

# The Relationship between Styles of Time and Self-Efficiency among Physical Education Teachers

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## Abstract

The aim of this study is to establish the relationship that may exist between efficiency and style of time among physical education teacher. Validation of two questionnaires, (teacher efficiency scale and time style scale) has been made by factor analysis and calculation of the Alpha of Cronbach that which ensures their reliability. 238 physical education teacher in college and secondary schools in Sfax governorates had responded on the two questionnaires. Results show that it exists a positive relationship between physical education teacher efficacy (global (GTE) and personal efficacy (PTE)) and time style perceived according to tenacity (TENA), future perception (FUT) and past perception (PASS), in such a way teacher efficacy and time style perceived evolved in a parallel way.

**Keywords:** Physical Education Teacher- Self-Efficiency- Style of Time.

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## INTRODUCTION

Perception of time is central to teaching process and time is pervasive for the teacher. Usunier and Valette-Florence's (1991a, b, 1994) and Valette-Florence and Usunier (1993) time-style scale emphasizes dimensions of time perception, which have been described both by anthropologists and experimental psychologists (Kluckhohn & Strodtbeck, 1961; Calabresi and Cohen, 1968; Hall, 1959, 1976, 1983). The combination of these dimensions depicts a concept of time, which is partly internal and partly external to the individual. So, teacher should be reflective that he reflects on his practice to question, to improve and to adapt to new situations. Indeed "reflexivity is a way to develop the personality, including by considering it in taking into account the context of the action and its different temporalities" (Coen & Leutenegger, 2006, 7). According to Paquay *et al.*, (2001) a professional teacher is a reflective practitioner.

Thus the reflexivity allows to develop temporal perception of teaching, including future perception and past perception. These personal skills

are reflected in the practice of teachers. They are in fact, for the teacher, presents a way to combine the past and the future to deal with the exigencies of the situation (Connelly *et al.*, 1997; Vause, 2007). In the other hand, Self-efficacy has proven to be good measurement with which to predict behavioral outcomes when compared to any other motivational construct, especially in psychology and education (Graham & Weiner, 1996). Several academic researches that have proven that self-efficacy is related to self-control, resilience in the face of failure, the performance and task efforts and effective problem solving (Bandura, 1986; Gist & Mitchell, 1992; Hysong & Quinones, 1997; Prussia, Anderson & Manz, 1998; Stajkovic & Luthans, 1998). According to this context, the conative pedagogy should propose to restore a sense of competence, by warning them to achieve things that they felt incapable to doing (Bui-xuan *et al.*, 2008).

Previous research was conducted to investigate the linkage between time styles and several variables (Valette-Florence *et al.*, 1995, 2001) but there is no research that studied the relationship between time style and efficacy among physical education teacher nor teacher of other subjects.

**2- METHOD**

**2.1- Dependent variables measures**

**Teacher Efficacy Scale (TES)**

To measure the teacher’s efficacy, the Teacher Efficacy Scale (TES) was used (Gibson & Dembo, 1984) is translated into French and validated using the Vallerand method (1989) by (Dussault *et al.*, 2001).

This questionnaire consists of 15 items 5 (table1), 9 of which are related to Personal Teaching Efficacy (PTE) and 6 items measuring General Teaching Efficacy (GTE). The responses to each item are made on a 4-point Likert-type scale ranging from 1 (Strongly disagree) to 4 (Strongly agree).

**Table 1: Distribution of self-efficacy questionnaire items by dimensions**

Scale	Dimension	Item
TES	PTE	1-if one of my students progresses relatively it's often because I have made an extra effort
		5- when a student finds it difficult to do a physical exercise, I'm usually able to get used to his level
		6- when a student gets a better grade than usual, it's usually because I've found effective ways to teach him
		7- when I really try I can overcome
		9- When my students' grades improve, it's usually because I found more effective teaching methods
		10- If a student quickly masters a new concept in EPS, it's because I've known
		12- If a student doesn't remember the physical exercises I've given earlier, I could help him or her catch up with the most effective means of learning
		13- If a student doesn't remember the physical exercises I've given earlier, I could help him or her catch up with the most effective means of learning class is noisy and disturbing, I am sure to know some techniques to remind him to order
		14- If one of my students was unable to do a physical exercise I would be able to accurately assess whether this exercise was too difficult.
	GTE	2-the hours spent in my class have little influence on students in relation to the influence of their family environment
		3-the student's ability to learn
		4-if students have no discipline at home, they will probably not accept any discipline
		8- what a teacher can accomplish is very limited because a student's family environment has a high level
		11- if parents care more about their children I could do more myself" and item
		15- even a teacher with teaching skills may not influence many students

**Time style Scale (TSS)**

The second questionnaire is the Time Style Scale (TSS) proposed by Usunier and Valette-Florence (1994). In general, this questionnaire consists of 29

items and includes 4 dimensions (Table 2). The investigator of this study only resorted the dimensions of temporal projection and the time persistence dimension. In all, it consists of 11 items.

**Table 2: Distribution of TSS dimensions and sub dimensional**

Dimensions	Sub dimension	Item
linearity and time economics	economic time	
	unorganized time	
temporal projection	Past perception	2,5,8,10
	Future perception	3, 6, 9, 11
obedience to time	Control of time	
	Feeling of usefulness of time	
Time persistence	Tenacity	1, 4, 7

The 11 items of TSS were accompanied by a Likert scale, “Completely disagree”; “Disagree”; “Rather disagree”; “Neither agree nor disagree”; “Rather agree”; “Agree”; “Agree”; and “Completely agree”.

**2.2- Pre-test**

After the questionnaire was set up and before the sample survey was launched, a pre-test was conducted. Our first concern in the pre-test was to ensure as much as possible the proper understanding of the issues by the interviewees. Also, we applied this test

to a small sample from the survey universe, but which does not belong to the sample extracted and having overall the same characteristics as the study population.

In this questionnaire, we took into account the teachers' remarks and subsequently changed a few expressions of a few questions to reflect the meaning of our research.

**2.3- Procedure**

The sample for this study was composed of 238 teachers of physical education in college and

secondary schools in Sfax governorates (mean of age= 42.15; female =42%; male= 58%). Questionnaires were administered to participants, in their undergraduate educational foundations in April 2021, during free time of teaching. Data collectors had explained a few items to help respondents choose the answer that suits them. Participation in the study was voluntary.

**3- Statistical analysis**

For response processing, statistical analysis is performed on a microcomputer using "Statistica" and "Sphinx" software. All statistics are considered significant for a p<0.05.

**4- RESULTS**

**Table 3: Factor analysis on TES**

	<b>PTE</b>	<b>GTE</b>
PTE1	-0,645722	0,029048
PTE5	-0,579695	-0,119181
PTE6	-0,690826	-0,028631
PTE7	-0,548756	-0,007412
PTE9	-0,735029	-0,076067
PTE10	-0,620725	0,070444
PTE12	-0,594031	0,051181
PTE13	-0,460454	0,169074
PTE14	-0,489125	0,196739
GTE2	0,147844	0,454854
GTE3	0,146805	0,648818
GTE4	0,085835	0,483470
GTE8	-0,037473	0,717276
GTE11	-0,082559	0,658881
GTE15	-0,009106	0,505190
Var. Exp	3,320158	2,162008
Prp.Tot	0,221344	0,144134

The factor analysis table shows that TES has a good internal consistency. The Cronbach Alpha of total TES is equal to 0.77. In addition, the Cronbach Alpha of total GTE items is equal to 0.61.

The results of the exploratory factor analysis show that the TES reproduces the two-dimensional theoretical model well. As can be seen in Table 4, items are spread over both factors. They account for the bulk of the variance 36.54%.

The results indicate that the model of the two prime factors (PTE and GTE) better represents the factor structure of TES.

**Factor analysis on TSS**

**Table 4: Factor analysis on TSS**

	<b>TEN</b>	<b>PAS</b>	<b>FUT</b>
TENA1	0,764051	-0,007936	0,145472
TENA4	0,808917	0,055914	0,062639
TENA7	0,769154	0,072636	0,072768
PAS2	0,017993	0,715565	-0,034190
PAS5	0,024184	0,805854	-0,062239
PAS8	0,088389	0,787669	0,180361
PAS10	0,020018	0,753362	0,144378
FUT3	0,072896	-0,030083	0,777632
FUT6	0,095382	0,100723	0,648784
FUT9	0,144309	0,189094	0,636729
FUT11	0,109296	0,073431	0,724513
Var. Exp	1,886022	2,410076	2,044773
Prp.Tot	0,171457	0,219098	0,185888

Note : FUT= future perception ; PAS= past perception ; TENA= tenacity

Total TENA Cronbach Alpha is 0.78 and total PASS Cronbach Alpha is 0.76, whereas total FUT Cronbach Alpha is 0.69. The results of the exploratory factor analysis show that the TSS reproduces the three-dimensional theoretical model well. They account for the bulk of the variance 57.62%. As can be seen in Table 4, items were spread over all three factors.

Factor 1 (TENA), whose own value is 1.88, accounts for 17.14% of the total variance. This factor strongly saturates (saturation above .40) the following items: item1 "Once I've started an activity, I persist until it's complete, item 4 "when I start a project, I don't like to stop before it's finished" and item 7 "When I am interrupted in an activity, I almost always come back as fast as possible." These three items correspond to TENA.

Factor 2 (PASS), with a self-value of 2.41, accounts for 21.90% of the total variance. This factor strongly saturates (saturation above .40) the following items: item 2 "I have nostalgia for the past", item 5 "when I am alone my thoughts often turn to the past", item 8 "I think very often about life as it was before" and item 10 "Sometimes I find myself immersed in the past." These four items correspond to the PASS.

Factor 3 (FUT), whose own value is 2.04, accounts for 18.58% of the total variance. This factor strongly saturates (saturation above .40) the following items: item 3 "I spend time thinking about what my future might be", item 6 "I think a lot about what my life will be one day", item 9 "many of us tend to have daydreams. It happens to me too" and item 11 "I often think about the future." These four items correspond to FUT.

The results indicate that the model of the three prime factors (TENA, PASS, and FUTU) better represents the factor structure of TSS.

**Table 5: The relationship between the dimensions of TES (PTE and GTE) and the subdimensional of TSS (TENA, PASS, FUT)**

	TENA	PASS	FUT	PTE	GTE
TENA	1,00	0,52	0,17	0,01	0,03
PASS	0,52	1,00	0,73	0,02	0,04
FUT	0,17	0,73	1,00	0,02	0,01
PTE	0,01	0,02	0,02	1,00	0,11
GTE	0,03	0,04	0,01	0,11	1,00

The study of the relationship between PTE (personal teacher efficacy) and TENA (the sub-dimension of temporal persistence) found a significant correlation to  $p < 0.05$ ,  $r = 0.01$ . It is inferred that these two factors evolve dependently and in a parallel way.

The study of the relationship between GTE (global teacher efficacy) and the TENA found a significant correlation to  $p < 0.05$ ,  $r = 0.03$ . Therefore, GTE and TENA among the physical education evolve in a dependent way and in the same sense (positive).

The study of the relationship between PTE and PASS (past perception: subdimension of time projection) found a significant correlation to  $p < 0.05$ ,  $r = 0.02$ . Therefore, PTE and PASS evolve in a dependent way and in the same sense (positive).

The study of the relationship between the GTE (global teacher efficacy) and the PASS found a significant correlation to  $p < 0.05$ ,  $r = 0.04$ . Therefore, GTE and PASS evolve in a dependent way and in a parallel way (positive).

The study of the relationship between PTE and FUT (future perception: the sub-dimension of the temporal projection) found a significant correlation at  $p < 0.05$ ,  $r = 0.02$ . Therefore, PTE and FUT evolve in a dependent way and in the same sense (positive).

The study of the relationship between GTE and FUT found a significant correlation at  $p < 0.05$ ,  $r = 0.01$ . Therefore, GTE and PASS evolve in a dependent way and in the same sense (positive).

## DISCUSSION AND CONCLUSION

TES and TSS had proven a good internal consistency. Factor analysis revealed that the TES reproduces well the two-dimensional theoretical model that are PTE (item 1, item 5, item 6, item 7, item 9, item 10, item 12, item 13, item 14) and GTE (item 2, item 3, item 4, item 8, item 11, item 15). So these two components of the TES, that is, the teacher's belief in his ability to influence student learning which represent a personal efficacy and the belief that its faculty can

make changes in the student despite constraints outside the school environment which represent a global efficacy, are evolving independently. This is consistent with the results of Dussault *et al.*, (2001) and Bandura (1995) which showed the independence between the form of personal assessment and the form of evaluation of the effectiveness of the teacher's education system. However, Gibson and Dembo (1984) and Saklofske *et al.*, (1988) report a negative correlation between the two factors.

The study of the relationship between personal efficacy (PTE) and TENA(TSS) among physical education teacher found a significant correlation. It is inferred that these two factors evolve in a dependent and parallel way and in the same sense (positive). Also, the study of the relationship between global efficacy (GTE) and TENA found a significant positive correlation that they evolve in parallel way.

Results of the present study showed that it exists a positive relationship between physical education teacher efficacy (global (GTE) and personal efficacy (PTE)) and time style perceived according to tenacity (TENA), future perception (FUT) and past perception (PASS), in such a way teacher efficacy and time style perceived evolved in a parallel way: if teacher efficacy increase then time style perceived increase and vice versa. Dussault (2001) and Coldarci (1992) added that teacher with strong efficacy don't need to cooperate with a therapist for children with behavioral problems in the classroom, their involvement in the profession becomes greater. Indeed, their risk to give up their profession is less even in the face of a failure situation (Desmette, 1999; Nagels, 2005). In addition, they increase quickly recover their sense of efficiency after failure or delay (François & Botteman, 2002), reinforce their efforts to achieve a goal (Banikhaled, 2009), reduce vulnerability of the negative effects of failure (Bandura & Locke, 2003), determine goals representing a higher level of difficulty, invest more efforts and persist longer to face obstacles (Bandura *et al.*, 1983).

The contributions of this study are reflected in several respects. First, in terms of the originality of research: the feeling of self-efficacy and the styles of time are concepts that have not been studied among the Tunisian context of physical education teaching. Then, the validation of the two questionnaires (TES and TSS) by the factor analysis and calculation of the Cronbach alpha of each item of these two scales which ensures their reliability.

Under the Time Style Scale, temporal projection contains the dimension of past perception and future perception. However, according to Malas *et al.*, (2007), temporal orientation is not only the past and the future, it is also the present. Moreover, Bergadaà (1990: 291) highlighted the importance of a temporal

cognitive structure ‘the temporal cognitive structure . . . is composed of personal time, defined as the individual perception of past, present, and future and of personal aims and motivations, and environmental time, which is the individual view of society and the direct environment. All these temporal components are missing in the questionnaire (TSS) used in the present study in addition to the limited sample (Sfax governorate) constitute limits for this research that must be taken into consideration for future research. For example, the present study opens up several perspectives as it expands research in all regions of Tunisia with these different subcultures so that the project becomes a national project.

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