting, American Agricultural Economics Association*, August 8-11.