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TEACHER SENSE OF EFFICACY, LOCUS OF CONTROL PERCEIVED ORGANIZATIONAL PATTERNS AND ATTITUDES TOWARD EDUCATIONAL INNOVATIONS*

Haim H. Gaziel¹

Abstract:

The present study was designed in order to examine which factors; personality (sense of efficacy and locus of control) v.s organization patterns (SBM v.s non-SBM), could be better explain teachers' attitudes toward innovations in education. Based on previous studies it was expected that a positive correlation would find between strong sense of efficacy and positive attitudes toward innovations and vice versa and a positive correlation between internal locus of control and attitudes toward innovations and vice versa. It is also expected that teachers in SBM would report more positive attitudes than teachers in non-SBM schools. The study consisted of 120 teachers from 20 elementary schools in Israel. The subject requested to complete a background questionnaire, attitudes towards educational innovations, the teacher efficacy scale (TES) and the teacher locus of control scale (TLC), and the perceived school management pattern. While hypotheses regarding the personality factors effect been supported, the hypothesis regarding the organizational effect was rejected.

1. Introduction:

Teachers' willingness to implement new instructional practices is a key factor influencing educational improvement [14]. One of the most stable findings from studies about the adoption of innovations in education (teaching strategies, new curriculum) is that the process is highly complex and idiosyncratic, dependent upon factors associated with teachers beliefs as well as the culture of schools in which its occurring [41]. Several variables were identified in the literature as determinants of teachers willingness to adopt educational innovations. These variables include how clearly and specifically the practices are presented (instrumentality), the degree to which the innovations are aligned with teachers' present practices (congruence), and teachers' estimates of the needed extra time and effort to implement

innovations (cost) [11]. The identified variables also included teachers' perceptions of the importance and difficulty of implementing innovations [45]. Research has shown that the aforementioned variables i.e., congruence, cost, difficulty and importance did indeed influence teachers' degree of implementing a new program or instructional innovation [7].

Another attempt to integrate various conceptual models that might explain and thus contribute to an understanding of the process of adopting educational innovations is the Efficacy-Based change model (EBCM) [31]. The EBCM is grounded in three but related theoretical and empirically derived lines: concerns (feelings, thoughts and reactions) about a new program or innovation that touches their lives, teacher self efficacy, and locus of control.

Only few studies explored the relationship between personal attributes such teacher's sense of efficacy [21], personal locus of control and adopting instructional innovations [46]; [47] and the relationship of that dependent variable to organizational patterns such school based management pattern (SBM) and traditional school pattern (non SBM).

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Therefore, the present study was designed in order to examine the effect of personality factors such as sense of efficacy and locus of control and an organizational variable such as school based management versus traditional school organizational pattern upon teachers' attitudes in the implementation of new practices in education.

2. Teacher efficacy, locus of control and adopting educational innovations: Previous research:

The construct of teacher efficacy was based primarily on Bandura's social cognitive theory [3]. According to Bandura, behavior is affected by both outcome expectations and efficacy expectations. Outcome expectations are judgments an individual makes about the likely consequences of specific behaviors in particular situation or context. Efficacy expectations, on the other hand, are individual's beliefs about his or her own capability to achieve a certain level of performance in that situation or context. Bandura argued that efficacy expectations derived from both perceptions of performance accomplishment and social persuasion, especially as it is reinforced by organizational activities and context conditions that promote individual success. Furthermore, Bandura maintained that people's interpretations of past experience lead them to foresee how well they will be able to perform specific tasks. These anticipations then influence to engage in new tasks, exert effort, and persist in the face of adversity.

Applied to the context of education, teacher efficacy has been defined as: "The extent to which teachers believe they can affect student learning"[10]. Teacher efficacy is seen as a multidimensional construct with two dimensions as "teaching efficacy" and "personal efficacy". The first factor represents a teacher's sense of teaching efficacy or belief that teachers can overcome factors external to the teacher such students' background. The second dimension, personal efficacy, is the belief of an individual teacher in their personal capacity to deliver the necessary behaviors to influence student learning. Ross [37] found little correlation between teaching efficacy and personal efficacy. This means that individual

teachers could believe, for example, that teaching can significantly determine what students learn but they are not capable of having much of an effect on the learning of their own students.

The construct of teacher efficacy was first conceptualized in Rand Corporation studies [10]. These studies concluded that teachers' sense of efficacy was one of the best predictors of the percentage of goals achieved, amount of teacher change, improved student performance and continuation of both projects methods and materials. In a review of empirical studies on teachers' sense of efficacy, Ross [37] showed that it predicts a multitude of critically important variables. These include; student motivation), student achievement, teachers' professional commitment, and only few studies [21]; [15]; [19] reported investigation of the relationship of teacher self efficacy to attitudes to implementation of educational innovations. All the studies reported that it was teachers' self efficacy that is the degree to which teachers believed that they can bring about student learning, that influenced their attitudes toward implementing new practices. Guskey [21] and Gaith and Yaghi [15] reported that teachers' self efficacy is a strong determinant of positive attitudes toward educational innovations irrespective of how long they have been in the profession.

Cavanaugh and Dellar [8] found in a study among Western Australia teachers that one of the six elements that affect school innovations and improvements include teacher self efficacy. Soto and Goetz [44] found positive relationship between perceived self-efficacy of teachers and adoption of innovations. Becker [4] using surveys conducted by over 4000 teachers in over 1100 schools across the United States, found that important factors determining teacher adoption of technology use include teacher efficacy. Holloway [23] explained had already argued that belief system, not an economic or empirical warrant determines acceptance of an innovation or its success. Luehman [27] defined teacher efficacy and belief system as the powerful forces affecting adoption of innovative technology. Chissick [9] found that besides self efficacy and self esteem,

the complexity of the contents in which teachers operate renders personality factors nearly insignificant in implementing innovations in mathematics at school.

Contrary to those findings, Gassia [16] didn't find any significant relationship between the efficacy measures and the measures of variations novice teaching practices. In contrast, the claim made by Wheatley [48] is that teachers' doubts about their teaching efficacy have important benefits for teacher learning and educational reform. Moreover, these teacher efficacy doubts are essential for the widespread success of educational reform (ibid, p.5). Wheatley rational behind that argument is that teacher efficacy doubts and feeling of uncertainty foster disequilibrium in teachers' thinking which could lead to profound changes in their instructional practices and adopting innovations. That is, weak teacher sense of efficacy may lead to positive attitudes toward adopting educational innovations. That argument is challenging for an empirical test.

Another personality construct found to be related to adopting educational innovations is locus of control.

Locus of control generally refers to the extent to which an individual believes his or her behavior determines specific life events [25]. Those with an "internal locus of control" tend to believe they are in control of their destinies and able to cause certain events. Persons with an "external locus of control" tend to believe that events are caused by factors beyond their control: fate, luck, or powerful others.

Until recently, most research involving teacher locus of control made use of Rotter's Internal-External Locus of (I-E) scale. Because the I-E scale was not developed to measure expectations that might operate in teaching-learning situations [39]. However, use of the I-E scale in this type of research may result in reduced correlations between teacher beliefs, teacher student interactions and student outcomes [36]. Ashton,

Webb and Doda [1], for example, found no significant correlations between Rotter's I-E scale and measures of teacher efficacy. They did however report significant correlations between personal efficacy, that he or she can succeed with unmotivated students and teacher's tendency to accept personal responsibility for student success or failure as measured by the Teachers Locus of Control (TLC) scale that they developed specifically for teachers.

When exploring the connections between teacher's locus of control and the adoption of innovations study results reveal the following:

Teachers with internal locus of control tend to invest energy in improving their teaching strategies [40], take responsibility for their teaching failures, and are open to new instructional strategies and adopting educational innovations [24].

3. School management patterns and teachers adoption of educational innovations:

Since the scientific management in the 1920s, school districts have utilized top-down management styles. At the apex, central office specialists made decisions about budgets, hiring practices, curriculum content, new instructional strategies and educational changes. These practices were common place accepted until educators from several countries criticized this management pattern [22]. They contended that power was centralized and that maintenance of the bureaucracy appeared more important than student learning. In response to the growing criticism of the educational system and to various reports' such as the National Commission on Excellence in Education (1983) in the United States, citing the inadequacy of schools to operate in a radically new environment facing changed expectations and requirements. Schools being forced to redesign themselves to ensure their prosperity in the new order. School-based management (SBM) emerged to respond to the new defies.

SBM is a form of decentralization that identifies the individual school as the primary unit of improvement and relies on the redistribution of decision-making authority to the school level as the primary means throughout which improvements might be stimulated and sustained [28]. According to the literature SBM has the following features: the transfer of the decision making in budget allocation, hiring and firing personnel, curriculum to the school level, teachers' empowerment, involving stake-holders in decision-making, focus on learning results, professional development[17].

The rationale for SBM argues that school professionals who are involved in the management of their schools, and who have much greater autonomy and responsibility for the use of resources to solve problems and carry out effective education activities, become more motivated and committed to teaching. Following the same logic we may expect that teachers would be more open to experience and adopt instructional innovations.

The few empirical studies testing the relationship between the SBM pattern and adoption of instructional innovations reveal the following: Reed [33] reported preliminary findings from a research project which is based on a comparative case study of four elementary schools involved in SBM, they found that this pattern of management created an empowerment culture which improved teachers' sense of efficacy and their motivation to affect changes in their instructional strategies.

Mohrman and Wohlstetter [29] have argued that redesigning the school organization enable educators to engage in adopting new approaches to learning and teaching. Furthermore, effective employee in the process of school improvements requires the decentralization to these employees of power. Robertson and Briggs [35] found that SBM supported teachers who implemented educational innovations.

Shaham [42] conducted a comparative study of SBM and non SBM in their effects upon teachers'

work and she found that at SBM schools teachers feel more autonomous to make changes in their instructional strategies and they reported that their teaching work is more effective.

Contrast to that Nir [30] found that SBM had a negative effect on school health, on teachers morale and quality of work life. Teachers felt overloaded by the new burdens because of the adoption of the SBM pattern and that reflected upon motivation to make changes in their instructional strategies. Gershberg [18], have argued that SBM does not impact innovations in schools, because of the council constraints, which teachers experience that, in turn, prevent them from suggesting, implementing and sustaining changes and innovations within the school.

Although, the findings results as regarding the impact of teacher sense of efficacy', locus of control and SBM upon adoption of educational innovation at school is not clear-cut, however, from the theoretical framework we may deduce the following hypotheses:

H1: It is expected that teacher strong self efficacy is significantly correlated to teachers' attitude to adopt innovations in education and vice versa.

H2: Teachers with internal locus of control would report positive attitudes

in adopting innovations in education than their counterparts.

H3: SBM pattern is positively correlated to teachers' attitudes to adopt educational innovations regardless teaching self efficacy or locus of control.

4. Method:

The study sample consisted of 160 teachers from 20 elementary schools in Israel 75% responded (N=120). Of the 120 teachers 15% were male and 85% were female. Twenty percent of teachers had between 1 to 7 years of experience as teachers, while Eighty percent had more than

seven years of seniority at the profession. Sixty percent of the subjects were graduated either from a teaching college or from a university.

Each of the subjects required to complete the following questionnaires:

Attitudes toward innovations in education. The original questionnaire [47] included 50 items . The questionnaire was shortened to 26 items and distributed to 30 graduate students enrolled in a teacher education program at Bar Ilan University. A factor analysis with varimax rotation run upon the data and yielded six factors: Internal cognitive(thought that change and innovation is teacher's concern) External cognitive(changes and innovation are the school supervisor concern). Affective internal(A strong feeling of fear from the adoption of innovation). External affective (the new changes such CAI would affect negatively teacher's status) Internal conative(the teacher readiness to adopt educational innovations that he /she initiated). External conative (the readiness to adopt innovations initiated by superiors). Alpha Cronbach reliability test ranged from 0.80 to 0.85.

Teacher self efficacy scale [20] with two sub-scales half of the items are statements which teacher believes that he/she is able to bring about student learning, such as the following items: "When I really try. I can get through to most difficult students". "When a student gets a better grade than he/ she usually gets it is because I found better ways of teaching that student." If a student masters a new concept quickly, this might be because the teacher new the necessary steps in teaching that concept. Half of the items are statements which teacher believes of his/her inability to affect student learning such as the following items: A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement" "When a student is having difficulties with an assignment, I often have trouble adjusting it to his or her level". . Alpha Cronbach internal consistency in this sample ranged from .84 to .88.

Teacher Locus of control scale (TLC) [36] with two sub-scales: internal locus of control and external locus of control. Alpha Cronbach in this sample ranged from 0.81 to 0.86. Perceived school management pattern [17] with two sub-scales: non-SBM, and SBM. School-based management found to have higher scores in the following factors; school vision, feedback and accountability system, allocation of school budget policy while non SBM found to have lower scores on those aspects than their counterparts.

Pearson correlation coefficient and t tests run upon the data in order to differentiate between groups according to their background, attitudes and the management pattern of their school. A multiple regression analysis was employed in order to test the effects of each independent variable: teacher sense of efficacy, teacher's locus of control and perceived school management pattern (SBM versus Non- SBM) upon attitudes to adopt educational innovations.

Findings:

Table 1

Teachers' Attitudes Dimensions: Means, Sd, Q

N = 120

Dimensions	mean	Sd	Q (post tukey)
Internal cognitive	4.57	.50	-5.60 **
External cognitive	4.28	.52	
Internal affective	4.49	.54	-3.32 *
External affective	4.31	.53	
Internal conative	4.29	.43	-2.59 *
External conative	4.20	.42	

Scores' range 1-6

*p<.05

**p<.01

Table 1 shows the mean scores and standard deviations of teachers attitudes toward adopting educational innovations. Table 1 indicates the highest mean scores in teachers' attitudes toward

innovations were in the internal cognitive dimensions. That means, that teachers would adopt innovations initiated by them and not by any factor outside them. While the mean lowest scores are at the conative dimensions (“internal” and “external”), which means that teachers would not implement innovations initiated by others rather than teachers. In each dimensions, the differences between the mean scores of the “internals” and the “externals” is significant according to the results of the Tukey post hoc test. The variance between “internal cognitive” and “external cognitive” is ($q = -5.60$; $p < .01$); between “external affective” and “internal affective” is ($q =$

3.32 , $p < .05$), while the variance between “internal conative” and “external conative” is ($q = -2.59$, $p < .05$).

Teachers attitudes toward educational innovations coming from the “top down”(external) differ significantly from initiatives coming from the “bottom up”(internal). Furthermore, the significant differences among the mean scores of the three dimensions “cognitive” attitudes, “affective” attitudes and the conative attitudes say, that teachers’ positive attitudes for adopting education innovations” is not always in line with implementing innovations in their day today work at school.

Table 2

Teachers' Attitudes Differences According to Personal Backgrounds

N = 120

Teachers' attitudes dimensions	Education			Seniority		
	mean	Sd	t	mean	Sd	t
Internal cognitive	4.47	.44	11.20***	4.46	.42	22.01***
External cognitive	4.37	.43		4.24	.40	
Internal affective	4.51	.48	3.25**	4.55	.56	3.66**
External affective	4.38	.43		4.44	.58	
Internal conative	4.56	.48	5.66**	4.33	.67	2.42*
External conative	4.39	.52		4.20	.75	

* $p < .05$

** $p < .01$

*** $p < .0001$

Table 2 shows the teachers’ attitudes differences according to their personal backgrounds. Table 2 indicates that teachers with different years of education differ significantly in their attitudes at the “internal cognitive”($t = 11.20$; $p < .0001$); “internal affective”($t = 3.25$, $p < .01$); and “internal conative” dimensions.

Table 2 also shows that teachers with different seniority at work differ significantly in their attitudes toward innovations. At the “internal cognitive dimension”($t = 22.01$, $p < .0001$); at the “internal affective” ($t = 3.66$, $p < .01$) and at the “internal conative” dimension($t = 2.42$, $p < .05$).

Table 3

Correlations coefficient: Teachers' attitudes dimensions and teacherself efficacy

N = 120

Teachers' attitudes dimensions	strong self efficacy	weak self efficacy
Internal cognitive	.37 ***	-.09
External cognitive	.22 **	-.15
Internal affective	.35 ***	-.19*
External affective	.18 **	-.11*
Internal conative	.39 ***	-.20**
External conative	.33 ***	-.27***

*p<0.05 **p<0.01 ***p<0.001

Table 3 presents the relationship between teachers' self efficacy dimensions (strong self-efficacy versus weak self-efficacy) and teachers' attitudes toward educational innovations' dimensions.

Table 3 shows positive and significant correlations between strong self-efficacy and each one of the dimensions (either "internals" or "externals") of the education innovation attitude scales. Contrary to that, no significant correlation found between weak self-efficacy and "internal cognitive" (r=-.09); or "external

cognitive" (r=-.11); and between weak self-efficacy and "internal affective" (r=-.10), or "external affective" (r=-.11). However, it was found significant negative correlations between weak self-efficacy and "internal conative" (r=-.20, p<0.01) and also negative significant correlations found between weak self-efficacy and "external conative" dimension.

Table 4 presents the relationships between teachers' attitudes toward educational innovations and their locus of control.

Table 4

**Correlations coefficient:
Teachers' attitudes dimensions and locus of control**

N = 120

Teachers' attitudes dimensions	Internal locus of control	External locus of control
Internal cognitive	.25*	-.13
External cognitive	.11	-.23*
Internal affective	.27**	-.09
External affective	.09	-.19*
Internal conative	.29**	-.11
External conative	.15	-.26

*p<0.05 **p<0.01

Table 4 shows that internal locus of control; is significantly correlated to the internals dimensions of teacher's attitudes. Internal cognitive (r= .25, p<0.05), internal affective; (r= .27, p<0.01); internal conative, (r=.29, p<0.01). While external locus of control is negatively correlated with all external education innovations' attitudes

dimensions: "external cognitive", (r= -.23, p<0.05). "external affective", (r=-.19 p<0.05), and "external conative" (r=-.26, p<0.01).

Table 5 presents correlations between educational attitudes dimensions and perceived management school patterns.

Table 5

**Correlations coefficient:
Teachers' attitudes' dimensions and perceived management patterns**

N = 120

Teachers' attitudes dimensions	Regular (non SBM)	SBM
Internal cognitive	.24*	.22*
External cognitive	.09	.08
Internal affective	.22*	.18*
External affective	.08*	.12
Internal conative	.23*	.24*
External conative	.13*	.09

*p<0.05

Table 5 indicates that non SBM management pattern is positively and significantly correlated with all the internal attitudes dimensions ; “internal cognitive”(r=.24, p<0.05); “internal affective” (r=.22, p<0.05); “internal conative” (r=.23, p<0.05), while no any significant correlation found between non SBM management pattern and external attitudes dimensions. As regarding the SBM management pattern data indicate the same. This management pattern is also correlated positively and significantly to the internal attitudes dimensions; “internal cognitive” (r=.22, p<0.05); “internal affective”(r=.28; p<0.01); “internal conative” (r=.34, p<0.01.), while no significant

correlation found between this management pattern and any external attitude dimensions. The tests run upon the data revealed no any difference between non SBM and SBM management patterns and teachers' attitudes dimensions.

Table 6 presents a multiple regression analysis when all the variables entered together, without any ranking in order to test the effect of each of the personal and organizational factors upon teachers attitudes toward adopting innovations at schools, when the demographic variables were controlled.

Table 6

Determinates of teachers' educational innovations attitudes

N = 120

Predictors	B	SEB	B	t
Positive TSE	.24	.07	.21	4.30 *
Negative TSE	-.09	.03	-.07	-.62
Internal locus of control	.16	.05	.14	3.40 *
External locus of control	-.19	.04	-.17	-4.10 **
SMB	.10	.03	.11	1.95
non SBM	-.08	.01	-.08	-.72

R² = .30

*p<0.05

**p<0.01

Table 6 indicates that the effect of teacher's self efficacy upon teacher's attitude toward innovations is (Beta= .21, t= 4.30, p<0.001), the effect of internal locus of control upon teacher's attitude

is (Beta=.19; t= -4.10; p<0.001) while the effect of the organizational factor -SBM versus non-SBM upon teacher's attitudes toward educational innovations is small and insignificant.

5. Discussion:

One of the most findings from studies about the adoption of innovations in education is that the process dependent upon factors associated with teachers beliefs as well as the culture of schools in which its occurring [41]. However, only few studies explored the relationship between personal attributes such as teacher's sense of efficacy, or personal locus of control and the adoption of educational innovations [47], even less studies conducted to test impact of organizational patterns, such as SBM and non SBM schools and their relationship to teacher's attitudes toward educational innovations. For that reasons the present study was designed in order to examine the effect of personality factors such as: sense of efficacy and locus of control from one hand and at the other hand the effect of organizational factors such SBM and non-SBM management patterns on teachers' attitudes toward innovations.

The present study reveal that foremost teachers' attitudes toward innovations dependent upon the source of the innovation initiative: is it internal or external . That is to say, is the innovation initiative stems from teachers(bottom-up) or from the supervisors(top-down). Furthermore, each attitude has three dimensions; cognitive, , ("the innovation suggested is logic") affective("I was convinced that the innovation is important and am committed to it") and conative ("am going to implement it") . Results show significant differences among teachers' attitudes at these three dimensions, and these differences dependent upon the source of the innovation initiative whether it is internal to the school (by teachers) or if it came from outside the school, such as the supervisor. That finding is in line with previous studies [14]. Changes and Innovations coming from insides school fits the teaching professional image and also strengthen the teacher's professional autonomy to decide what changes he/she adopts and what innovations to reject. Richardson and Anders[34] have already found that changes innovations top down are rarely implemented.

The opposition to the innovations initiated outside the schools is strong among teachers having more years at the profession, or having higher educational degrees supporting Bents&Bents([5] and Berliner [6] findings.

As regarding the impact of teacher's sense of efficacy upon teachers' attitudes, previous findings reveal that positive self efficacy- teacher's belief on his capacities to reach the outcome expectancies although the context impact(such as student socio-economic status)- is a powerful factor in explaining teachers' attitudes to adopt educational innovations, either internal, innovations initiated by the school staff or external - innovations initiated by any factor outside the school. Teaching self efficacy found in this study to predict teachers' attitudes toward educational innovations. That finding support previous studies [20]; [15]; [44]; [4]; [27]. That is to say that teachers with strong self-efficacy adopt easily educational innovations than their counterparts(teachers with weak self-efficacy). Holloway [23] even argued that belief system, and not an economic or empirical warrant determines acceptance or adoption of innovations. Contrary to that, Wheatley [48] argument that even weak sense of efficacy may lead to adopting innovations, was not found in this study. Following the findings we may say, that weak self efficacy is negatively correlated with teachers' attitudes dimensions.

Another personality construct found to be related to adopting educational innovations is locus of control-the extent to which an individual believes that his or her behavior determines specific life events. It was found, that internal locus of control is positively correlated with positive attitudes toward the adoption of educational innovations, however this is applied only in cases when the source for innovation is internal to school. But when the source of innovation is outside the school(external dimensions) internal locus is not significantly correlated with teachers' attitudes toward innovations. The meaning of that finding is that even teachers with internal locus of control would not adopt changes and innovations derived

outside the school because they believe that they cannot have influence upon changes derived external to the school (top-down). External locus of control is negatively correlated with the external dimensions of attitudes toward innovations in education, which means they do not invest any energy in making changes in their instructional strategies, particularly if the source of change is external to the school. That finding is in line with Katz [24] results.

While the personal attributes found attached positively to attitudes toward educational innovations (which is expected in H1 and H2), school management patterns (non SBM and SBM) found both positively correlated with internal attitudes dimensions and not correlated with external attitudes dimensions. The tests revealed no significant differences between both patterns as regarding teachers' attitudes toward innovations not as expected in H3. Following the multiple regression analysis, school organizational pattern has no significant effect upon teachers' attitudes toward educational innovations. This needs explanation, because previous research have indicated that SBM, empower teachers, empowerment then strengthen teachers' self efficacy, and strong self-efficacy could have an impact upon positive attitudes toward adopting educational innovations [33], however, at the present study no differences found between both school types as regarding teachers' attitudes toward education innovations. I think that the question however remained, is whether the changes came from inside or outside the school. If the initiative came from outside the school then teacher's power is limited and his/her motivation to adopt innovations is low. Following that logic we may say that teachers at SBM schools in this study didn't feel empowered and the implementation of the SBM reform in these Israeli primary schools remained a rhetoric. Another possible explanation could be based upon studies done in other western countries showing that principals at SBM (or self managing schools) adopted mostly the SBM financial features and not its teachers' empowerment features [49]; [26].

To summarize, we may say that at the present study the showed that the effect of personality variables upon organizational-management patterns are more powerful in explaining teachers' attitudes toward educational innovations.

6. Conclusions:

From a theoretical point of view we may say, that although personal background such as education or seniority at work are positively correlated with teachers' attitudes toward innovations, however personality factors such as teachers' sense of efficacy and teacher's locus of control are more powerful in explaining teachers' attitudes toward educational innovations, regardless of teachers' personal background.

Another study with bigger sample is needed in order to test the effect of the management/organizational patterns upon teachers' attitudes toward innovations.

From a practical point of view strengthening teachers' sense of efficacy could be an important step in motivating teachers, for adopting educational innovations.

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