

University of Twente

CONTEXTUAL AND PERSONAL ANTECEDENTS OF INNOVATIVE BEHAVIOR

***MEDIATION EFFECT OF LEARNING GOAL ORIENTATION ON THE
RELATIONSHIP BETWEEN JOB AUTONOMY AND INNOVATIVE
BEHAVIOR***

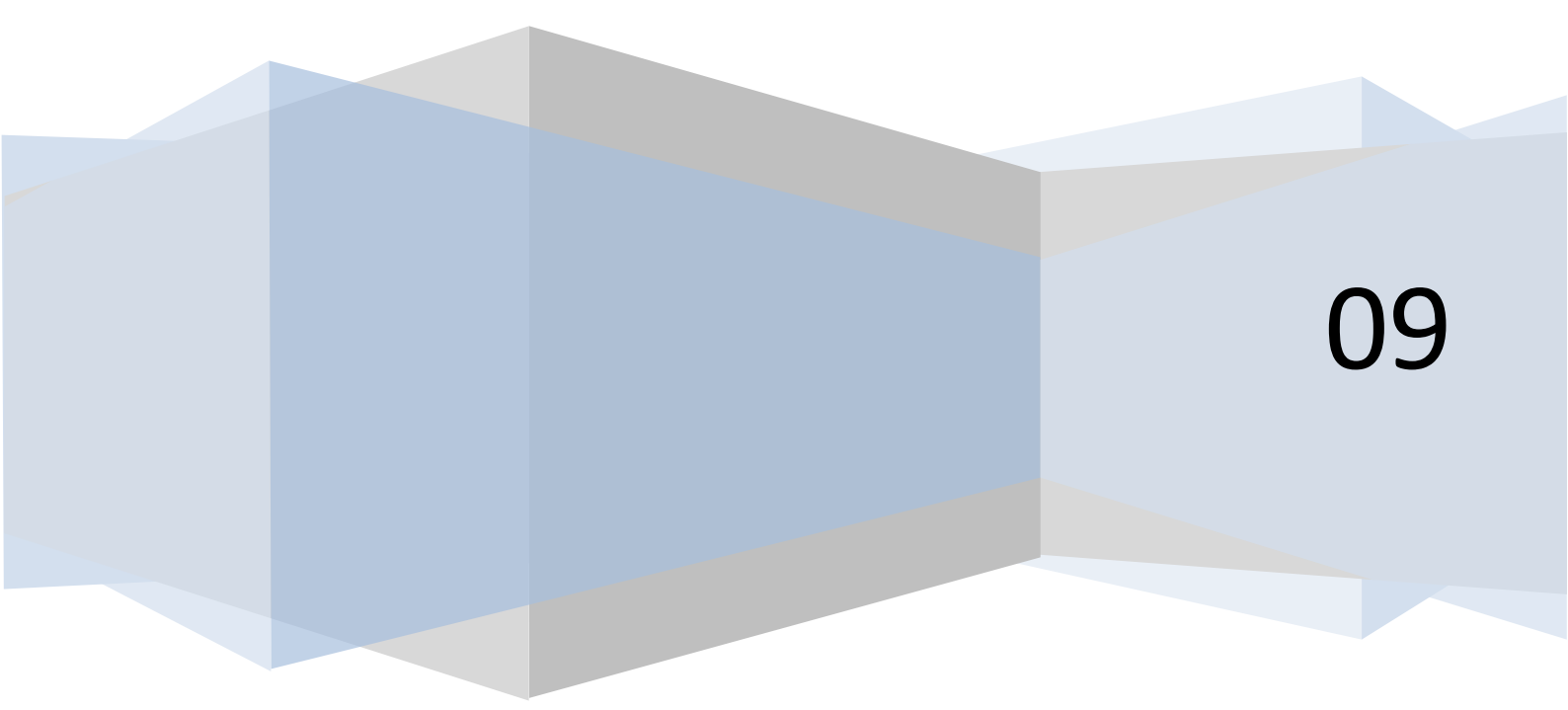
Master Thesis Project

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Abstract

The main goal of this research paper is to investigate contextual and personal antecedents of innovative behavior. As existing studies mostly explore determinant constructs separately, the aim of the current study is to investigate the independent and joint contribution of personal characteristic - learning goal orientation and job characteristic – job autonomy to innovative behavior. A questionnaire was administered with the sample of 456 teaching staff. Hierarchical regression analysis confirmed the positive effect of job autonomy on innovative behavior, with the learning goal orientation mediating the effect of job autonomy on innovative behavior. In the discussion the limitations of the study and practical implications are discussed.

Introduction

Today, in the rapidly changing environment, success and survival of post-industrial, knowledge-based organizations depend on creativity, discovery, and innovation (Martins & Terblanche, 2003). In order to be competitive, in any time organizations have to adapt to most changing demands from their environment. For this organizations need to create products and services and have to encourage the change process itself. In order to satisfy the need and to implement successful change it is required to engage employees in the process of innovative behavior (Ramamoorthy, Flood, Slattery, & Sardesai, 2005; Rank, Pace & Frese, 2004).

An amount of studies are conducted to investigate the process of innovation and a huge number of definitions are developed about this concept in the literature.

In literature innovation is defined as “the development and implementation of new ideas by people who over time engage in transactions with others within the institutional order” (Vande Ven, 1986, p.590). At the individual level this concept concerns “taking initiative in improving current circumstances or creating new ones, which involves challenging the status quo rather than passively adapting to present conditions” (Grant, 2000, p.436). According to Scott and Bruce (1994), individual innovation is a multistage process with different behaviors and activities at each stage, and individuals can be involved in any combination of these different behaviors at any one time. This multistage process starts with the generation of useful ideas in any domains and the main instigators of this first step are perceived work-related problems, incongruities, discontinuities and emerging trends. The process continues with idea promotion to potential allies, which means that once a worker has generated an idea, he or she needs to find supporters for idea implementation; and the final task of the innovation process is the realization of novel ideas by producing a prototype or model of innovation applicable within a work role, a group or the total organization (Van der Vegt & Janssen, 2003). Batteman and Grant (1999, p.64) define Innovative (proactive) behavior as “intentionally and directly changing things through the creation of new circumstances, or the active alteration of current ones”. “Scan for change opportunities; set effective, change oriented goals; anticipate and prevent problems;

do different things, or do thing differently; take action; persevere and achieve results” (Batteman & Grant, 1999, p.65), all these behaviors are regarded as “true” innovative (proactive) behaviors by these authors. In the past literature (Knight, 1967) the process of innovative behavior was considered as problem recognition, searching for process and problem solution implemented by an innovator. As problem is discovered, innovator starts searching for alternatives to solve the problem within the limits of his cognitive, emotional and social capabilities; this process is finalized in producing innovation or change.

As we mentioned above, the innovative behavioral construct is considered as the crucial element for effective functioning and survival of the organization, as it leads to implementing new and beneficial ways of performing (Grant, 2000). Innovative behavior of employees has great importance for organizational outcomes and in many organizations different actions are taken to stimulate innovativeness within employees (Martins & Terblanche, 2003). Despite the importance of innovation on the individual level, which leads to positive organizational and individual outcomes, most researchers were concentrated on analyzing the organizational innovation. Thus not enough has been done study the innovative behavior and accordingly its encouraging factors of are not well understood (Martin, Salanova & Peiro, 2007; Parker, Williams & Turner, 2006).

In literature, innovative (proactive) behavior is considered as the function of both personal traits and work environment (Bateman & Grant, 1999). Thus, in order to study this behavioral construct, individual dispositions and work characteristics should be investigated together. Two different dimensional constructs are explored in the literature as antecedents of innovative behavior. One of them, job autonomy regarded as work characteristic is explored as the encouraging factor promoting employees to engage in innovative behavior (Hornung & Rousseau.2007; Parker, Williams & Turner, 2006; Parker, Wall & Jackson, 1997). The other construct - learning goal orientation regarded as personal trait is considered as a predictor of innovative behavior within employees (VandeWalle, 2001). These job and personal characteristics were explored independently. Therefore, this study aims to investigate the integrative effect of two different dimensional constructs in innovative behavior. In more detail, we try to enhance the understanding regarding the impact of job autonomy on innovative behavior via learning goal orientation.

Theory and expectations

Job autonomy

A number of theoretical models and approaches were developed about the process of innovation and innovative behavior in the past two decades, which are focused on diverse aspects and importance of this phenomenon (Grant, 2000; Pierse & Delbecq, 1977). Organizational sociology is interested in examining contextual and structural attributes of the innovation producing and innovation resisting organization. Psychological models investigate and claim the importance of personality characteristics of organization members in the innovation process (Pierse & Delbecq, 1977). According to the interactionist perspective, personal and contextual factors interact to support innovative behavior within employees (Ford, 1996; Oldham & Cummings, 1996; Woodman, Sawyer, & Griffin, 1993). Contextual factors are psychologically assessed by individuals, and these perceived work environments determine the extent to which employees will be engaged in the production of novel and useful ideas. (Amabile, Conti, Coon, Lazenby & Herron, 1996).

One of such perceived contextual factors is job autonomy. This concept is regarded as the main shaper of worker's attitudes, motivation and behavior (Hornung & Rousseau, 2007). In literature (Chung, 1977; DeCotiis & Koys, 1980; Hackman & Lawler, 1971; Hackman & Oldham, 1975) job autonomy concerns the extent to which employees have a power in organizing their job activities. This job related concept can be defined as self determination, discretion and freedom with the respect to work goals, priorities and task elements such as method of working, pace of work, procedures, scheduling, work criteria, working hours, work evaluation and kind and amount of work (Jonge, 1996).

As we saw, autonomy refers to the freedom of individuals to make independent decisions regarding job related issues. Job autonomy gives employees power and more opportunities to determine the frames of the job they are implementing. Job autonomy as the source of freedom, independence and discretion of the individual regarding work related procedures, leads to feeling of personal responsibility for work outcomes (Kulik, Oldham, & Hackman, 1987). Valuing and dedicating their job activities and work outcomes can stimulate the willingness to improve the established processes and bring something new. This can be the bases of generating novel and useful ideas. One thing is to provide a new idea, but another is to implement it. The generated idea should be supported and realized in order to accomplish the innovative process (Scott and Bruce, 1994). Autonomous people as was mentioned above are empowered with the flexibility to manage their own time, resources and responsibilities. They are more forced towards self organizing behavior and they have more power in controlling the outcomes of their activities. This might promote the perception that they are the managers and supporters of their activities. With such opportunities autonomous

individuals might be capable to support the generated idea, and by the same time they might have recourses for its realization.

The following theory and evidence explores and claims that autonomous employees are more likely to be involved in innovative behavior. These researchers give different explanations why job autonomy predicts innovative behavior or innovation in general. One of them is the study by Hornung and Rousseau (2007), who argued that autonomy promotes development of proactive, self starting behaviors. These authors explain this link by the sense of responsibility and job control. These beliefs are related to job autonomy and lead to enhanced confidence in taking broader job roles and foster individuals to behave in novel and innovative ways. In the related sense, Janssen (2005) argues that when employees believe that they have the influence, they are more likely to put effort in generating, promoting and realizing innovative ideas for change. In a study in a manufacturing settings, autonomy has been identified an important source of hands-on learning. In such environment individuals as they interact with environment and are involved in the wider production process, have possibilities to get more knowledge and experience. These in turn give them the possibility to own the wider problems and perform innovatively (Parker, Wall and Jackson, 1997).

Motivational pathway found in the study of Mclean (2005) confirms the role of job autonomy in innovative behavior. This author argues that as the control negatively affects intrinsic motivation, it will cause diminished creativity and innovation. Implicitly he refers to autonomy as an opposite to control factor. Hence, he argues that autonomy can be a promoter for innovative behavior. Similarly, Oldham and Cummings (1996) tested and found that non controlling supervision, which can be defined as autonomy, is positively related to creative performance. They argued that controlling style of supervision diminishes subordinates' intrinsic motivation which causes the low level of creative performance. Motivational value of job autonomy was confirmed in the study of Parker, William and Turner (2006). These authors investigated the mediating effect of cognitive motivational states, like role breadth self efficacy, control appraisals, change orientation and flexible role orientations, on the relationship between job autonomy and innovative behavior.

Martins and Terblanche (2003) give importance to the structures and values of organizations as the key factor in promoting and supporting innovative behavior. They argue, that flexible structure characterized by decentralization, shared decision making, low moderate use of formal rules and regulations, broadly defined job characteristics and flexible authority structure with fewer levels in the hierarchy will encourage innovative behaviors in organizations. Values like freedom manifested in autonomy determine the level of empowerment which is in positive relationship with creativity and innovation. The importance of work environments for innovation was emphasized by number of authors (Amabile, Conti, Lazenby & Herron, 1996; Mumford, Scott, Gaddis, & Strange, 2002). They argue that organizational motivation to innovate and management practices which refer to allowance of freedom and autonomy are important components of creativity and innovative performance in

organizations. In the study of Scott and Bruce (1994), employees who reported that their supervisors were characterized by high level of autonomy assessed their organization as supportive for innovation.

Based on this review the following hypothesis can be formulated:

Hypothesis 1: Job autonomy has a positive influence on innovative behavior.

Learning goal orientation

According to job design theory, job characteristics affect outcomes via critical psychological states (Hackman & Oldman, 1976). The influence of autonomy on innovative behavior may be indirect and mediated by one of the personal characteristics, like learning goal orientation.

Goal orientation is a construct originating in the educational literature. This is a relatively stable dispositional variable, mental framework for how individuals interpret and respond to achievement situations, concerns an individual's goal preferences in achievement settings (Bell & Kozlowski 2002; Colquitt & Simmering, 1998; Potovsky & Tamakrishna, 2002). Two broad classes of goal orientation were identified in the literature (Dweck, 1986), performance goal orientation and learning (mastery) goal orientation. Button (1996) highlights the distinction between these two constructs. Individuals with performance goal orientation are characterized by effort to perform task by demonstrating and gaining favorable judgments of competence and avoid negative judgments of competence. In contrast, learning goal orientation encourages individuals to focus on development skills, abilities, understanding something new and increasing competence. VandeWalle and Cummings (1997) emphasize the importance of association of learning goal orientation to three main characteristic patterns of how individuals interpret and respond to achievement situations. First characteristic concerns how individuals assess their ability. They argue that learning goal orientation encourages individuals to think about their ability as flexible trait that can be developed. The second pattern concerns to the individuals' belief that the effort toward developing ability always leads to success. Finally - adaptive response pattern is typical for individuals with learning goal orientation, means that they are engaged in solution oriented self-instruction.

In literature learning goal orientation has been linked to a wide range of positive processes and outcomes (Elliot, 1999). Dart (1994) suggests that learners having a learning goal orientation which is characterized by interest, challenge and meaning, are likely to use learning strategies in order to encourage and generate their own meaningful understanding. They also use learning strategies for planning, monitoring and evaluating this learning, working with colleagues to facilitate and plan study periods. We can define these processes as a part of innovative behavior since when they search for meaningful understanding can facilitate generation of new reasoning or solutions.

Literature (Porath & Bateman 2006) suggests that, individuals with high learning goal orientation are more likely to engage in proactive behavior, in role innovation and in implementing

changes. The main reason of this is that such individuals view these initiatives as source of learning, self development and source of increased competence. Vandewalle (2001) states that learning goal orientation has a positive impact on work related behaviors. Besides, the value of using a learning goal orientation for personal decisions increases as positions are characterized with proactive, problem-solving response to setbacks with creativity and openness to new ideas. In other words here we see a reciprocal relationship between learning goal orientation and innovative behavior, meaning that the latter facilitates increase of the first.

To conclude the discussion, the literature review proved the link between learning goal orientation and innovative behavior. The reasoning behind is that employees with the willingness to acquire new knowledge will search and try new opportunities to develop. During this attempt they will use new processes and possibilities for performance in order to progress more. This action is in line with the innovative behavior as defined earlier.

Based on this review the next hypothesis can be formulated:

Hypothesis 2: learning goal orientation has a positive influence on innovative behavior

Learning goal orientation as a mediator between job autonomy and innovative behavior

In some literature learning goal orientation refers to the type of individual and doesn't mention situational impacts on this orientation (Deshon & Gillespie, 2005). However, some researchers (Button, Mathieu & Zajac, 1996; VandeWalle & Cummings, 1997; VandeWalle, 2001) suggest that, learning goal orientation as a "somewhat stable disposition" of individuals can be influenced by situational factors and situational cues which define the role of the goal as a trait in governing the behavior. The current study relies on the second approach arguing that learning goal orientation can be influenced by situational factors. This approach supports the interactional perspective, which is the main focus of our study and which defines individuals as active changing agents influenced by situational factors (Terborg, 1981). One of the situational factors can be considered as autonomy. The positive motivational effects of autonomy are well-documented (Young, 2005). Its relationship with learning goal orientation is explored by Lee, Sheldon and Turban (2003). They developed and tested the model where autonomy is positively related to mastery (learning) goals. They theorized and confirmed that individuals with a strong autonomy are more characterized by mastery (learning) goals. Because of their autonomy orientation, such people have general sense of being able to effectively control outcomes and are more likely to feel competent to master and view achievement tasks as challenges rather than threats. Parker (1998) defines job autonomy as the source of personal control over the environment, which motivates individuals to exercise their personal efficacy and master new tasks. We can assess these possibilities as the source of self-development and increased competence. Hence, we see the clear link between autonomy and learning goal orientation of employees.

In the related sense, applying social cognitive theory, Wang and Netemeyer (2002) proposed a model in which job autonomy affects a learning effort. They argue that individuals with high level of

autonomy in their daily work are more likely to engage in continuous learning through enactive mastery to develop skills and abilities necessary for success. This author argues that people's effort expenditure which is the primary determinant of enactive mastery experience is enhanced by their belief regarding controlling their own effort level. By itself, learning is strongly related to internal locus of control, openness to new experiences, desire to work hard and make an effort (Brett & VadewWalle, 1999). These factors should be strong predictors of behavioral activities, which require from individuals to generate and promote their initiatives in order to adapt to the environment.

On the basis of this theoretical review learning goal orientation can be assessed as a motivational pathway through which perceived job autonomy might promote innovative behavior. As autonomous individuals are free in their job activities, as they don't have limited and strict frames of functioning, as they are masters and managers of their jobs, they are more likely to do the job in the way they appreciate. In this case individuals are acting more according to the way they assess as the best. Assessing the environment as the source of freedom and non-controlling may be the basis of setting the learning goal orientation. We assume this because when individuals are free and they think that outcomes of their activities will not be controlled and criticized, they are more likely to set the goals. These goals will help them not only in effective performance, but in development of the ability to gain more power, knowledge and resources in order to manage the environment in more effective way. When people have autonomy in their job, it means that they are more likely to be responsible for the things they are doing. In order to be able to perform tasks under their responsibility effectively, people should be more concentrated on acquiring new skills and developing abilities. Developed ability, the process of mastering new situations and gaining knowledge should be the basis for creating something new. At the same time, when individuals have autonomy it might mean that they have a control and responsibility on more range of tasks. Employees try to accomplish the tasks independently, using own logic for making decisions and taking own risks. In other words, the job becomes more challenging. Hence, employees become more oriented to learn in order to solve new difficulties. This means that autonomous employees in attempt to accomplish their tasks aim to acquire new competencies in order to find novel approaches for effectively performing their responsibilities.

In summary, we reviewed the link between job autonomy and innovative behavior on the one hand. On the other hand, we also reviewed the literature on the link between learning goal orientation and innovative behavior. Besides, the arguments were presented on the relationship between autonomy and learning goal orientation. Finally, after analyzing all the links we can argue that the existence of learning goal orientation makes the relationship between autonomy and innovative behavior stronger rather than its absence.

Based on this literature review the final hypothesis can be formulated:

Hypothesis 3: the relationship between job autonomy and innovative behavior is mediated by learning goal orientation.

Research model



Method

Respondents

The data we used for this study are part of the data collected for the project "Promoting Teachers' Professional Development" by Runhaar (2008). The respondents included teaching staff of a school for secondary vocational education and training (VET College). We choose to conduct the research in this section because – as providers of future employees for rapidly changing organizations- there exists high level of need to adapt to changes within these VET colleges. In other words, innovative behavior of employees is extremely important within these organizations.

The total amount of respondents is 456 (a response rate of 38%). The 90% of questionnaire was filled by teachers, three percent by teacher assistants and seven percent by instructors. 85% of the teaching staff has received higher education, 10% of respondents have a master degree and 5% of the

respondents, who function as teaching assistants, have received secondary education. The group consists of 45.8% women and 54.2% men. The age distribution of respondents is in accordance with the national age distribution of employees in secondary vocational education (Dutch Ministry of Education, Culture and Science, 2005) 2% of the respondents are 30 years of age or younger, 9% are 30 to 39 years of age, 36% are 40 to 49 years of age, 48% are 50 to 59 years of age 5% are 60 years of age or older. 42.3 % of respondents work full time. 53.3% of the respondents work between 40% and 80% of a full time contract, and 4.4% of the respondents work less than 40%. Based on these data, the sample was considered representative of the total personnel of the college.

Procedure

Project researchers expected high enthusiasm in Vet College Board, because this one is the sector that is too much concentrated on teacher professional development. Before starting the data collection procedure, the College Board was informed regarding the research goal, research questions and the theoretical model. This was done by the researcher in order to highlight the importance and value of the project. Research specialists of the college helped the project researchers in implementing data collection. An instructional letter including digital questionnaire was sent to all respondents informing regarding goals and procedures. The reminder instructional letter was sent two times- first after one week and the other one after two weeks - to the teachers who hadn't not filled questionnaire yet.

Instruments

Autonomy. Project researcher used a six-item scale developed by Kwakman (1999) to measure job autonomy. The scale proved high reliability (Cronbach's $\alpha=.81$). Teacher staff was asked to respond on 5-point Likert scale from totally disagrees to totally agree to the items such as '*I have influence of the planning of my activities*'.

Learning Goal Orientation. A five-item scale developed by VandeWalle (1997) was used to measure learning goal orientation. This scale contains items such as '*I am prepared to do challenging tasks from which I can learn a lot*' and respondents were asked to respond on a 5 point Likert scale. (1=totally disagree, 5= totally agree) Reliability of the scale - Cronbach's α is .85.

Innovative Behavior. Innovative behavior was measured with a twelve-item scale developed by De Jong and Hen Hartog (2005). Items such as "*I am involved in examining new methods and instruments*" were assessed on 5 point Likert scale with high reliability (Cronbach's $\alpha=.87$).

Control variables

Pre-structured questions were used to determine age, gender, level of education, function and tenure-number of working hours of respondents. Variables were coded in the following way: age (1 = <25, 2 = _ 25-30 years, 3= _30-39, 4= _40-49, 5= _50-59, 6= _ 60), gender (1=man, 2= woman), level

of education (1= secondary vocational education, 2 = higher education, 3 = university), function (1 = teaching assistant, 2 = instructor, 3 = teacher).

Data analysis

SPSS 16.00 for windows was used to analyze obtained data. Psychometric analyzes were conducted to test the reliability of the scales. Correlation (Pearson) analyses were conducted in order to see whether there is a correlation between control variables, innovation, autonomy and learning goal orientation and to see whether these variables are related to each other. Linear Regression analyses were conducted in order to find out the prediction between autonomy and innovative behavior and between learning goal orientation and innovative behavior. This type of analyses tried to prove the first hypotheses whether amount of autonomy could serve as a predictive factor in innovative behavior. And the second hypotheses, whether amount of learning goal orientation could serve as a predictive factor in innovative behavior. The three-equation approach recommended by Baron and Kenny (1986) was used to assess mediation in Hypotheses 3. First, the mediator (learning goal orientation) was regressed on the independent variable (autonomy); second, the dependent variable (innovative behavior) on the independent variable; and third, the dependent variable simultaneously on both the independent variable and on the mediator.

Results

Descriptive statistics and correlations

Table 1 presents means, standard deviations and correlations for the variables investigated in this study. In line with the theoretical notions on independent variables, both autonomy and learning goal orientation were positively related to innovative behavior. Learning Goal Orientation appeared to be strongly related to Innovative behavior ($r = .59, p < 0.01$). There was significant relationship between Autonomy and Innovative behavior ($r = .16, p < 0.01$) and between Autonomy and learning Goal Orientation ($r = .21, p < 0.01$).

Innovative behavior was negatively related to the function ($r = -.14, p < 0.01$) and to the age ($r = -.10, p < 0.05$). Innovative behavior had no substantial relationship to the level of education ($r = .07, n.s.$) or gender ($r = .01, n.s.$).

Finally, Learning Goal Orientation was negatively related to age ($r = -.15, p < 0.01$) and positively related to the level of education ($r = .11, p < 0.05$).

Test of Hypotheses

Table 2 shows the results of hierarchical regression analyses testing hypotheses 1, 2, and 3 the hierarchical regression constituted three successive steps. In the first step, control variables were entered to control for relationships with the predictors and outcome variable. Since our primary interest was the effect of autonomy on the Innovative behavior, this variable was entered in the second step. Finally, Learning Goal Orientation was entered in the third step in order to investigate its predictive role in innovative behavior.

In accordance with the hypotheses 1, Autonomy showed significant affect on innovative behavior ($\beta=.16$, $p<0.001$).

Results confirmed the hypothesis 2, assuming positive influence of learning goal orientation on innovative behavior. ($\beta=.58$, $p<0.001$).

The learning goal orientation was assumed to mediate the affect of autonomy on innovative behavior. According to Baron and Kenny (1986) the first two criteria of mediation requires that job autonomy is related to both the mediating variable - learning goal orientation and the outcome-innovative behavior. The third criteria requires that mediator affects innovative behavior in the equation, when autonomy and learning goal orientation are simultaneously entered in the 3rd model, and final step requires that the affect of job autonomy on innovative behavior disappears or substantially diminishes after including the mediating learning goal orientation in the regression equation. All these steps were met in the hierarchical regression results reported in table 2, which means that full mediation of learning goal orientation was found, providing support for hypotheses 3.

Table 1: Means, standard deviations and correlations between study variables

	Mean	SD	1	2	3	4	5	6
1. Innovative behavior	3,71	0,46						
2. Autonomy	3,21	0,61	.16**					
3. Learning Goal Orientation	3,73	0,57	.59**	.21**				
4. Gender	1,46	0,5	-.01	-.03	.04			
5. Age	4,47	0,8	-.10*	-.03	-.16**	-.11*		
6. Level of education	2,11	0,5	.07	.02	.11*	.02	.12*	
7. Function	2,62	1,95	-.14**	.02	-.03	.02	-.10*	-.21**

**** = Correlation is significant at the 0.01 level (2-tailed); * = Correlation is significant at the 0.05 level (2-tailed)**

Table 2: Results from regression analyses with the dependent variable and with mediator.

Dependent Variables	Innovative Behavior			Learning Goal Orientation	
Model	1	2	3	1	2
Gender	-.02	-.02	-.03	.02	.03
Age	-.12*	-.12*	-.02	-.17**	-.16**
Level of education	.06	.05	-.02	.12*	.12*
Function	-.14**	-.14**	-.13**	-.02	-.03
Autonomy		.16**	.04		.21**
Learning Goal Orientation			.58**		
R^2	.04**	.06**	.37**	.04**	.08**
Change in R^2	.04**	.03**	.31**	.04**	.04**

* = $p < .05$, ** = $p < .01$

Discussion

The present study aimed to investigate the contextual and personal antecedents of innovative behavior. It went beyond previous models of innovative behavior that have considered effects of work and individual variables separately. This study confirmed the importance of personal variable as mediator of the effect of work environment on innovative behavior. An initial important finding concerned the role of job autonomy. The importance of this concept in innovative behavior is consistent with other research and can be explained by the fact that job autonomy gives employees freedom and opportunity to carry out their job activities not only based on the signals they receive from the work environment, but based on their intellectual capacity and intentional call. Such individuals have power on the job they are implementing, which in turn encourages them to make some modifications in their daily working activities. Furthermore, as such individuals feel independence and believe that the outcomes of their activity will not be controlled; assessed or criticized they are free to realize and implement new ideas beneficial for themselves. Perceived control and sense of responsibility on their job activities and outcomes force autonomous individuals to govern and improve the established processes.

Results from hierarchical regression analyzes revealed that learning goal orientation has a strong effect on innovative behavior and by the same time acts as a mediator between job autonomy and innovative behavior. As mentioned autonomy effects innovative behavior, but this effect significantly decreases while controlling learning goal orientation. This can be explained by existence of link between job autonomy and learning goal orientation. Perceived job autonomy, as a source of freedom and source of perception that everything is under individual control pushes and encourages the individual to be oriented on learning; to set the goals, directed towards self development and promotion, involving mastering of new skills and new situations. The individuals with learning goal orientation perceive their skills as malleable, meaning that they believe they can improve their ability of accomplishing current and future tasks through making efforts (VandeWalle and Cummings, 1997). Having made such efforts and having perception that they can develop, the individuals create and implement useful ideas as one of the sources of their self development and competence. At the same time autonomous individuals are characterized by adaptive functioning, like self initiative, high self esteem, positive self evaluation, self actualization, ego development and effective approach toward achievement. These positive beliefs is the bases for mastering new possibilities and developing confidence in the abilities (Koestner & Zukerman, 1994) Individuals with such opportunities can be expected to perceive difficulties and unsolved problems as the source of mastering. It can be assumed that during the process of coping with difficulties and during the problem solving process individuals should be more likely to be involved in deep processing and searching for new beneficial approaches. In literature these approaches are defined as innovative way of functioning (Grant & Bateman, 1999; Knight, 1967). Thus, learning goal orientation is a strong predictor of innovative behavior and at the same time is influenced by job autonomy that gives it a mediating value.

The present study may have some implications at an applied level. It extended researchers understanding that both work and individual characteristics contribute together to the prediction of innovative behavior. This suggests two main different strategies for obtaining innovative workforce. First is recruiting individuals with learning goal orientation and creating work environment which will support such employees to function effectively. The second one is changing organizational practices in the way to reward employees with the sense of autonomy regarding their job activities. This in turn will encourage them to become learning goal oriented individuals and thus behave innovatively.

A few limitations of the current study should be noted. First, the variables were measured using employee self-reports. Specifically regarding job autonomy, which involves both sides of assessments - objective and subjective (Jonge, 1996). To overcome problems associated with self-report measures, future studies should include peer or supervisory ratings of job autonomy. Another limitation involves the generalization of the findings. As the study used data conducted in an academic setting, it may impose certain limitations on the generalizability to other work settings. Finally, it is essential to mention, that working space contains many variables that cannot be separated or isolated. Because of this, future research should investigate other work related concepts as well, which are closely related to the job autonomy in working settings.

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