Career Planning Scale of Students Studied in Sports Sciences (CPS): Validity and Reliability Study

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Abstract

The purpose of this study was to develop a scale towards career planning of sports sciences students. Study group consisted of 543 students who were attending in physical education and sports teaching, sports management, and coaching departments in Siirt University. Construct validity of scale was tested through factor analysis and confirmatory factor analysis. Reliability of scale was measured through Cronbach Alpha and test-retest test. Discrimination of scale was tested between down %27 and up %27. Correlation analysis was made between scale factors. In order to calculate the reliability of 23 items in Career Planning Scale, Cronbach Alpha which is a inner consistency coefficient was calculated. General reliability of scale were found to be high as alpha=0.885. Analysis results have demonstrated that adjustment statistics calculated through confirmatory factor analysis showed a significant adjustment and positive correlations were determined between scale sub-dimensions and general scores as a result of correlation analysis ($p<0,05$).

Keywords: Career, Career Planning, Sports, Physical Education and Sport

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INTRODUCTION

The term ‘’career’’ is used in the meaning of acquiring skills, continuous and step by step progression in any field of interest of an individual (Tortop, 1994: 92). Career is a series of works which have continuity for a lifetime equipped with behaviour motives of an individual and is to gain prestige and power, having a better status, and earning money as a result of breaking through in a selected work area (Bayram, 2008:19).

In the stage of beginning of a career (explore), individuals tend to have knowledge of about the careers and professions they are interested in by trying to define what kind of skills they had. In accordance with these, they follow the education process related to professions they are interested in. Therefore, this stage is a process that will go on after starting to work. After starting to work, individuals who are aware of their responsibilities, appear to be important with regard both to make a progress about their careers and to reach to company targets easily.

Individuals can set goals for themselves and exert efforts to reach these goals during university education. In accordance with that if a student can get to know himself-herself better, he/she will enable himself/herself to find a job that is satisfactory.

Sports phenomenon is a process which is a continuing and open for improvement. Thus, while career goals are being defined, it is thought that sports departments are preferred due to both being interested in sports and having a sportsmenship identity in the past.

Sports education/training, is an education process including hypothetic and applied education. During this education process, while student is given theoretical knowledge for his/her profession, they are tried to turn these knowledges into skills in their fields of profession. One of the crucial and initial conditions in developing quality in sports education is the quality of education. Reaching the targets in sports education is depended on using international rules and methods in it.

When considered as a clear approach, an organization process must be established to support and theoretical and applied knowledge with experiences and following innovations all the time. To tell sports education apart from general education, will make targets to reach impossible. Essentially the purpose of education, is to raise qualified human power through education. A qualified individual is well-developed both physically and mentally and who have a proficiency in getting in touch socially within society he/she lived. In this sense, physical education and sports is highly effective in raising qualified individuals (Kızılet, 2018).

As a result of education given in physical education and sports faculties, students can become sports specialist, physical education teacher, coach and also can found an enterprise in sports business. They are expected to have their career plans made in order to be beneficial to society and make difference in these areas during preparation to physical education schools or in the beginning of their education.

For example, as different comparing to other branch teachers; the responsibilities of physical education teachers are not confined to weekly course hours. Physical education teachers also busy themselves with relations with people and other teachers and administrators in addition to extra-curricular activities, need more time for these responsibilities (Altuntaş, 2016).

Sports phenomenon is a social structure where competition environment exists. It has also a significant place in educating and training mind and body. Therefore raising physically and mentally healthy individuals, and raising elite athletes with regard to performance; will contribute positively to people and country.

For this reason, for physical education teachers, knowing purposes well and evaluate them will make physical education teachers contribute to country as sports specialist, coach, educator who

are able to evaluate the performance, whose communication skills are perfect and who understand athlete's psychology after their graduation from school. But if physical education department students would not define their purposes in advance i.e. if they would not target being a good coach, educator and sports specialist and intend only to graduate from their schools, this will cause them not to fullfil their professions better. So this decision must have been given in early years of university education.

Therefore, beginning of a career (explore) consitutes our studies' general framework. While exploring process lasts in mid-twenties, their school life ends and working life starts. An individual mostly in a struggle to understand himself/herself; after that, an individual consider his/her own conditions, and make research related to what kind of job they will be successful.

They determine their weakness and strengths. One of the most important expectations of individuals in the stage of exploring while entering into working life is a long term and productive career. Exploring stage is a very important stage for both individuals and organizations. Because, meeting the expectations of organizations and needs of individuals occur in this stage. In this study which we purposed to measure how they describe the adequacy of the education they took, profession, and expectation they had, it is important for students to select the right professions. As a result of literature search, some studies were reviewed related to career goals and planning. But when considered in terms of sports, there were no any scales found out of athletes career scale. Therefore, to develop a scale towards career planning of sports sciences students and contribute to this field in accordance with this, underlies our research.

METHOD

Research Model

This research was designed in descriptive survey model. As developing a scale was first intended, determining the properties to be tested, writing the items for scale, taking expert opinion and rearranging items, and making validity and reliability stages were followed in research (Cronbach, 1984; Altun ve Büyüköztürk, 2011).

Study Group

Study group consisted of 543 students who were attending in physical education and sports teaching, sports management, and coaching departments in Siirt University. Desciptive statistics related to study group were given in Table 1 below.

Table 1. Desciptive statistics

Groups	Frequency(n)	Per cent (%)
Gender		
Female	184	33,9
Male	359	66,1
Marital Status		
Married	21	3,9
Single	522	96,1
Department		
Physical Education Teaching	159	29,3
Sports Management	311	57,3
Coaching	73	13,4
Class		
1	166	30,6
2	179	33,0
3	87	16,0
4	111	20,4

Education Level of Mother		
Illiterate	241	44,4
Primary School	151	27,8
Secondary School	70	12,9
High School	33	6,1
Associate Degree	6	1,1
Bachelor's Degree/Undergraduate	40	7,4
Graduate	2	0,4
Education Level of Father		
Illiterate	82	15,1
Primary School	166	30,6
Secondary School	108	19,9
High School	125	23,0
Associate Degree	11	2,0
Bachelor's Degree/Undergraduate	42	7,7
Graduate	9	1,7

Students were distributed as 184 (33,9) female, 359 (66,1) male according to gender and Marital status; 21 (3,9%) married, 522 (96,1%) single. Departments; 159 (29,3%) physical education and sports teaching, 311 (57,3%) sports management, 73 (13,4%) coaching. Classes; 166 (30,6%) 1st class, 179 (33,0%) 2nd class, 87 (16,0%) 3rd class, 111 (20,4) 4th class. Education level of mother; 241 (44,4%) illiterate, 151 (27,8%) primary school, 70 (12,9%) secondary school, 33 (6,1%) high school, 6 (1,1%) associate degree, 40 (7,4%) bachelor's degree/undergraduate, 2 (0,4%) graduate. Education level of father; 82 (15,1) illiterate, 166 (30,6%) primary school, 108 (19,9%) secondary school, 125 (23,0%) high school, 11 (2,0%) associate degree, 42 (7,7%) bachelor's/undergraduate, 9 (1,7%) graduate.

Data Collection Tools

In the first stage of developing the scale, literature associated with career and career planning were reviewed and the importance of career planning were tried to determine. Based on related literature search, a 35 item, item repository was established. Trial form of scale established was broached to 5 experts from Physical Education and Sport Department and 3 from Faculty of Economics and Administrative Sciences.

Experts have evaluated the suitability of career planning for properties of physical education and sports students and clarity of items. In accordance with expert opinions, 5 items were omitted from scale and some were tried to be corrected. Following this correction, a 30 item trial form was composed. Participants were asked express their opinions as ''Strongly agree'', ''agree'', ''undecided'', ''disagree'', ''strongly disagree'' in a 5 likert type form. Before scale was applied to students, explanations were made to participants related to career planning and the purpose of research was explained. Application of scale lasted in 10 minutes.

Statistical Analysis

Construct validity of scale was tested through exploratory factor analysis and confirmatory factor analysis. Reliability of scale was measured through Cronbach Alpha and test-retest test. Discrimination of scale was tested between down %27 and up %27. Correlation analysis was made between scale factors.

FINDINGS

In order to reveal construct validity of scale, exploratory factor analysis method was applied. As a result of Barlett test, (p=0.000<0.05) a relationship was found between variables included in factor analysis. As a result of Kaiser-Mayer-Olkin test, (KMO=0.904>0,60) it was determined that sample size was adequate for factor analysis to apply. In applying factor analysis varimax method was selected and construct of relationship between factors were provided to stay same. As a result of factor analysis, variables were collected under 5 factors which had 55.496% variance.

Items 6, 8, 9, 19, 20, 22, 28, were omitted as factor loading was under 0,4. In order to calculate reliability of 23 items in career planning scale; internal coefficient''Cronbach Alpha'' was calculated. General reliability of scale was found very high with alpha=0.885. According to explained variance ratio and alpha coefficient it can be said that Career Planning Scale is reliable tool. Factor construct was shown below.

Table 2. Construct of Career Planning Scale

Dimension	Factor Load
Career Awareness ((Eigen value=7,243; Explained variance=14,973; Alpha=0,833)	
4- I want to create differences for the company i work for and be dynamic.	0,653
10- I determine my career goals according to my interests and skills	0,651
11- I think that i focus on my goals according to my career plans	0,647
5- I am aware the way i will follow in order to reach my career goal	0,644
13- While planning my career, I know that not only i will get promotion hierarchically but also i will improve my skills.	0,604
14- My sportive skills are pathfinders for making a career planning for me.	0,490
12- I know positive and negative sides of place I work, i searched it.	0,486
18- I think that i am able to overcome the obstacles that will come in my career way	0,455
1-I am aware of my weak and strong sides and skills	0,433
Professional Awareness (Value=1,925; Variance determined=12,661; Alpha=0,780)	
16- I am aware of my profession's progress facilities	0,757
15- I have knowledge of the future of my profession	0,697
17- I am aware of knowledge and skills asked in my profession	0,692
23- I follow the events related to my profession	0,475
Faith Towards Career (Value=1,341; Variance determined= 11,688; Alpha=0,784)	
30- Thinking about my career inspires me	0,727
29- I believe that i will overcome any obstacles will come in my way in reaching to my career	0,698
27- I know career planning is important for being successful in my profession	0,633
26- I think that i am compatible with the profession that i chose	0,617
Accuracy of Selection (Value=1,211; Variance Determined= 8,143; Alpha=0,649	
2- the department i study enables to plan my career and improve it and make me reach my goal	0,817
3- Position i selected, made me to build my career plan	0,803
7- I think that making a career planning, specifies the choices and resolves uncertainties	0,431
Education Proficiency (Value=1,044; Variance Determined= 8,031; Alpha=0,641	
25- Facilities in school, are adequate to actualize my career planning	0,802
24- I participate in seminars, courses and symposiums for my career	0,738
21- I think that the education i received is adequate to reach my career goals	0,678
Total Variance=55.496%; General Reliability (Alpha)=0.885	

Factor construct obtained in exploratory factor analysis of scale was tested through confirmatory factor analysis. Diagram is given related to confirmatory factor analysis below

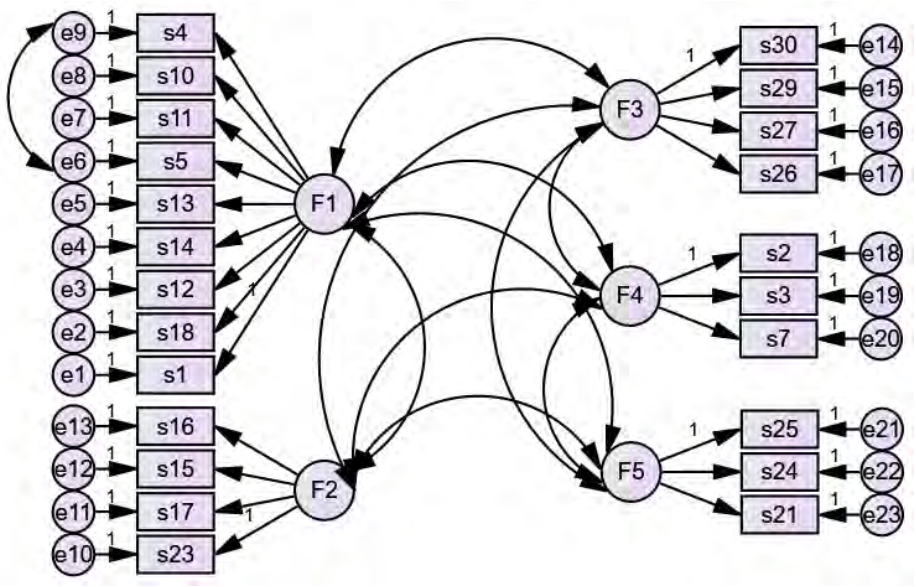

Figure 1. Diagram related to Confirmatory Factor Analysis

Criterion related to Confirmatory Factor Analysis given below

Table 3. Confirmatory Factor Analysis Model Fit Values for CPS

Index	Normal Value*	Acceptable Value**	CPS
$\chi 2$/sd	<2	<5	2.42
GFI	>0.95	>0.90	0.92
AGFI	>0.95	>0.90	0.90
CFI	>0.95	>0.90	0.92
RMSEA	<0.05	<0.08	0.05
RMR	<0.05	<0.08	0.05

*, ** References: (Şimşek, 2007; Hooper and Mullen 2008; Schumacker and Lomax, 2010; Waltz, Strcikland and Lenz 2010; Wang and Wang, 2012; Sümer, 2000; Tabachnick ve Fidel, 2007).

As a result of analysis; it was determined that model fit statistics calculated with factor analysis were seen to be fit. Standardised factor loadings, t values and explained variance ratios (R^2) were given below in Table 4.

Table 4. Confirmatory Factor Analysis Factor Loadings and Regression Coefficients related to items

Items		Factors	β	Std. β	S.Error	t	p	R^2
s1	<---	F1	1,000	0,511				0,487
s18	<---	F1	1,453	0,628	0,141	10,276	p<0,001	0,483
s12	<---	F1	1,347	0,517	0,148	9,124	p<0,001	0,569
s14	<---	F1	1,377	0,609	0,136	10,103	p<0,001	0,566
s13	<---	F1	1,309	0,529	0,141	9,258	p<0,001	0,610
s5	<---	F1	1,526	0,619	0,150	10,173	p<0,001	0,473
s11	<---	F1	1,564	0,667	0,147	10,620	p<0,001	0,599
s10	<---	F1	1,623	0,679	0,151	10,723	p<0,001	0,562

s4	<---	F1	1,387	0,607	0,138	10,052	p<0,001	0,568
s23	<---	F2	1,000	0,549				0,504
s17	<---	F2	1,185	0,744	0,100	11,883	p<0,001	0,574
s15	<---	F2	1,228	0,737	0,104	11,819	p<0,001	0,543
s16	<---	F2	1,262	0,757	0,105	11,987	p<0,001	0,554
s30	<---	F3	1,000	0,710				0,522
s29	<---	F3	1,035	0,753	0,068	15,320	p<0,001	0,513
s27	<---	F3	1,006	0,750	0,066	15,257	p<0,001	0,461
s26	<---	F3	0,850	0,568	0,072	11,877	p<0,001	0,445
s2	<---	F4	1,000	0,688				0,538
s3	<---	F4	1,052	0,781	0,094	11,219	p<0,001	0,533
s7	<---	F4	0,583	0,447	0,068	8,523	p<0,001	0,577
s25	<---	F5	1,000	0,754				0,603
s24	<---	F5	0,734	0,553	0,089	8,288	p<0,001	0,544
s21	<---	F5	0,695	0,553	0,084	8,289	p<0,001	0,597

When standardised coefficients were examined, it was determined that factor loadings were high, standart error values were low, t values were significant (p<0,001), R^2 values were high. These results confirm construct validity related to factor construct determined previously.

Discrimination of scale were analysed with the difference between 27% lower and 27% upper groups (Table 5). According to analysis findings, it was determined that scale was able to distinguish upper and lower group with sub-dimensions (p<0,05).

Reliability results of scale were given in Table 5. Reliability of scale depended on time were provided (p>0,05).

Table 5. Discrimination of Scale and Test- Retest Findings

	Discrimination				**Test-Retest**	
	Lower 27% Avg±Sd)	**Upper 27% (Avg±Sd)**	**t**	**p**	**t**	**p**
Career Awareness	3,481±0,639	4,697±0,234	-21,674	**0,000**	0,357	0,722
Professional Awareness	3,357±0,732	4,738±0,316	-21,016	**0,000**	-1,054	0,295
Faith in Career	3,456±0,816	4,799±0,271	-18,947	**0,000**	1,482	0,142
Accuracy of Choice	3,243±0,751	4,456±0,521	-16,096	**0,000**	-0,820	0,414
Education Proficiency	2,696±0,810	3,862±0,906	-11,625	**0,000**	-0,292	0,771
General Career Planning	3,322±0,437	4,582±0,153	-32,998	**0,000**	-0,413	0,681

Table 6. Average Scores and Correlation Matrix

	Average	Standart Deviance	Career Awareness	Career Awareness	Career Awareness	Career Awareness	Career Awareness	Career Awareness
Career Awareness	4,154	0,615	1,000					
Professional Awareness	4,129	0,744	0,649**	1,000				
Faith in Career	4,222	0,750	0,610**	0,615**	1,000			
Accuracy of Choice	3,822	0,791	0,436**	0,360**	0,354**	1,000		
Education Proficiency	3,228	0,988	0,166**	0,186**	0,171**	0,299**	1,000	
General Career Planning	3,997	0,538	0,875**	0,794**	0,772**	0,631**	0,457**	1,000

*<0,05; **<0,01

"Career awareness" of students was average 4,154±0,615 (Min=1.67; Max=5), "professional awareness" was average 4,129±0,744 (Min=1; Max=5), "faith towards career" was average 4,222±0,750 (Min=1; Max=5), "accuracy of choice" was average 3,822±0,791 (Min=1; Max=5), "education proficiency" was average 3,228±0,988 (Min=1; Max=5), "career planning general" was average 3,997±0,538 (Min=1.7; Maks=5).

As a result of correlation matrix; positive correlations were determined between scale sub-factors and general scores ($p<0,05$).

RESULTS AND FUTURE RECOMMENDATIONS

As a result of education given in sports science faculties, students are able to establish a company as entrepreneur, coach, physical education teacher or sports specialist in sports business. In order to be the best, create difference and being beneficial to society, they are expected to be made their career planning when they were attended in a physical education department and started to receive education.

However, as students attended in physical education and sports departments work in other business sectors, made us think that there might be issues related to career planning. In addition, as there was no any valid and reliable measurement tool towards career planning, demonstrated that there was a need for such a tool. In accordance with this, in this study we have carried out, it was aimed to develop a scale to determine career plannings of physical education and sports students and to test validity and reliability of it.

In this study, 23 items and 5 sub-factor scale were developed consisting of Career Awareness, Professional Awareness, Faith towards Career, Accuracy of Choice, Education Proficiency in order to determine career planning features of sports science students. Carreer awareness dimension consisted of 9 item, Professional awareness dimension; 4 item, faith towards career dimension; 4 item, accuracy of choice dimension; 3 item, and education proficiency dimension consisted of 3 item. Analysis results toward construct validity of scale revealed that scale items had acceptable level of factor loading and scale was in a five factor form.

It was also revealed that internal consistency was generally on acceptablelevel. There was a significant relationship between the dimensions of scale. These results demonstrated that **CPS**'s validity and reliability was on a sufficient level. It was thought that with this shape of the scale can be used to determine career planning features of sports sciences students, and also thought to contribute to literature as a valid and reliable measurement tool. It can be recommended that this study can be carried out with larger groups as it has limited groups in current study. The scale was also recommended to be used for sports high school students and graduate students as well as using it for undergraduate students by repeating their validity and reliability studies.

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