

THE RELATION BETWEEN DISTANCE EDUCATION STUDENTS' MOTIVATION AND SATISFACTION

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ABSTRACT

The aim of the present study, within the frame of self-determination theory (SDT), was triple: a) to examine the structural validity of the "Situational Motivation Scale" (SIMS) in the field of distance education, b) to investigate the correlation between the subscales of the motivation and satisfaction of students who attend distance education classes and c) to examine the possibility of predicting the subscales of satisfaction from the subscales of motivation in the open and distance education. The sample consisted of 144 students who participated in the course of "Arts II: Overview of Greek Music and Dance" of the Hellenic Open University. For the purposes of the study, two scales were used: a) The modified Greek version (Papaioannou et al., 2007) of the "Situational Motivation Scale" (SIMS) (Guay et al., 2000), b) The modified Greek version (Theodorakis, & Bebetos, 2003; Bebetos, & Theodorakis, 2003) of the "Scale of Satisfaction" (Chelladurai & Riemer, 1997).

The results of the research are considered positive for the adjustment of the instrument measuring the motivation of students in distance education. Identified regulation and intrinsic motivation presented high values, as much as the two subscales of satisfaction: personal outcome and leadership. Extrinsic motivation presented middle levels and the subscale amotivation, very low levels. The subscale personal outcome is connected positively to the self-determined forms of motivation and negatively to those which are less self-determined.

Finally, it has been found that intrinsic motivation and amotivation are subscales which predict personal outcome and leadership. In conclusion, the findings of this research allow a better understanding of the motivation process, which explains the satisfaction of the students, while attending a class.

Keywords: Distance education, motivation, satisfaction, leadership, personal outcome.

INTRODUCTION

The rapid development of new technologies and their utilization in the frame of distance education offer new possibilities and change the way of studying many scientific topics (Nikolaou & Koutsouba, 2012). The use of distance education in learning kinetic skills and especially dancing, which requires complex kinetic abilities, presents a lot of difficulties (Koutsouba & Giossos, 2006).

This is due to the nature of the topic and the necessary personal guidance, required by the instructor (Goulimaris, 2008; Masmanidis, Gargalianos & Kosta, 2009).

In order to transmit dancing skills and their cultural context, distance methodology can apply the simultaneous utilization of various educational techniques such as notation, the use of new technologies and new educational methods (Voutsina, Goulimaris, Bonatos & Genti, 2009). In Greek tertiary education, the only lesson connected to dancing which is available through open and distance education is "Arts II: Overview of Greek Music and Dance", taught by the Hellenic Open University, which is the first tertiary institute in Greece, offering organized studies through distance education. This particular subject can be attended by fourth-year students of the undergraduate educational program "Studies in Greek Culture". The content of the subject concerns the acquisition of knowledge on dance and music, but offers no kinetic skill development. Students in the frame of their studies prepare four papers, guided by their teacher from a distance and participate to the final exam.

While the Hellenic Open University was still operative, many researches were carried out, investigating the various aspects of distance education procedure. Thus, the investigated subjects concerned the way students evaluated the syllabus, the auxiliary services provided, the instructors and the research material provided in various subjects of the undergraduate study program, as much as the intention of the students to participate in post graduate courses (Goulimaris, 2011; Melita, Goulimaris & Stoupakis, 2005). Furthermore, students were asked on a series of subjects such as: the role and the mission of the Hellenic Open University teachers, the importance of the relationship between students and teachers, the emotional and educational support of the students (Anastasiadis, & Karvounis, 2010), the role of the communication between students and teachers in its various dimensions (face to face, telephonic, or electronic communication, speed of communication, resolving questions, study strengthening and effective organizing of time) (Iliadou & Anastasiadis, 2010), the general support given to the students, (Vasala, & Andreou, 2010), the teachers' communicational skills, their knowledge of their teaching subject, as much as the understanding and solving of the students' problems and the feedback offered during papers (Vasiliou-Papageorgiou, & Vasala, 2005).

THEORITICAL FRAMEWORK

The last few years, special emphasis was given by the researchers to the motivation of individuals both in the frame of educational procedure and, more generally, in the frame of recreational activities (Tsitskari, Tzetzis, & Vernadakis, 2014). According to many theories, the motivation of individuals does not differ only in relation to the percentage of motivation but also in relation to its kind. The concept of motivation was given many definitions.

According to Hoy and Miskel (1982), the achievement of personal goals through a combination of needs, tendencies, forces and urges, which lead the individual to express and maintain a voluntary activity, is defined as motivation. Harrison, Blakemore, Buck and Pellet (1996) relate the concept of motivation to the desire of an individual to satisfy a need, to achieve a goal or to try and surpass him/herself or somebody else.

The tendency of individuals to try and satisfy their needs and achieve their goals constitutes the idea of motivation for Robbins (1998). Similarly, Weinberg and Gould (2003) define motivation as the tension and direction of an individual's

efforts. For Doganis (1990), motivation possesses powers which act either extrinsically or intrinsically and activate an individual's behavior. This behavior can be affected by motivation, but it is distinguishable from motivation. Motivation exists as long as an individual tries to satisfy his/her needs and stops as soon as the needs are satisfied. Deci (1975) separated the motivation factors into intrinsic and extrinsic.

To better explain the concept of motivation Deci and Ryan (1985) developed the Self-Determination Theory (SDT) which, in fact, is the development of the Cognitive Evaluation Theory (CET). According to CET, the actions that increase an individual's perception about his/her skills increase his/her intrinsic motivation and vice versa. The lack of perception about one's skills leads to amotivation. The innate need of individuals to feel capable and autonomous in their environment instigates their behavior intrinsically.

SDT offers a theoretical background for the research of motivation in people who participate in an activity, investigating the reasons for doing so. According to this specific theory, motivation can be distinguished as intrinsic, extrinsic and amotivation (Deci & Ryan, 2000; 2004). This means that those who take part in an educational process have different levels of self-determination and motivation. The study of motivation helps us understand how attractive educational process and subjects can be. The more autonomy is given to a participating individual, the more his/her motivation and willingness to participate increases (Deci & Ryan, 1985). Cases of pressure and obligation elicit the contrary results (Deci & Ryan, 2000). According to the SDT, intrinsic motivation is found on the highest levels of self-definition and amotivation is found on the lowest levels of self-definition (Deci & Ryan, 1985; 1991). Extrinsic motivation is found on the middle levels of the scale.

Intrinsic motivation concerns behaviors which express the pleasure and satisfaction deriving from their own execution and not from any rewards (Deci & Ryan, 1985). The sense of pleasure and satisfaction experienced by an individual who participates in an activity is a defining factor for the concept of intrinsic motivation (Ryan, 1982). Extrinsic motivation concerns behaviors which are carried out in order for an individual to achieve a result or a certain reward, such as a prize, a high score, a certain fee or the occupation of an executive post. A type of extrinsic motivation which is found on relatively high levels of self-determination is the identified regulation in which, individuals are motivated because they believe that their participating in an activity is important and brings out merits and values without, nevertheless, enjoying this participation adequately (Deci & Ryan, 1985). This would be the case of somebody participating in dance activities, just to improve his/her physical condition.

Amotivation, which is found on the lowest levels of the self-determination scale, refers to behaviors which are not motivated by neither intrinsic nor extrinsic factors and there is a lack of willingness due to a sense of incapability (Deci & Ryan, 1985). Thus, an individual is considered to be intrinsically motivated when dealing with an activity because of pleasure and extrinsically motivated when dealing with an activity for reward or praise. Amotivated individuals are neither intrinsically nor extrinsically motivated because they feel that they are incapable of controlling a situation. According to the SDT, motivation derives from an intrinsic motivation due to a high self-determining environment, in opposition to amotivation, which derives from a constantly decreasing self-determining environment. Motivating factors that lead to increased levels of efficacy are the concepts of intrinsic motivation and

identified regulation, which must be kept on high levels (Papaioannou, Theodorakis, & Goudas, 2003).

Research findings connect intrinsic motivation and identified regulation to the pleasure felt during the lesson and the increased desire for participation, which leads to positive learning results while extrinsic motivation and amotivation to the lack of motives, which leads to negative learning results (Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Kolovelonis, & Dimitriou, 2007; Laios, Theodorakis, & Gargalianos, 2003a; Ntoumanis, 2001, 2002; 2005; Standage, Duda, & Ntoumanis, 2005).

Many researchers from different scientific fields have study the concept of satisfaction. Satisfaction is a multidimensional term, which is defined as a psychological concept that includes the pleasure deriving from the acquisition of what somebody hopes to get from a product or a service (Pizan, & Ellis, 1999) and as the reaction of a consumer to the conceived difference between expectations and final result, after the consumption (Millan, & Esteban, 2004).

The satisfaction of the customers and the satisfaction of the personnel were the two different directions that the researchers and executives, concerning the employment field, focused the interest of their studies. Most important was considered the satisfaction of the customers since it was found to positively influence the buying attitude of the customers (Granny, Smith, & Stone, 1992). According Kotler (1991) customer satisfaction is the most important indication for the profitability of an organization. The model "expectation-no confirmation" (Oliver, 1980) reinforced the studies on the consumers' satisfaction. According to this model, a customer is satisfied when he/she feels that the efficacy of the product or service is what was expected. If the efficacy of the product is beyond expectations, then the customer is positively disconfirming, while if it is of lower efficacy than expected, the customer is negatively disconfirming.

Highly satisfied customers are unlikely to abandon an organization, since they develop emotional bonds (Kotler, 2004) and a psychological commitment (Tsitskari, & Tsakikari, 2013). Realization of the expectations or needs of an individual after the end of a provided service is connected to the positive feeling of satisfaction, since a product or service is evaluated according to such factors (Alexandris, & Palialia, 1999).

The concept of satisfaction especially in the field of management has been very popular including the dimensions of personal outcome and leadership (Theodorakis & Bebetos, 2003). The above conceptual definition is based on need satisfaction (Chelladurai & Riemer, 1997). The term "need satisfaction" has been widely used in theoretical models of satisfaction, it is related to motivation and it is produced when an individual has satisfied specific needs and/or motives (personal outcome & leadership), through his/her participation in various activities (Mannell, 1999). Many studies accept as precondition that the students are the basic customers for the educational institute (Hill, 1995; IWA, 2007; Sakthivel et al., 2005; Zairi, 1995). Institutional commissions must always take into consideration the students' satisfaction due to the intense competition among institutional bodies (universities, colleges etc), as well as the globalization, the increasing confidence of the "customers" in higher educational institutes, the raise of the tuition and the classification of education as a marketable service (Kwek et al., 2010).

Students' satisfaction helps them to build up confidence, which contributes to the acquisition of knowledge and the development of useful dexterities (Letcher & Neves 2010). A series of researches examined the relation of satisfaction to the various aspects of educational process and motivation of students (Hassan, Malik, & Khan, 2013; Karadag, et al., 2012; Myers; & Goodboy, 2014; Pan, 2013), which states the importance of the above concepts and their interaction.

SDT has been the theoretical frame, for the realization of the relative researches. The principles of SDT have been confirmed throughout the investigation of the relations among perceived need support from physical education teachers, need satisfaction, intrinsic motivation and physical activity (Zhang, et al., 2011). In addition, according to Filak and Sheldon (2008), teacher autonomy can better predict both self-determined student motivation and their psychological need satisfaction, a fact that finally led students to higher grades.

The aim of the present study was triple: a) to examine the SDT and more specifically the structural validity of the "Situational Motivation Scale" (SIMS) in the field of distance education, b) to investigate the correlation of the subscales of motivation and satisfaction of students who attend distance education classes, and c) to examine the possibility of predicting the subscales of satisfaction from the subscales of motivation in the open and distance education.

METHOD

Participants

The sample consisted of 144 students (55 males and 89 females) who participated in the course of "Arts II: Overview of Greek Music and Dance" of the Hellenic Open University, aged between 25 and 67 ($M_{age}=42$, $SD=7.62$). The sample was divided into groups according to the age (table 1).

Table: 1
Demographic characteristics of the sample

Sex		Age group		
Men	38,2%	25-37	46	31,9%
Women	61,8%	38-45	52	36,9%
		46->	46	31,9%

Measures

For the purposes of the study, two scales were used:

- The modified Greek version (Papaioannou et al., 2007) of the "Situational Motivation Scale" (SIMS) (Guay et al., 2000). It included 16 items, starting with the basic statement "*Why were you engaged in the projects of the lesson?*" and contained four subscales: a) "intrinsic motivation" 4 items (e.g., "because I believe that they were interesting"), b) "identified regulation" 4 items (e.g., "I do it for my own good"), c) "extrinsic motivation" 4 items (e.g., "because I feel that I have to do them), and d) "amotivation" 4 items (e.g., I didn't know; I didn't see what they bring to me). Answers were given on a 5-point Likert type scale, ranging from 1=I totally disagree, up to 5=I totally agree.

- The modified Greek version (Bebetsos & Goulimaris, 2014) of the "Scale of Satisfaction" Inventory (Chelladurai et al, 1988; Bebetsos, & Theodorakis, 2003). It included 10 items, starting with the basic statement: "*How satisfied/dissatisfied are you from.....*" and contained two subscales:
 - leadership, which dealt with the way students perceive the leading profile of the teacher during the lesson. This subscale consisted of seven items (e.g., "the way my teacher treats me") and
 - personal outcome, which included three items related to the personal outcome of the student in the lesson (e.g., "my personal development and growth"). The students could answer each items through a 7-point Likert type scale, from absolutely dissatisfied (1) to absolutely satisfied (7).

Data analysis

In the beginning, descriptive statistics were carried out. Then, exploratory factor analysis was used, to examine the structural validity of the Situational Motivation Scale (SIMS).

Pearson correlation analysis and hierarchical regression analyses were conducted to examine the relationship between motivation and satisfaction.

RESULTS

Descriptive Statistics

Descriptive statistics, as means and standard deviations are presented in table 2. The results show a high level of identified regulation ($M=4.28$, $SD=.61$) and intrinsic motivation ($M=3.85$, $SD=.76$).

Amotivation was found to be low ($M=1.93$, $SD=.82$). The scores for extrinsic motivation ($M=3.07$, $SD=1.30$) levels were moderate.

Table: 2
Descriptive statistics & internal reliability of all subscales

Subscale	M	SD	Cronbach's α
Intrinsic motivation	3.95	.76	.80
Identified regulation	4.28	.61	.80
Extrinsic motivation	3.07	1.30	.81
Amotivation	1.93	.82	.86
Personal outcome	6.04	.77	.78
Leadership	6.65	.43	.92

Factor Analysis

For the preliminary examination of the structural validity of the "Situational Motivation Scale" (SIMS) in the field of distance education, exploratory factor analysis was used.

The analysis of the responses of the sample on the 16 items of SIMS resulted in 4 subscales with eigenvalues greater than 1 and accounting for 72.81% of the variance.

The results suggest the 4 subscales: intrinsic motivation (.69 - .83), identified regulation (.70 - .90), extrinsic motivation (.79 -.87) and amotivation (.71 -.91). The structural validity of the "Satisfaction Scale" has already been validated in the field of distance learning in Greece (Bebetsos, & Goulimaris, 2014). The internal consistency of the two scales measured with Cronbach's alpha. Results showed that all subscales showed acceptable internal consistency since Cronbach's α was higher than .77 (table 2).

Correlation Analyses

Table 3 shows the Pearson correlations between the subscales of satisfaction and motivation. Personal outcome was significantly related to extrinsic motivation ($r=-.24^{**}$; $p<.05$), intrinsic motivation ($r=.41^{**}$; $p<.01$), amotivation ($r=-.37^{**}$; $p<.01$) and identified regulation ($r=.33^{**}$; $p<.01$). Leadership was significantly related to intrinsic motivation ($r=.33^{**}$; $p<.01$), amotivation ($r=-.32^{**}$; $p<.01$) and identified regulation ($r=.31^{**}$; $p<.01$). Finally leadership was not significantly related to extrinsic motivation ($r=-.18$; $p > .05$).

Table: 3
Pearson correlation matrix among subscales of satisfaction & motivation

Subscales	Personal outcome	Leadership
1. Extrinsic motivation	-.24*	n.s.
2. Intrinsic motivation	.41**	.33**
3. Amotivation	-.37**	-.32**
4. Identified regulation	.33**	.31**

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

Hierarchical Regression Analyses

Results from hierarchical regression analysis that concern personal outcome are presented in Table: 4.

In the analysis, intrinsic motivation was entered at Step 1; amotivation was entered at Step 2; identified regulation was entered at step 3; and Extrinsic Motivation was entered at Step 4.

The subscales of intrinsic motivation in Step 1, significantly accounted for the 13% of the total variance of personal outcome, R^2 Change=.13, $F(1,80)=11.50$, $p<.001$ and amotivation in Step 2, significantly accounted for the 7% of the total variance of personal outcome, R^2 Change=.07, $F(2,80)=7.06$, $p<.05$.

Overall, the subscales accounted for the 21% of the total variance of personal outcome.

Table: 4
Hierarchical regression analysis for personal outcome

	Variables entered	B	β	R ² Change	SE B
Step	Prediction of personal outcome				
1	Intrinsic motivation	0.40	.36**	.13	.12
2	Intrinsic motivation	0.25	.22		.13
	Amotivation	-0.32	-.30*	.07	.12
3	Intrinsic motivation	0.15	.34		.16
	Amotivation	-0.30	.29		.12
	Identified regulation	0.18	.13	n.s.	.19
4	Intrinsic motivation	0.16	.14		.16
	Amotivation	-0.34	.33		.14
	Identified regulation	0.22	.16		.20
	Extrinsic motivation	0.06	.10	n.s.	.09

** $p < .001$, * $p < .05$.

Results from hierarchical regression analysis that concern leadership are presented in table 5. In the analysis, intrinsic motivation was entered at Step 1; amotivation was entered at Step 2; identified regulation was entered at step 3; and extrinsic motivation was entered at Step 4. The subscales of intrinsic motivation in Step 1, significantly accounted for the 11% of the total variance of leadership, R^2 Change=.11, $F(1,79)=9.23$, $p < .05$ and amotivation in Step 2, significantly accounted for the 5% of the total variance of leadership, R^2 Change=.05, $F(2,79)=4.44$, $p < .05$. Overall, the subscales accounted for the 18% of the total variance of leadership.

Table: 5
Hierarchical regression analysis for leadership

	Variables entered	B	β	R ² Change	SE B
Step	Prediction of leadership				
1	Intrinsic motivation	0.20	.33*	.11	.07
2	Intrinsic motivation	0.13	.21		.07
	Amotivation	-0.14	.25*	.05	.07
3	Intrinsic motivation	0.04	.06		.09
	Amotivation	0.12	.22		-.22
	Identified regulation	0.17	.23	n.s.	.24
4	Intrinsic motivation	0.04	.07		.09
	Amotivation	-0.13	-.24		.08
	Identified regulation	0.18	.25		.12
	Extrinsic motivation	0.02	.05	n.s.	.05

* $p < .05$.

DISCUSSION

One of the aims of this study was the structural validity of the "Situational Motivation Scale" (SIMS) in the field of distance education. The results of the factor analysis confirmed the existence of four subscales. Similar results were presented in past researches. The same four factors were used in other researches, as well (Digelidis, Kotsaki & Papaioannou, 2005; Mizios, Diggelidis, Goudas &

Papaioannou, 2009; Papaioannou, Milosis, Kosmidou & Tsigilis, 2007). Furthermore, the high internal cohesion of the four factors certifies the credibility of the scale. This means that more researchers, teachers or administrative executives of academic institutes, could use the specific instrument in order to measure the level of motivation of their students. Additionally, analysis supported past research results of the validity of the "Satisfaction Scale" Inventory for distance education (Bebetsos, & Goulimaris, 2014).

In the present study, the factors which are considered as most motivating, that are identified regulation and intrinsic motivation, present high mean terms. The factor amotivation presents very low values and the factor extrinsic motivation presents middle values. Personal outcome and leadership also present high values. This result is indicative of the fact that students have found the lesson pleasant, interesting, amusing and important for them and that they participated because of a personal decision. It seems that identified regulation, intrinsic motivation, personal outcome and leadership are the four basic factors which contribute to student development, during classes. Similar findings are presented in the studies of Ntoumanis, (2001; 2002; 2005), Hagger, Chatzisarantis, Culverhouse and Biddle, (2003), Standage, Duda and Ntoumanis, (2005), where intrinsic motivation and identified regulation are connected to results such as pleasure in class and intention for future participation, while extrinsic motivation and amotivation are connected to results such as lack of pleasure and a sense of pressure.

The present findings show that the correlation of personal outcome, intrinsic motivation and identified regulation are statistically important in a positive way, while extrinsic motivation and amotivation are statistically important in a negative way. This shows that students' personal performance is influenced positively by self-determining forms of motivation and negatively by forms which are less self-determining. The positive relation between intrinsic motivation and identified regulation has also been confirmed in a research by Papaioannou, Theodorakis and Goudas (2003).

Also, the factor leadership is statistically important and positive, in relation to intrinsic motivation and identified regulation, and is statistically important and negative, in relation to amotivation. As for extrinsic motivation, it is of no statistical importance for leadership. This demonstrates the perception of the students about the leader profile of the teacher during the lesson influences positively the self-determining forms of motivation and decreases accordingly their amotivation. There is enough bibliography concerning studies on the type of leadership and the student satisfaction (Laios, Theodorakis & Gargalianos, 2003b; Nazarudin, Fauzee, Jamalis, Geok & Anuar, 2009; Pilus & Saadan, 2009; Riemer & Toon, 2001).

The percentages of the overall prediction of the subscales personal outcome and leadership from the subscales of motivation maintain low levels (21% and 18% accordingly). It seems that students' personal outcome can be predicted by their intrinsic motivation, as far as pleasure and personal satisfaction is concerned, but it can also be predicted by other factors which are not connected directly to motivation subscales, such as the way a lesson is conducted. This is in line with findings in other study about the significant roles that intrinsic motivation play in increasing students' satisfaction (Ferriz, Sicilia, & Sáenz-Álvarez, 2013).

Finally, very interesting results were presented by regression analysis on the part of leadership. More specifically, intrinsic motivation was one of the two subscales that predicted leadership. Past research indicated that good and effective leadership is

associated with task oriented individuals in physical education classes (Papaioannou, Milosis, Kosmidou, & Tsigilis, 2002; Soini, Liukkonen, Watt, Yli-Piipari, & Jaakola, 2014). The students of the present research recognized that their teacher/leader profile is mainly intrinsic motivated.

In addition, very interesting were the following results were the second subscale that predicted leadership, was amotivation. Even though students were amotivated on participating in the specific course, they recognized their instructor's leadership profile within the course. Past research results also agree (Vlachopoulos, Letsiou, Palaiologou, Leptokaridou, & Gigouli, 2010).

In conclusion, the findings of the study are considered positive for the adjustment of the instrument measuring the motivation of students in the open and distance education. They also allow a better understanding of the motivational process, which explains the satisfaction of the students while participating in a class. A further examination of other factors such as the quality of the studies and the quality of the institute, which can influence satisfaction, are considered necessary.

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