

An Empirical Research on Human Resource Practices Affecting Innovative Work Behavior

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Abstract: Employees' innovative work behavior can help firms' for sustainable development. Human resource (HR) practices are key elements to encourage and lead employees displaying innovative behaviors. On the other side, employees need the salient support of supervisors during the application of HR practices. Using data from 251 employees in six holding companies which are located in Istanbul, we take a causal and holistic framework that examines the direct effect of each practice on employees' innovative work behavior and the mediating role of perceived supervisor support on the relationship between each HR practice and innovative work behavior. We found that, job autonomy and training & development have significant positive effects on employees' innovative work behaviors. However, contrary to the hypothesis, the analysis did not reveal any relationship between performance appraisal and innovative work behavior. On the other side, perceived supervisor support, has a perfect mediating role on the model. These results reveal that, perception of supervisor support is particularly essential for performance appraisal, compared to job autonomy and training & development.

Keywords: HR practices, job autonomy, training & development, performance appraisal, perceived supervisor support, innovative work behavior.

JEL codes: J29, M12, M53.

1. Literature Review

1.1. Innovative Work Behavior

Innovative work behavior is defined as the behaviors that the employee exhibits in order to produce creative ideas, find supporters for their ideas and implement them organization-wise (De Jong and den Hartog, 2010, p. 23). Innovative work behavior can also be defined as activities carried out by employees for the purpose of contributing to innovations developed by the organization in general (Messmann and Mulder, 2012, p. 43). Considering that each innovation is implemented by the employees, it can be said that activities towards innovative work behavior contribute to improve the organizational capacity (Janssen, 2014, p. 10). In this context, innovative work behavior can be considered as the micro version of organizational-level innovation at the employee level (Lukes and Stephan, 2017, p. 136).

Another important feature of innovative work behavior is that it is rarely requested by the company, because the employer's primary expectation is that the employee fulfills the requirements of the job description. It is generally not expected for the employee to go beyond the job description and engage voluntarily in creative and beneficial activities (Dorenbosch, 2005, p. 129; Janssen, 2000, p. 287). For this reason, innovative work behavior can also be described as a kind of extra role behavior (Ramamoorthy et al., 2005, p. 143).

Innovative work behavior can also be perceived as attitudes that support changes experienced by employees. These attitudes enable the management to deal with demands for change (Montani et al., 2012, p. 44). In this context, innovative work behavior helps the employees, who feel the need to change, face the current situation (Bunce and West, 1994, p. 325) and also to improve their performance by making extra efforts to overcome the current situation (Hemali and Tahajuddin, 2018, p. 410).

According to Yuan and Woodman (2010), innovative work behavior is an assertive impression management technique that employees use for influencing their managers and colleagues. Thanks to innovative work behaviors, employees strengthen their personal image in their colleagues and managers by creating a perception that they are fully capable for their work (p. 325 – 326). As a result, the innovative work behaviors exhibited by employees pave the way for employees to perform the jobs in the best (effective) way possible that will provide maximum benefit to the business by spending a minimum amount of time and effort (Schuh et al., 2018, p. 400).

1.2. Innovative Work Behavior & Job Autonomy

Job autonomy can be defined as the power of choice and initiative given to employees when performing their duties (Park and Jang, 2017, p. 704). This authority aims to increase job performance by enabling employees to enjoy and

immerse in the job they do (Langfred and Moye, 2004, p. 935). On the other hand, job autonomy is not just about making choices, as Ersoy Kart and Güldü (2008) point out, because, if an employee is forced to choose from the options that do not meet their expectations, job autonomy cannot definitely be mentioned (p. 202).

Job autonomy is based on the self-determination theory developed by Deci and Ryan (1987) and revised by Gagne and Deci (2005) (Park and Jang, 2017, p. 704). According to this theory, employees have psychological needs that come from birth. If the conditions are suitable, the employee can take a proactive attitude to meet these requirements and maximize the job performance. These requirements are that the employee has the opportunity to choose within the job (need for autonomy), gains self-respect by successfully completing the given task (need for competence) and establishes satisfactory social relationships with his superiors, colleagues and subordinates (need for relatedness) (Cerne et al., 2016, p. 164). The self-determination theory also attaches great importance to the approach of the manager of the employee. Employees, who work with a supervisor advocating autonomy, perceive job autonomy as an opportunity for self-improvement. On the other hand, the employee is skeptical about the job autonomy that a supporting supervisor provides, because she is likely to perceive it as a new means of control (Deci and Ryan, 1987, p. 1026 - 1032).

According to self-determination theorists, some of the employees do their jobs with their internal motivation in a business environment where the abovementioned conditions are met. The integration of the employees, who cannot ensure internal motivation, is ensured by the organization. In such an organizational structure, the levels of loyalty and job satisfaction of employees increase significantly. In this way, employees begin to strive for exhibiting behaviors that contribute to productivity such as adapting to innovations and processes of change more easily, in the name of displaying extra role behavior, innovative work behavior or organizational citizenship behavior (Gagne and Deci, 2005, p.337). In order for job autonomy to provide any benefits, employees should be given jobs with a high variety that give

them the opportunity to benefit from their different skills while doing the job (Langfred and Moye, 2004, p. 939), and employees should be motivated and employed in moderate jobs that they can achieve (Chung and Ross, 1977, p. 120).

According to the above explanations, it can be thought that the job autonomy that meets psychological needs of employee, activates their intrinsic motivation, enabling them to enjoy and integrate with their work (Langfred and Moye, 2004, p. 939). The vast majority of findings from past studies support this inference.

Orth and Volmer (2017) demonstrate in their research conducted in Germany that both job autonomy and commitment have a positive effect on employees' innovative work behavior (p. 601). Theurer et al. (2018) examined the job autonomy, decision-making autonomy, job planning autonomy and the autonomy to choose a job method in three dimensions in their study conducted on 1.180 employees in Germany. As a result of the research, it has been concluded that all sub-dimensions of job autonomy have a direct positive effect on innovative work behavior. Researcher emphasized that the autonomy to decide and choose a job method have a strong effect on innovative work behavior but a weak effect on job planning autonomy (p. 19).

1.3. Innovative Work Behavior & Training¹ and Development

Training can be defined as the "planned effort" that the organization is willing to show in order to teach the employees about job competencies. Development is a concept related to gaining new skills by maximizing the knowledge, skills and competencies of the employee (Çetin et al., 2015, p. 93). The basis of trainings² in enterprises is based on human capital theory.

Human capital is a combination of employees' skills, expertise and competencies, and provides a distinguishing character to the organization (Ulster University Business School Technical Report, 2017, p. 6). To the extent that the organization motivates and supports the human elements, employees tend to learn new things, replace ineffective methods,

¹In this article, the word "training" is preferred for the concept of "vocational education". For this concept, we argue that the word "eğitim", which is frequently used in the Turkish literature, is inconvenient for us to use as it includes the concept of "education", which is the English equivalent of school age education. On the other hand, the concept of training used in this study is a HR practice

applied by the management of organizations in their workplaces. It should not be confused with the "vocational training" provided in Vocational High Schools or Vocational Schools.

² In the following sections of the article, vocational training & development will be called training.

discover creative ideas and exhibit innovative behaviors (Keçecioglu et al., 2017, p. 5; Ulster University Business School Technical Report, 2017, p. 6). For this reason, the most important source of the organization is the employees, and the companies that will be successful in the future will be the ones who invest in the human capitals of the employees through training (Krasniqi and Topxhiu, 2016, p. 5).

Based on their characteristics, trainings are divided into two types as general and specific trainings. Although it is more costly and takes longer than general training, organizations gladly agree to bear the cost of specific training. Because, thanks to this training, businesses increase their organizational commitment and the probability of keeping their employees, increasing their integration with the work they do (Krasniqi and Topxhiu, 2016, p. 7).

Based on the way they are given, trainings are divided into three types as on-the-job training, out-of-office training and computer-based training or e-training. On-the-job trainings are based on training employees while they perform their job. Internship, counseling service, job rotation and orientation training are the main types of on-the-job training (Martin and Fellenz, 2010, p. 454). In out-of-office training, the employees are subjected to a special training prepared in accordance with their own needs in a place that is free from noise such as a meeting room or classroom (Çetin et al., 2015, p. 109). On the other hand, the fastest developing training tool is e-training. The biggest advantage of this training is that it is not subject to time and space constraints. On the other hand, the benefits of "click-based training without practice" to employees are also subject to debate (Robbins and Judge, 2015, p. 563).

In this context, it can be argued that various general, specific, on-the-job and out-of-office trainings provided in line with the personal development needs of the employee will guide the employees to exhibit innovative work behavior. The findings related to this inference in previous studies contradict each other. In Bos-Nehles and Veenendaal's (2019) survey covering 463 employees working in manufacturing industry in Netherlands According to the findings they obtained, training has no effect on innovative work behavior. Researchers explained this finding by the fact that the organizational climate was not sufficiently innovative (p. 2676).

On the other hand, Aris et al. (2019) concluded in their study on 284 managers working in public institutions in Malaysia that training has a direct positive effect on innovative work behavior. The

entrepreneurial skills acquired by the employees through training also mediate this effect (p. 2773).

1.4. Innovative Work Behavior & Performance Appraisal

Performance appraisal is the process of determining to what extent the employees fulfill the requirements of their duties and responsibilities (Akın and Erdost Çolak, 2012, p.93). In other words, the results obtained by the employee in a certain period are the performance, and the analysis of these results by the managers is the appraisal of this performance (Çetin et al., 2015, p. 153). Measuring employee performances periodically provides sustainable competitive advantage to the organization because individual performance appraisal is the basic element of human resources management practices for both the public and private sectors (Erturgut and Keskin, 2012, p. 31 - 33).

An effective performance appraisal practice is largely dependent on the following conditions (Schuh et al., 2018, p. 398 - 405; Society for Human Resource Management, 2018, p. 49 - 51; van Esch et al., 2018, p. 1688; Jiang -J. et al., 2012, p. 4027; Roch and Williams, 2012, p. 405 - 424):

- In addition to the expert of the relevant department, human resources professionals should be included in the performance appraisal. Thus, the impartiality of the appraisal is ensured.
- Performance appraisal should be based on information obtained from different sources about the performance of the employee, and distributive justice should be ensured.
- Performance appraisal should not be influenced by non-business relationships between the evaluator and the appraisee. Some previous studies (Ferris et al., 2008; Varma and Stroh, 2001) demonstrate that some managers favor their same-sex employees with the same age and similar character, and some others demonstrate (Levy & Williams, 2004; Antonioni & Park, 2001) that managers favor various employees that they feel sympathy for due to halo effect.
- Performance appraisal should also be open to employee suggestions; employees should also be encouraged to develop ideas that can improve performance appraisal. In this context, efforts of employees can facilitate the

emergence of creative ideas and innovative solutions.

- Constructive feedback and continuous coaching should be provided to employees for the purpose of encouraging them to demonstrate productivity-contributing behaviors such as innovative work behavior and extra role behavior.

Based on the explanations above, it can be thought that a fair and impartial performance appraisal application that provides distributive justice, constructive feedback and continuous coaching support will encourage the employee to exhibit innovative work behavior. In previous studies, findings that support this inference were obtained.

The study conducted by Canet-Giner et al. (2019) on the industrial firms in Spain found that performance appraisal application had a direct, strong and positive effect on innovative work behavior (p. 14).

1.5. Innovative Work Behavior & Perceived Supervisor Support

In order for the employee to develop a positive supervisor support perception, a supervisor, who internalizes the basic principles of human resources management, should be considerate for establishing continuous dialogue with his/her employees, be sensitive to the values and priorities of his/her subordinates and deal with their problems. The supervisor should try to improve both himself and his employees in his relationship with subordinates. In this context, he should give his subordinates certain duties that they can improve themselves within the context of their knowledge, skills and competencies, and they should benefit from the development provided by their subordinates. The supervisor should have the ability to influence his/her superiors during the decision-making stages. It is very likely that a supervisor who provides this will be perceived as a "role model" by his subordinates. (Riaz et al., 2018, p. 11; Erturgut and Keskin, 2012, p. 28; Likert, 1961, p. 94 - 95).

Developing a perception that he is supported by his manager, the employee can produce creative ideas and exhibit innovative work behaviors. These behaviors displayed by the employee also ensure that processes such as organizational innovation (Fisher and Amabile, 2009), organizational transformation management (Orlowski, 2002), new product development (Moorman and Miner, 1998) and new product design provide more successful results (Nisula, 2015, p. 483).

Previous studies (De Jong and Den Hartog, 2010; Yuan & Woodman, 2010; Janssen, 2005) reveal a

significant relationship between the perceived supervisor support of employees and their innovative work behavior (Nisula, 2015, p. 476). In the study carried out on the employees working in Ankara, Technopark, it was found that perceived supervisor support had a significant positive effect on innovative work behavior (Doğru, 2018, p. 397).

2. Mediating Role of Perceived Supervisor Support

2.1. Mediating Role of Perceived Supervisor Support in the Relationship between Job Autonomy and Innovative Work Behavior

The supervisor support perceived by the employee with work autonomy may affect his intrinsic motivation, enthusiasm as well as perseverance and job performance. On the other hand, employees who have to work with the supervisory manager spend most of their time and energy to fulfill a lot of unrelated conditions in order to satisfy the supervisor. Therefore, they certainly avoid being proactive, taking a different approach, or doing their job in a new way. This passive approach can prevent them from defending their ideas openly, displaying creativity in their work, or developing innovative solution suggestions (Paramitha and Indarti, 2014, p. 109; Zhou, 2003, p. 415).

There are several studies in which job autonomy is used independently and perceived supervisor support is used as an intervening variable. Dysvik and Kuvaas (2013) used the intention to quit as a dependent variable in their study on 680 employees working in the public sector in Norway. The results revealed that job autonomy reduces the intention to quit only in employees, who perceive a high level of supervisor support (p. 568).

2.2. The Mediating Role of Perceived Supervisor Support in the Relationship between Training and Innovative Work Behavior

The perceived supervisor support can be critical for employees, who develop their knowledge, skills and competencies with their general, job-specific, on-the-job or out-of-office training. A supportive supervisor can encourage employees to participate in training; may encourage them to apply their new skills and methods of doing business in their work. Broad and Newstrom (1992) highlighted that the supervisor support to be provided to employees should be in three stages as pre, during and post-training and emphasized the importance of employees perceiving the support of their supervisor at every stage (Ghosh et al., 2015, p. 203). The perceived supervisor support can increase the motivation of the employee and provide training

readiness (Park et al., 2018, p. 67). In this way, employee has the maximum contribution from training and has the chance to apply new knowledge, creative problem-solving techniques or innovative job methods learned in her work.

There are various researches in which training is used with perceived supervisor support. Bozionelos et al. found (2020) in their research conducted on 334 employees of a retail chain operating in Hong Kong that regular training positively affects the job performance of employees; and supervisor support to these trainings mediate this relationship (p. 117).

2.3. Performance Appraisal- Mediating Role of Perceived Supervisor Support in the Relationship between Innovative Work Behavior

Performance appraisal is, in practice, not much appreciated by supervisors and seen as a process deemed "let it finish as soon as possible", as it requires confronting and spending time with employees. A performance appraisal interview with this mentality is below mediocre (Baltaş, 2018, p. 11). In this meeting, the manager misses the chance to determine the goals of the employee and guide the employee to these goals and to learn the employee's wages, promotions and career prospects. This can deeply undermine the satisfaction of the employee with their jobs, their trust in the supervisor and their commitment to the organization (Jacobs et al., 2014, p. 64). In this context, the manager's constructive feedback, coaching service, and open communication to the employee can encourage him to exhibit an innovative work behavior by ensuring that the employee supports both fair performance and the supervisor's support in this process.

There are several studies in which job autonomy is used independently and perceived supervisor

support is used as an intervening variable. The research conducted by Baloyi et al. (2018) on 148 employees working in the petrochemical industry in South Africa showed that the performance management system based on a comprehensive performance appraisal had positive effects on the job satisfaction of the employees. In the study, it was also determined that perceived supervisor support has both a mediating and a regulatory role in this relationship (p. 92).

3. Research Methodology

3.1. Data Collection Process and Sample

In this study, the data were compiled through a questionnaire. Participation in the survey was based on volunteering, and all participants and firms were previously informed about the confidentiality of the data obtained from the surveys. The participants of this research are employees of a holding company operating in Turkey. In this research, six businesses, operating in different sectors with their headquarters located in Istanbul, were selected from the holding company. All businesses are required to be large-scale (KOSGEB, 2005, p. 2) and have an HR unit consisting of at least five employees. On the other hand, participation in the research was limited to white collar employees only; the blue collars are excluded from the research. The research was carried out between June and December 2019. After an informative pre-interview with HR managers of each of the companies that agreed to participate in the research, 50 surveys were sent to each company. The total number of returning questionnaires is 251. In this context, the rate of answering the questionnaires is 83.7%. Demographic information about the participants in the study is seen in Tables 1 and 2.

Table 1. Demographic Information on Participants (Gender & Age)

		Age					Total
		18-24	25-34	35-44	45-54	55+	
Gender	Men	9	60	24	7	3	103
	Women	14	88	34	9	3	148
Total		23	148	58	16	6	251

Table 2. Demographic Information on Participants (Total Work Experience & Job Tenure)

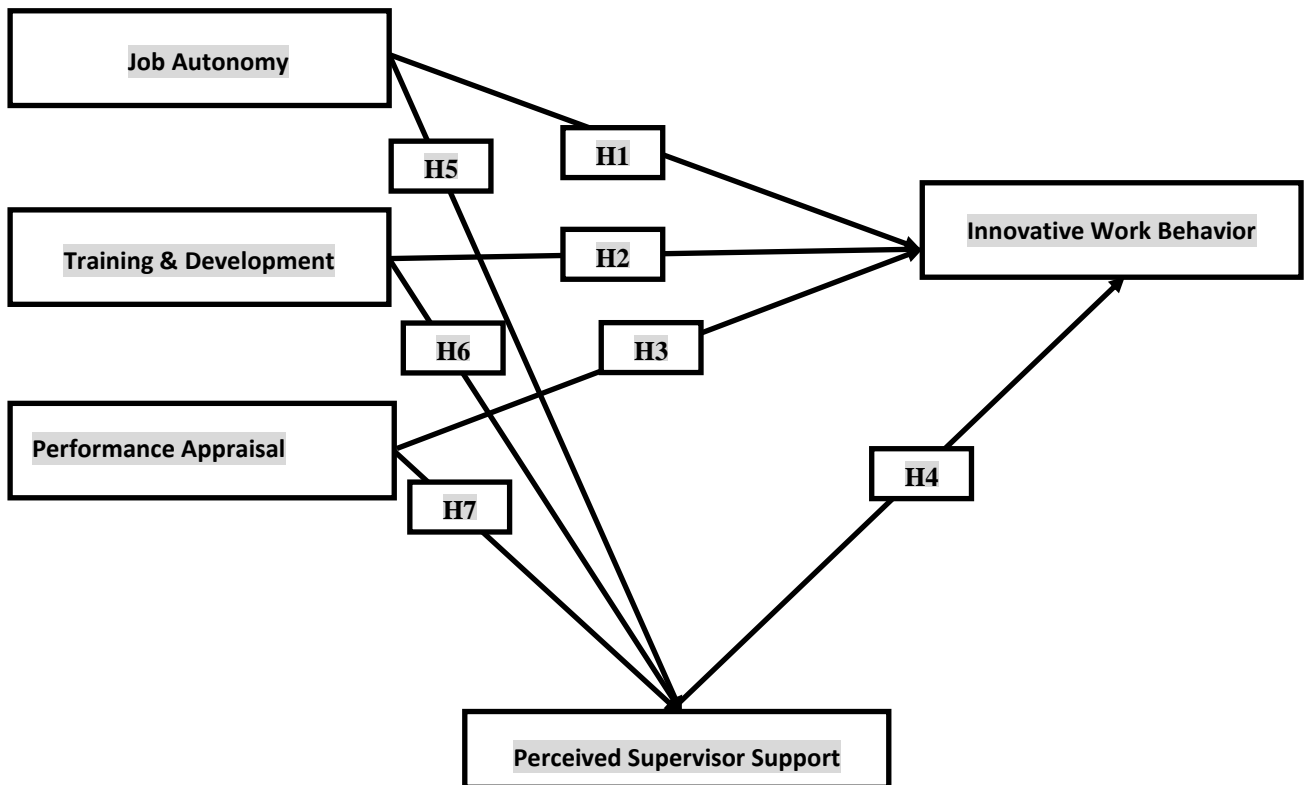
		Job Tenure					Total
		0-1 year	2-5 years	6-10 years	11-15 years	15+	
Total Work Experience	0-1 year	21	0	0	0	0	21
	2-5 years	28	46	0	0	0	74

	6-10 years	18	35	16	0	0	69
	11-15 years	2	5	16	14	0	37
	15+	1	7	8	17	17	50
Total		70	93	40	31	17	251

3.2. Research Model & Hypotheses

The model established for this research is as shown in Figure 1.

Figure 1. Research Model



The hypotheses developed for this research are as follows:

H₁: Job autonomy has a direct impact on innovative work behavior.

H₂: Training & development has a direct impact on innovative work behavior.

H₃: Performance appraisal has a direct impact on innovative work behavior.

H₄: Perceived supervisor support has a direct impact on innovative work behavior.

H₅: Perceived supervisor support has a significant mediating role in the relationship between job autonomy practice and innovative work behavior.

H₆: Perceived supervisor support has a significant mediating role in the relationship between training practice and innovative work behavior.

H₇: Perceived supervisor support has a significant mediating role in the relationship between performance appraisal practice and innovative work behavior.

3.3. Data Analysis and Findings

Since all the scales used in the research were originally in English, the items were first translated into Turkish, and then re-translated (back-translation) as suggested by Brislin (1970). In back-translation, expressional issues caused by intercultural differences were corrected (p. 186). In this way, items asked in the questionnaire form to the participants were prepared in appropriate for their original ones and the same meanings were provided based on the principle of equivalence in translation (Panou, 2013, p. 2).

In the job autonomy scale, three items related to the variety of work, the level of commitment of work and the degree of difficulty of the work were taken from the scale developed by Morgeson and Humphrey (2006) (p. 1337 - 1338). For three items on decision-making autonomy, the scale developed by Dysvik and Kuvaas (2011) was used (p. 386). The three items of the scale related to the decision autonomy, developed by Brink et al. (2016), were included in the study (p. 131). In the training scale, five items (p. 315 - 316) developed by Singh (2004) were included in the study. Two items related to job-specific training and on-the-job training were taken from the scale developed by Lepak and Snell (2002) (p. 527 - 528). In the performance appraisal scale, two items emphasizing the individuality of performance appraisal and the development of the employee in their career and work were taken from the scale by Prieto and Perez - Santana (2014) (p. 194). The scale developed by Edralin (2008) was applied for two items related to performance appraisal using different sources (p. 76). Two items, including the one with performance appraisal providing constructive feedback, and continuous

coaching, were taken from the scale developed by Som (2008) (p. 1286). For the item that draws attention to the aspect of performance appraisal about role clarity, the scale developed by Lepak and Snell (2002) was applied (p. 528).

Perceived supervisor support was tested with an 11-item scale developed by Giray and Şahin (2012). (p. 5). As an innovative work behavior scale, the 10-item scale (p. 34) developed by de Jong and den Hartog (2010) was adapted to the Turkish culture by preserving the number of items (p. 378 - 379).

4. Results

The data were first subjected to the Explanatory Factor Analysis (EFA) with Kaiser-Meyer-Olkin (KMO) and Bartlett Sphericity Test by using the 25th version of the SPSS package software. All scales are expected to be grouped under one factor. In this context, the EFA results, including the results of KMO and Bartlett Sphericity Tests of all scales, are shown in Table 3 along with the Cronbach's Alpha reliability and the total explained variance values.

Table 3. Scales' AFA, Cronbach Alpha (α) Reliability and Total Variance Results

Job Autonomy	
Statement	Factor Load
My job is set up so that I can do a portion of it all by myself, from start to finish.	0.568
My work requires original ideas or unusual solutions to some problems.	0.658
My job gives me the opportunity to implement my ideas.	0.656
My job gives me the opportunity to complete my tasks using the method I want.	0.649
My job gives me the opportunity to decide how to schedule my tasks.	0.647
My job gives me the opportunity to take the initiative while doing my duties.	0.657
I can decide to implement a new task in my job on my own.	0.692
KMO Fit Value	0.827
Bartlett Sphericity Test ($p < 0.05$)	0.000
Cronbach's Alpha (α) Reliability	0.766
Total Variance Explained (%)	41.95

Table 3. (Continued)

Training	
Statement	Factor Load
Our company organizes comprehensive training programs for its employees at all levels.	0.722
Training needs are realistic, functional and based on company strategy.	0.724
Employees are regularly subjected to general training programs every year.	0.622
Our company's training is geared towards developing company-specific knowledge & skills.	0.655
Our company's training focuses on hands-on job experience.	0.747
Our company plans the career and development of its employees.	0.634
Our company meets individual and corporate development needs.	0.652

KMO Fit Value	0.848
Bartlett Sphericity Test ($p < 0.05$)	0.000
Cronbach's Alpha Reliability	0.806
Total Variance Explained (%)	46.39

Performance Appraisal

Statement	Factor Load
Performance appraisal is for the development and progress of employees.	0.773
Performance appraisal is based on the behavior and attitudes of the employees.	0.607
Performance appraisal is based upon information that comes from multiple sources including subordinates, colleagues and superiors	0.707
Performance appraisal contributes to the company's strategic goals.	0.691
Performance appraisal is supported by coaching service.	0.733
Performance appraisal also includes constructive feedback from superiors to subordinates.	0.667
The performance appraisal system helped clarify the roles within the company	0.758
KMO Fit Value	0.884
Bartlett Sphericity Test ($p < 0.05$)	0.000
Cronbach's Alpha Reliability	0.831
Total Variance Explained (%)	50.00

Table 3. (Continued)

Perceived Supervisor Support

Statement	Factor Load
When my supervisor unwittingly makes a mistake, he defends me against other people in the organization.	0.684
My supervisor is someone I can trust when things get bogged down.	0.658
My supervisor is always ready to listen to issues related to my job.	0.637
My supervisor makes me appreciated when I accomplish something important in my job.	0.741
My supervisor takes my views into consideration.	0.686
My supervisor allocates some time to me to learn my goals and wishes for my job.	0.675
My supervisor appreciates me when I succeed.	0.721
My supervisor guides me on how to improve my performance.	0.650
My supervisor helps me do my job properly.	0.651
My supervisor passionately defends his employees against others.	0.601
My supervisor is concerned with my general well-being such as health and happiness.	0.706
KMO Fit Value	0.921
Bartlett Sphericity Test ($p < 0.05$)	0.000
Cronbach's Alpha Reliability	0.879
Total Variance Explained (%)	45.52

Innovative Work Behavior

Statement	Factor Load
I attach importance to issues that are not included in the routine workload.	0.663
I heavily think about how to improve the processes in the organization.	0.604
I create original solutions for problems.	0.676
I conduct research on new working methods, techniques and tools that I can use while doing my duties.	0.648
I develop new approaches to fulfill my duties effectively.	0.597
I encourage those who are influential in the organization to develop innovative ideas.	0.699
I encourage other employees to support an innovative idea.	0.699
I try to systematically implement innovative ideas at my workplace.	0.673
I contribute to the implementation of new ideas.	0.636
I strive to develop new things.	0.640
KMO Fit Value	0.886
Bartlett Sphericity Test ($p < 0.05$)	0.000
Cronbach's Alpha Reliability	0.851
Total Variance Explained (%)	42.83

The fit values of the Kaiser-Meyer-Olkin (KMO) test, which tests whether the sample size is sufficient for the AFA, revealed that all scales had a quite good sample size ($0.90 > KMO > 0.80$) or an excellent sample size ($KMO > 0.90$) (Aksu et al., 2017, p. 8–9) for factor analysis. The Bartlett Sphericity Test results, which are based on the rejection of the null hypothesis, which argues that there is no relationship between the items that make up the scales, also revealed the significance ($p < 0.05$) of the correlation matrices of all scales.

The SPSS package software uses the Principal Component Analysis for factoring (Aksu et al., 2017, p. 16). If the factor load is 0.32 or higher in more than one item, it is a cross-loading item. In such a case, it is preferred to exclude the relevant item from the analysis (Costello and Osborne, 2005, p. 4-5).

Accordingly, two items belonging to the job autonomy scale (My job requires the implementation of different tasks, and If I want, I can considerably slow down my working speed for a day.) were removed from the analysis. While analyzing the AFA results, another item to be considered is the ratio of variance explained by each scale to the total variance. According to Çokluk et al. (2012), while it is sufficient for the total explained variances to be between 40% and 60%, a variance rate of 60% or more is regarded as “very good” (Çokluk et al., 2012, p. 245). The total variance

explained by all the scales used in the study is over 40%.

In the second step of the analysis phase, each variable and the whole model were subjected to confirmatory factor analysis (CFA) by using the 24th version of the AMOS package software. In the meantime, multivariate normality tests were performed for each variable and the whole model. Afterwards, structural equation modeling was established, and the model and hypotheses put forward were tested.

In Model estimation, Maximum Likelihood (ML) method was preferred because the ML estimator is suitable for both large samples ($n > 200$) and models where the observed variables (scale items) are measured with equal-interval scales (Likert-type scale) (Schumacker and Lomax, 2010, p. 60 - 61).

The multivariate normality is interpreted by looking at the critical ratio (c.r.) value in the AMOS software. According to Bayram (2016), the fact that this value is below 5 indicates that the distribution is normal; if it is less than 10, the distribution is very low; and if it is less than 20, it slightly moves away from normal (p. 109).

However, since the ML estimator can tolerate even moderate deviations from the normal (Schumacher & Lomax, 2010, p. 62), in case the critical ratio value (c.r.) is below 20, then the multivariate normal distribution occurs (Bayram, 2016, p. 56). The results of the multivariate normality test performed

by using the ML estimator show that all variables and the structural equation model of the study exhibit a multivariate distribution occurs (Bayram, 2016, p. 56).

The results of the multivariate normality test performed by using the ML estimator show that all variables and the structural equation model of the study exhibit a multivariate normal distribution: (Job Autonomy = 0.892; Training = 1.614; Performance Appraisal = 0.423; Perceived Supervisor Support = 4.381; Innovative Work

Behavior = -1.082; Structural Equation Model = 5.757).

Since all variables are one-dimensional, second-level factor analysis is not required, because the fit index values of the first and second-level CFA results are always the same in the cases where the variable sub-dimensions are three or less (Gürbüz, 2019, p. 84). Which aspect of the model is explained by the preferred fit indices is as shown in Table 4 along with their threshold values.

Table 4. Fit Indices, Interpretations and Threshold Values

Fit Index	Fit Type	Interpretation	Good Fit	Acceptable Fit
χ^2/df	Model Fit	Since chi-square is sensitive on sample size, it gives better results	$\chi^2/df < 3$	$3 \leq \chi^2/df \leq 5$
CFI	Comparative fit based on independent model	It compares the basic model with the tested model based on the chi-square distribution.	CFI > 0,95	0,95 ≤ CFI <, 0,90
TLI	Normed fit based on independent model	It compares the basic model with the tested model without being based on chi-square distribution.	TLI > 0,95	0,95 ≤ TLI <, 0,90
RMSEA	Root mean square error of approximation	It tests to what extent the model fits to the sample covariance.	0 ≤ RMSEA ≤ 0,05	0,05 < RMSEA ≤ 0,08
SRMR	Standardized root mean square	It examines the difference between observed covariance and predicted covariance. If the difference is close to zero, it means perfect fit.	0 ≤ SRMR ≤ 0,05	0,05 < SRMR ≤ 0,10
AIC CAIC BIC	Fit based on information criteria	AIC, CAIC and BIC include only the degree of freedom, standardized sample size and non-standardized sample size in the calculation, respectively.	$AIC_V < AIC_D, AIC_B$ $CAIC_V < CAIC_D, CAIC_B$ $BCC_V < BCC_D, BCC_B$	

Resource: This Table is adapted from following resources: Gürbüz, S. (2019): "AMOS ile Yapısal Eşitlik Modellemesi, Seçkin Akademik ve Mesleki Yayınlar, Çankaya/Ankara, s. 34. Bayram, N. (2016): "Yapısal Eşitlik Modellemesine Giriş: AMOS Uygulamaları, Ezgi Kitabevi, Genişletilmiş 3. Baskı, Osmangazi/Bursa, s. 78.

The fit index values of the variables and the structural equation model used in the research are as in Table 5.

Table 5. Fit Index Values for the Variables and the Structural Equation Model of the Research

VARIABLES	χ^2	df	χ^2/df	TLI	CFI	RMSEA	SRMR	$AIC_V < AIC_D, AIC_B$ $CAIC_V < CAIC_D, CAIC_B$ $BIC_V < BIC_D, BIC_B$
Job Autonomy	25,864	14	1,847	0,945	0,963	0,058	0,040	Information fit ensured for all.
Training & Development	32,629	14	2,331	0,935	0,957	0,073	0,043	Information fit ensured for all.
Performance Appraisal	16,069	14	1,148	0,994	0,996	0,024	0,028	Information fit ensured for all.
Perceived Supervisor Support	68,483	44	1,556	0,966	0,973	0,047	0,038	Information fit ensured for all.
Innovative Work Behavior	68,985	35	1,971	0,936	0,950	0,062	0,044	Information fit ensured for all.
Structural Equation Modelling	1.002,915	808	1,241	0,943	0,946	0,031	0,049	Information fit ensured for all.

As seen in Table 5, all variables and the structural equation model of the research met all the fitness criteria. The results of the hypothesis tests

performed according to the Maximum Probability (ML) method used in the multivariate normal distribution are shown in Table 6.

Table 6. Hypothesis Tests and p Values

Hypothesis	Explanation	(p < 0,05)	Result
H ₁	INO <----- IO (Direct Effect)	0,000	Accepted
H ₂	INO <----- ME (Direct Effect)	0,000	Accepted
H ₃	INO <----- PD (Direct Effect)	0,151	Rejected
H ₄	INO <----- YD (Direct Effect)	0,000	Accepted
H ₅	YD <----- IO (Mediating Effect)	0,028	Accepted
H ₆	YD <----- ME (Mediating Effect)	0,020	Accepted
H ₇	YD <----- PD (Mediating Effect)	0,009	Accepted

As seen in Table 6, it is concluded that job autonomy (p=0.000), training (p=0.000) and perceived supervisor support (p=0.000) have a direct effect on innovative work behavior. Contrary to expectations, performance appraisal (p=0.151) had no direct effect on innovative work behavior. On the other hand, perceived supervisor support has a significant mediating role between both job autonomy and innovative work behavior (p=0.028) between training and innovative work behavior (p=0.028) and between performance appraisal and innovative work behavior (p=0.009). Accordingly, it can be said that perceived supervisor support plays a strong mediating role in the research model.

5. Discussion and Suggestions

In this study, the effects of three important human resource practices and perceived supervisor support, which are used by today's organizations to increase employee performance and commitment,

on innovative work behavior were investigated. Findings revealed that job autonomy, training and perceived supervisor support have a direct meaningful effect on innovative work behavior. On the other hand, it is concluded that performance appraisal practice has no effect on innovative work behavior. The reason behind this might be that performance appraisal is done with the mentality of "finish it as soon as possible" as also emphasized by Baltas (2018) (p.11), and accordingly, it is not taken seriously by employees, and also organizational management might be insufficient for distributive justice. In order to prevent this, performance appraisal and payment practices can be used together (Subramony, 2009, p. 749).

The mediating role of perceived supervisor support was also tested in the research. The results show that perceived supervisor support acts as a catalyst in the relationship between human resource practices and innovative work behavior. The most

important point highlighted here is that it is futile for employers to appraise performance without supervisor support. The reason might be that employees associate perceived supervisor support with organizational support by attributing their perception about supervisors to the organization (Eisenberger et al., 2002, p. 566). Accordingly, employees might be encouraged to develop creative ideas and bring innovative solutions with their perceived support, trust and attention from their supervisors.

On the other hand, it was seen that the perception of supervisor support is only indispensable only for performance appraisal, and the mediating role of job autonomy and training practices is not as strong as of performance appraisal. This may be because decisions about training and job autonomy practices are generally made at the organizational level, and when it comes to performance appraisal, employees directly refer to their supervisors for information based on their performance. In this context, the employee may need more perceived supervisor support than other human resources practices in performance appraisal.

In the future, the effects of these practices on innovative work behavior can be comprehensively examined by conducting studies that address performance appraisal both in conjunction with different human resources practices and integrated with remuneration. On the other hand, longitudinal studies can investigate to what extent innovative work behavior is affected by other external factors (such as market conditions, a country's economic situation and etc.) by examining the impact of various human resources practices and supervisor support on innovative work behavior within a certain time span.

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