

Prediction of the satisfaction with the student life, based on teaching competence and satisfaction with the school.

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Abstract:

The aim of this article was to assess how the professional competence of Physical Education Teachers can predict student satisfaction in high school and student satisfaction with life itself. In line with these aims, this study was completed as a cross-sectional study, which was carried out in a total 890 Physical Education (PE) students. Of the research group, 50.3% were female and 49.7% were male. Age average was 15.49 years old for females (SD 1.79) and 15.00 years old for males (SD 2.00). The data collection instrument was the *Intrinsic Satisfaction Classroom Scale* and *Satisfaction with Life Scale*. The results are presented as descriptive statistics, correlations and structural equation modelling analysis, and they show that the competences of the PE teacher determine in great measure student's satisfaction with school and with their own personal lives.

Key words: Teacher Competence, Classroom Satisfaction, Life Satisfaction, PE Students

Introduction

In the last few years, diverse research have highlighted the importance of studying the satisfaction with life (SWL) of the students, due to the academic and personal repercussion that this has in them (Méndez-Giménez, Cecchini-Estrada, Fernández-Rio, Méndez-Alonso, & Prieto-Saborit, 2017; Salvador-Ferrer, 2017). With this aim, several authors (Argyle, 1987; Diener, 1984; Diener& Emmons, 1985) have used the theory of subjective well-being

to study the satisfaction of people, identifying two dimensions, cognitive dimension and affective dimension. Following this theory, the subjective well-being would be understood as a theoretical construct that contemplates the combination of the cognitive process (judgements of satisfaction and dissatisfaction) and two affective processes (positive affection and negative affection) (Diener & Emmons, 1985). On one side, the affective dimension can be identified with emotions and affections, as can be worry or boredom, among others. On the other side, the cognitive dimension is related to evaluative judgements of the SWL and its specific areas (Diener & Emmons, 1985). Along these lines, Campbell, Converse and Rodgers (1976), related the cognitive and affective dimensions of the theoretical construct with the SWL and happiness, respectively. A decade later, Diener, Oishi and Lucas (2003) synthesized that the subjective well-being corresponds with the components of SWL, with satisfaction in specific areas of life and with affection (both positive and negative).

On the other hand, it is known through the existent literature that school is an important factor to determinate happiness in teenagers, since they spend most part of their life in the academic environment (Roeser & Eccles, 2000). Regarding school, there has been research about the relationship between SWL and the diverse variables related to education, like academic commitment (Lewis, Huebner, Malone, & Valois, 2011), the perceived academic competence (Suldo & Huebner, 2006) self-efficiency (Maddux, 2002), disruptive behavior (Suldo & Huebner, 2004) and the academic performance (Gilman & Huebner, 2006; Vecchio, Gerbino, Pastorelli, Del Boye & Caprara, 2007), finding contradictory results concerning this variable.

Furthermore, it has been proved that the satisfaction/ dissatisfaction with the PE subject, predicts on a positive or negative way the satisfaction with school (Baena-Extremera & Granero-Gallegos, 2015), or that music students obtain higher levels of satisfaction with life that those who study mathematics, geography or languages (Gültekin & Aricioglu, 2016). In turn, this opens a new field to study, due to the existence of a relationship between satisfaction with several subjects and the academic environment.

To understand this relationship, the motivational theories are fundamental, among them, the Self Determination Theory (Deci & Ryan, 1985), and the variables that underline from it. For example, Granero-Gallegos, Baena-Extremera, Pérez-Quero, Ortiz-Camacho and

Bracho-Amador (2012) found that the students with high levels of satisfaction/ fun towards the PE subject, were individuals intrinsically motivated towards the sessions, that valued the effort and work with the objective to improve, and give more value to the subject. Along these lines, (Baños, Ortiz-Camacho, Baena-Extremera, & Tristán-Rodríguez, 2017) state that when a student experiments a situation in class where fun and/or boredom is promoted, this has a direct influence on the student's performance and can obtain successful results on their learning process or, on the contrary, even lead to the abandonment of the educative system. In these papers, we can appreciate the important role of the professor when planning the tasks, being at the same time a key element to the abandonment and even the academic commitment of the student (Catano & Harvey, 2011). For all this, the influence of the teacher can acquire huge relevance, as a teacher who is considered an orchestra director in the classroom, might influence on a direct way the satisfaction with school (SWS) (Baena-Extremera & Granero-Gallegos, 2015), and probably the global satisfaction with life (SWL) of the student.

In relation to this, the quality of the educational experience of students is influenced on a major basis by the teachers' experience inside the classroom (Hill, Lomas, & MacGregor, 2003; Yair, 2008) and his teaching skills. However, it is well known that teaching is multidimensional as well as complex (Wang, Lin & Spalding, 2011), in the sense that the teacher has to face and respond to a series of factors that could affect the students and the teaching-learning process, for example the characteristics of the course, classroom management and teacher-student interaction (Khine, 2005, Young & Shaw, 1999). This way, to improve teacher competence, there should be a break down of a series of basic competences with specific and observable aspects on teachers, that help improve the learning process in the classroom (Denyer, Furnemont, Poulain, & Vanloubbeeck, 2007), and see the influence with related aspects of motivation and learning. The efficiency of such competences could vary on function of every teen personality, as some of them might demand a smart teacher, others a more perfectionist, careful, encouraging and loving person, but above all, someone with the ability to amuse, enthuse, be affective, open and understanding (Moreno, 2009). Competences like the knowledge the teacher has on the subject, the clarity on the presentation, how he interacts with the students and the creativity he has, it's related on a positive way with the satisfaction and motivation of the students (Sang, Ibrahim &

Owee, 2013). Thus, depending on how the teacher plans and organizes his classes of PE, adapting to the needs of his students, may influence in the satisfaction that the student experiments in school (Baena-Extremera & Granero-Gallegos, 2015).

Having all of the above in consideration, the importance of this job lies on studying the influence of the PE teacher competences with the students satisfaction, both in his life in general and specifically in school life. In this way, it is established as a working hypothesis that a competent teacher, will help students achieve SWS with the PE subject and at the same time, SWL. So, the objective will be to analyze how the PE teacher competences can predict the SWS, and this in turn, the SWL in secondary school students.

Method

Participants

The selection of the sample was of the non-probabilistic type and according to the students that could be accessed. A total of 890 adolescent PE students (442 males = 49.7%, *age range* =15.00, *DT* = 2.00; and 448 females = 50.3%, *age range* = 15.00; *DT* = 2.00), belonging to five public and charter secondary schools, attending both obligatory (ESO) and pre-university courses (BACH) in the Region of Murcia and Alicante (Spain). From the total of the sample, 152 students belong to ESO – grade 1 (17.1%), 160 (18.0%) to ESO – grade 2, 182 (20.4%) to ESO – grade 3, 186 (20.9%) to ESO – grade 4, 101 (11.3 %) to BACH – grade 1 and last, 109 (12.2%) to BACH – grade 2.

Instruments

To carry out this investigation, the following instruments have been used:

PE teacher competence. The version used was adapted to the Spanish context and to PE by Baena-Extremera, Granero-Gallegos and Martínez-Molina (2015), and the instrument *Evaluation of Teaching Competencies Scale* (ECTS), by Catano and Harvey (2011). The instrument presents eight items that measure the students' perception of the teacher's effectiveness. On the instructions the students were asked to indicate the degree of agreement with the items, and the responses were collected using a scale of polytomous items ranging from Low (1-2), Medium (3-4-5) and High (6-7). The eight constructs that this instrument

evaluates are communication, conscience of work, creativity, feedback, individual consideration of the student, professionalism, problem resolution and social conscience.

Satisfaction with the school (SWS). The Questionnaire of Intrinsic Satisfaction in School was used in its Spanish adaptation by Castillo, Balaguer and Duda (2001) from *Intrinsic Satisfaction Classroom Scale*, de Nicholls, Patashnick and Nolen (1985), Nicholls (1989) and Duda and Nicholls (1992).

This instrument presents eight items that measure the satisfaction degree with school, adding two sub scales that measure the satisfaction/fun (SATD) (five items) and boredom with school (BWS) (three items). The scale was preceded by the phrase: "Tell us your degree of disagreement or agreement in relation with the next affirmations, in reference to all of your school subjects". Responses were collected through a scale of polytomous items ranging between 1 (totally disagree) and 5 (totally agree).

Satisfaction with life (SWL). The questionnaire used was the Spanish adapted version by Cabañero et al. (2004) of Diener, Emmons, Larsen and Griffin (1985), composed of five items that measure only one factor. This instrument uses a scale of polytomous items of five points, being (1) Totally disagree and (5) Totally agree.

Procedure

The design of this work has been non-experimental, sectional, descriptive and predictive. For the development of this research a permit by the direction of the educational centers and teachers was issued, as well as the permission from parents/ tutors where was stated the intention and objectives of the research.

Subsequently, the data was collected, having previously informed the participants of the study's purpose, the voluntary nature of their participation, and the confidential treatment of their answers. They were told that there were no right or wrong answers, so they were asked for their utmost sincerity.

The questionnaires were completed in the classroom in about 25-30 minutes always in the presence of the same researcher, who expressed the possibility of consulting him about any doubts during the process, respecting the Declaration of Helsinki (2013).

Data analysis

An analysis of normality in multiple variants was carried out. For this, a normality test based in a relative multiple variant kurtosis (RMK) of PRELIS of the program LISREL 8.80 was conducted. Once determined the normality, a Conservatory Factor Analysis (CFA) was carried out to study the adaptation of such instruments to the samples used on this research. Multiple reliability and validity indexes were calculated, such as Cronbach Alpha, the composed reliability and average variability extracted (AVE) for each instrument. Afterwards, correlation analysis between the instruments used were executed. Subsequently, diverse models of structural equations were done to answer to the objective of this study. The calculations were carried out using the statistical package SPSS v.11 and LISREL 8.80

Results

Analysis of data normality

On table 1, we can observe the normality data of the measuring instruments, where finally, the data proves an abnormal behavior. The values of RMK for the ECTS where of 1.488, and 1.123 and 1.237 for the SWS and SWL respectively.

Table 1. Values of multivariate normality test

	Multivariate normalized Kurtosis	Mardia-Based- Kappa	Higher límit	Lower límit
ECTS	51.2439	.488	1.027	.973
SWS	6.5740	.147	1.034	.966
SWL	14.788	.237	1.045	.955

Confirmatory Factor Analysis

In the first place, CFA of each instrument were conducted to determine the validity and reliability of the sample used on this research. The results show (table 2) that they are acceptable within the limits established in χ^2/df (Bentler, 1989; Tabachnick & Fidell, 2007), in GFI (Hooper, Coughlan & Mullen, 2008), CFI, IFI, NFI, NNFI (Hu & Bentler, 1995), and RMSEA (Chen, Curran, Bollen, Kirby, & Paxton, 2008; Cole & Maxwell, 2003).

Table 2. Adjustment indices of each model.

	χ^2	<i>Gf</i>	$\chi^2 /$ <i>gl</i>	<i>p</i>	<i>GFI</i>	<i>CFI</i>	<i>IFI</i>	<i>NFI</i>	<i>NNFI</i>	<i>RMSEA</i>
ECTS	60.45	27		.000	.99	.98	.98	.96	.97	.03

SWS	78.78	19	4.14	.000	.99	.94	.94	.92	.91	.068
SWL	18.42	5		.002	.99	.99	.99	.98	.98	.05

Note: GFI: goodness of fit index; CFI: comparative fit index; IFI: adjustment index; NFI: normalized adjustment index; NNFI: non-normative adjustment index; RMSEA: root-mean squared approximation: $p < .05^*$; $p < .01^{**}$

Reliability and validity analysis

Due to the fact that some dimensions of the instruments are composed by few items, the Cronbach Alpha would present some limitations according to Ventura-León and Caycho-Rodríguez (2017). For this reason and following the recommendation of Domínguez-Lara y Merino-Soto (2015), for the reliability was calculated the ω of McDonald, as unlike the Alpha Cronbach coefficient, it takes into consideration the factorial load, which makes the calculations more stable and it reflects the true level of reliability without relying on the number of items of the dimension (see Ventura-León & Caycho-Rodríguez, 2017). Values of internal consistency (ω) are considered as acceptable between .70 and .90 (Campo-Arias & Oviedo, 2008), although according to Katz (2006) values of $>.65$ can be accepted.

On table 3, there is an analysis of each model, with Cronbach alpha values, compound reliability and AVE, as well as the average and typical deviation of ECTS, SWS, BWS SWL. As we can observe, all the indexes of reliability, AVE and all α are above the acceptable values according to Dunn, Baguley y Brunsten (2014) and Hair, Black, Babin, y Anderson, (2009). Emphasize that the compound reliability is considered more appropriate than Cronbach Alpha in ordinal scale types, because they don't depend on the number of attributes associated to each concept (Vandenbosch, 1996), therefore the values are more acceptable for all the factors.

Table 3. Scale reliability and convergent validity.

	M	DT	Fiabilidad compuesta	AVE	α	ω
ECTS	5.49	.96	.90	.50	.85	.86
SWS	3.16	.95	.83	.50	.76	.80
BWS	2.98	.85	.75	.50	.69	.71
SWL	3.54	.87	.87	.57	.83	.81

Correlation analysis

In table 4 we can see how teacher competence maintains a positive and significant correlation with SWL (.119**) and SWS (.093**), being negative with the ABU. The SWS, presents a negative and significant correlation with the opposite factor on its scale (-.546**), and positive with SWL (.272**). The BWS, finally co-relates negatively and significantly with SWL (-.201**).

Table 4: Correlation analysis between the variables.

	1	2	3	4
1. ECTS	-	.093**	-.023	.119**
2. SATD		-	-.546**	.272**
3. ABUE			-	-.201**
4. SATV				-

Prediction of satisfaction with student life

Due to the objective of this research, different models have been hypothesized, to test which one of them would better adjust according to the recommendation of Markland (2007). Taking into consideration the correlations, it was approved which model would predict better the satisfaction with the student life. The structural regression models were evaluated through the combination of the adjustment indexes previously explained, whose values are: $\chi^2/df=4.32$, GFI=.96, CFI=.92, IFI=.92, NFI=.95, NNFI=.96, RMSEA=.06. These values adjust perfectly to the acceptable parameters (Bentler, 1989; Hooper, et al., 2008; Tabachnick and Fidell, 2007, among others). Looking at figure 1, we can observe gamma, beta, lambda-x, lambda-y, theta delta and theta epsilon values (Figure 1). In it, we can appreciate how ECTS predicts positively and greatly the SWS ($\gamma=.94$), being negative for BWS ($\gamma=-.79$). SWS, predicts at the same time SWL on a positive way ($\beta=.50$), being scarce the prediction of BWS ($\beta=.05$). Finally, it's worth to point out that the standardized factorial load was $\lambda>.50$ and statistically significant ($t\text{-value}>1.96$).

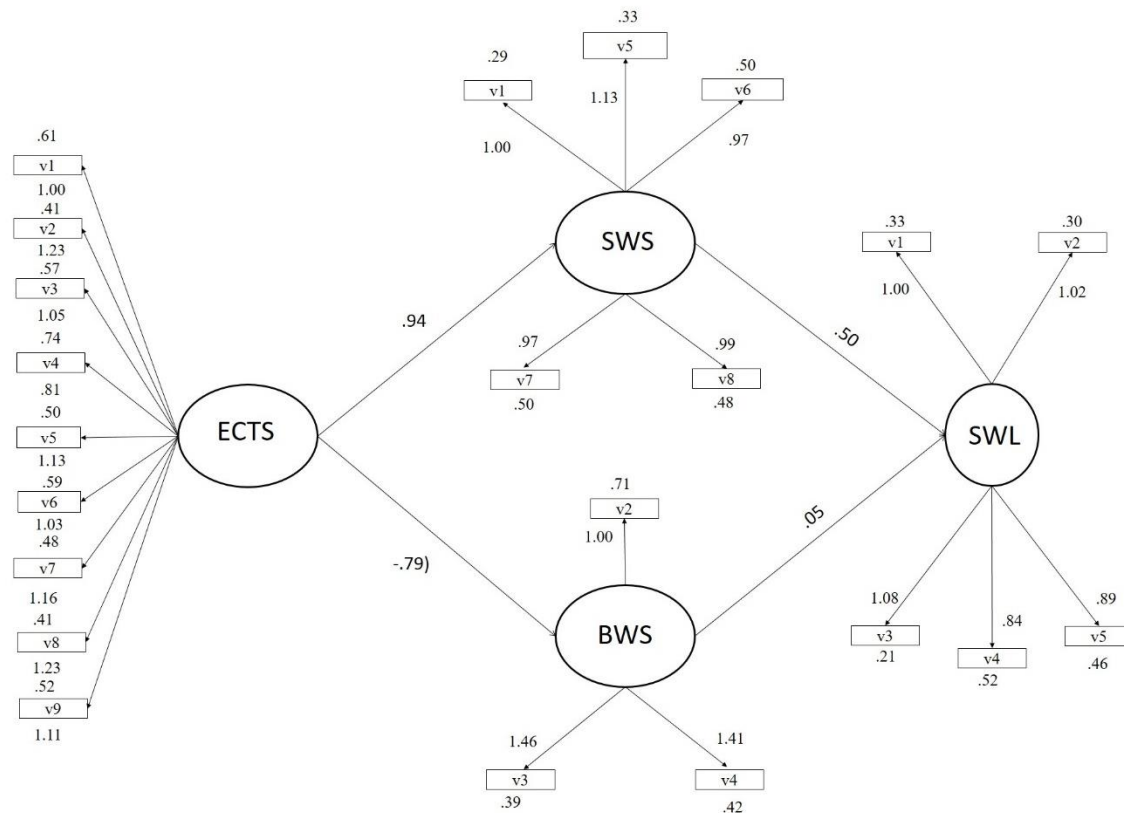


Figure 1. Path diagram of prediction model of ECTS, SWS, BWS and SWL.

Discussion

The objective of this research was to analyze how PE teacher competences can predict the SWS, and these, in turn, the SWL of the student body of ESO and BACH. The importance of this research lies in the influence that PE teachers can have on the subjective wellbeing of adolescents, not only on the academic field, but also having repercussions in other areas of life. In addition, adolescence is a stage of profound changes, in which friends and family influences suffer alterations, and in which teenagers makes decisions that have an impact on adult life. (Maršanić, Margetić, Zečević, & Herceg, 2014). School failure, and even the increasing suicide rate on this stage of life, are the fundamentals of studies like the one we have carried out. (Kosic et al., 2017).

It's worth to emphasize that the three scales, ECTS, SWS and SWL, obtained viable and reliable results to be used.

The obtained results on this research demonstrated positive and significant correlations between teacher competences with SWS and SWL and no correlation with BWS, though it did find signs of a slight negative relation. These results show that PE teachers who are good communicators, those with a good work and social conscience, creative and with a capacity for problem resolution, who give feedback, with good individual consideration of the student -in conclusion, a good professional- can impact not only the fun they have and how satisfied they are with school, but also, the perception that teenagers have on their SWL. Similar results were found by Kuzmanovic, Savic, Popovic, and Martic (2013), that showed that the student was satisfied when the teacher was available to solve problems, showed consideration, gave feedback, etc. So, a good teacher is distinguished by his students, as a good stimulator, innovator, enthusiastic, with good sense of humor, self-reflective and as someone who supports diversity (Delaney, Johnson, Johnson, & Treslan, 2009; Johnstone, 2005; Khine, 2005; Strong, Gargani, & Hacifazliog, 2011, Yair, 2008).

The SWS is related on a positive and significant way with SWL, however, it's related negatively and greatly to BWS, and this at the same time is correlated on a negative and significant way with SWS. Although it's been proved that the teenagers who are considered happy learn faster, behave better, show greater commitment and academic performance (Baena-Extremera & Granero-Gallegos, 2013; Ben-Arieh, 2008; Castro, 2011; Lyons & Huebner, 2015; Noddings, 2003), the school plays an important role in their subjective well-being, due to the great amount of time they spend in it. Therefore, if they find it monotonous and boring, their happiness could be diminished. This input reflects on the obtained results in the present research, since a student who is unsatisfied with school, relates to low levels of SWL. In this line, Lyons and Huebner (2015) found similar results, since the students that were bored in school, showed less school commitment and more dissatisfaction with their life. Taking this into consideration, it's outstanding the importance of a correct planification of sessions, avoiding monotonous and boring classes, thus increasing the levels of SWL (Quinn & Duckworth, 2007).

In the results of the predictive model we can observe how the ECTS-EF predict on a positive way the SWS, and this at the same time the SWL, obtaining similar results to the studies carried out by Baena-Extremera et al. (2015). This helps to understand the weight that

the PE teacher has on the educative system and on the life of the students, where the difference between being a competent teacher or not, could condition the satisfaction or boredom of the student, in a direct way with the school and indirectly with life. (Baños et al., 2017). It is also known that the excellence and quality of the teaching, the professionalism of the teacher by acting fairly and impartially predicts the satisfaction of the student, both with the class and with the teaching quality (Elliot & Shin, 2002). Among the main factors of good teaching, it's worth to empathize setting clear goals, suitable evaluation depending the level of the students, plan an appropriate workload and having ideal general competences for teaching (Ginns, Prosser, & Barrie, 2007). However, there are few teachers capable of making the necessary impact expected for them on the beginning of their careers. (Cameron and Lovett, 2015).

Nevertheless, the students' perception on the incompetence of their PE teacher predicts BWS, not finding prediction in the SWL. These results are important, since an unsatisfied student increases the probability of failures and even school abandonment (Elmore & Huebner, 2010), thus increasing also the probabilities of suicide on teenagers (Singer, Erbacher, & Rosen, 2018). For this reason, it is important to do good teaching, emphasizing the impact that the PE teacher can generate on their students if he is well prepared, avoiding monotonous classes, with an organized planification where the educator gives autonomy to the students and designing sessions close to the students interests (Calderón, Martínez & Martínez, 2013; Delaney et al., 2009; Lee, Kim, & Chan, 2015; Strong et al., 2011). Like this, the motivation for PE classes will probably improve (Baena-Extremera, Granero-Gallegos, Sánchez-Fuentes, & Martínez-Molina, 2013), reflecting also on the school and faculty (Aubert, Bizkarra & Calvo, 2014), an probably improving the results on the PISA report, currently very alarming on the Spanish educative system (Casquero & Navarro 2010).

Finally, we summarize that the advance presented on this research, regarding to previous research, it's how PE teachers can predict positively the SWL of students through the subject they teach, specially in this stage in which they experiment big personal changes, both morphological and psychological. Therefore, we can point out that the work hypothesis is completely accurate. The original contribution of this research, it's the relation that the PE

teacher has, not only with the practice of sports and physical activities of the teenagers in their spare time (Wallhead & Buckworth, 2004), but also with the SWS and SWL.

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