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Survey on exercise and sport sciences in Italy

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ABSTRACT

In Italy, motor and sports sciences have been in the academy since 2000 following the reform of the higher institutes of physical education, ISEF. Subsequently, with the implementation of the Bologna process in 2011, the first three-year degree courses and the first professors divided into motor sciences and sports sciences were born. After almost twenty years of development they are within the academy like other scientific knowledge. The study focuses on the numerical consistency of degree courses and professors and the evolutionary trends between them to observe the variations. To aim the correlations between the different categories of variables: three-year and master's degree courses, professors and professors of physical education and sports sciences. The method is the archive search of official data in the ministerial database and the statistical analysis of them. The results show a significant correlation between the variables examined in relation to time, demonstration of a progressive development; moreover the correlations between all the examined variables are significant, further demonstration of a gradual development. It would be further useful to know the trends in the number of students and the trends of the degree courses and professors to check if there are significant correlations between them also for these trends. **Keywords**: Professors M-EDF/01 and M-EDF/02; Bachelor's degrees; Master's degrees.

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INTRODUCTION

In Italy, motor and sports sciences have been in the academy since 2000 following the reform of the higher institutes of physical education, ISEF (D'Isanto, 2019). Subsequently, with the implementation of the Bologna process in 2011, the first three-year degree courses and the professors are divided by physical education sciences academic disciplines and sports sciences one (D'Elia 2019, D'Elia et al, 2019). After almost twenty years of development they are within the academy like other scientific knowledge. The study focuses on the numerical consistency of degree courses (Sanseviero et al, 2019ab) and professors and the evolutionary trends between them to observe the variations. To aim the correlations between the different categories of variables: three-year and master's degree courses, professors and professors of physical education and sports sciences.

METHODS

The method is the archive search of official data in the ministerial database and the statistical analysis of them. The correlations between all the variables considered were calculated using the Pearson correlation coefficient. Statistical analysis was performed using SPSS 22.0 (SPSS Inc., Chicago, IL, USA). For all the performed analyses, a p-value <0.05 was considered significant.

RESULTS

In the table 1 it is shown the whole data where is the complex data in aggregated form and disaggregated one. The data were collected and grouped according to 11 variables and distributed over a period of 20 years.

In the figure 1 it is shown the trend over the years (from 2001/02 to 2019/20) in relation to the total number of the professors. Since 2006/07 there has been an exponential increase in the number of them, compared to previous years. Finally, in the table 2 are shown several correlations between considerate variables.
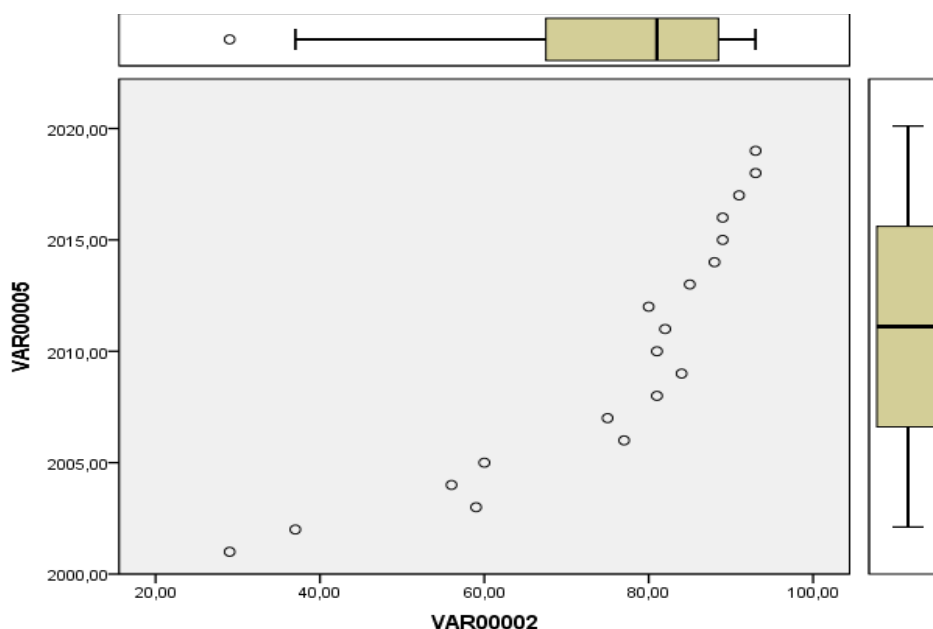

Figure 1. VAR05 = Academic years and VAR02 = Total number of the structured.

Table 1. Complex data of degrees program and professor

Academic year	Professors	Degree programs	Professor of Physical activity M-EDF/01	Professor of sports sciences M-EDF/02	Bachelor's degrees	Master's degrees	Master's degrees' program of Sport management 53S and LM47	Master's degrees Adapted physical activity76S and LM67	Master's degree Sports sciences 75S and LM68
2001-02	0	29	0	0	29	0	0	0	0
2002-03	21	37	10	11	32	16	3	9	4
2003-04	27	59	13	14	33	26	3	13	10
2004-05	44	56	21	23	33	35	6	17	12
2005-06	76	60	35	41	36	36	7	17	12
2006-07	107	77	47	60	37	40	7	22	11
2007-08	113	75	61	52	37	40	6	22	12
*2008-09	128	**57+24=81	73	55	**24+12=36	**33+12=45	**5+2=7	**18+7=25	**10+3=13
*2009-10	134	**27+57=84	76	58	**9+26=35	**18+31=49	**4+4=8	**8+17=25	**6+10=16
2010-11	140	81	73	67	32	49	7	26	16
2011-12	152	82	77	75	34	48	5	26	17
2012-13	162	80	78	84	34	46	4	26	16
2013-14	166	85	78	88	35	50	5	27	18
2014-15	164	88	79	85	36	52	5	29	18
2015-16	168	89	80	88	36	53	5	30	18
2016-17	167	89	81	86	36	53	5	30	18
2017-18	163	91	76	87	36	55	6	31	18
2018-19	168	93	84	84	38	55	6	31	18
2019-20	170	93	87	83	38	55	6	31	18

*Transition years for specialized degrees and master's degrees. ** Disaggregated data for bachelor's degrees type and master's degrees type and aggregates for both of them.

Table 2. Correlation among whole variables about professors and degree programs between 2001-2020

		VAR01	VAR02	VAR03	VAR04	VAR06	VAR07	VAR08	VAR09	VAR010	VAR011
VAR01 Structured total	Pearson correlation	1	.958**	.988**	.989**	.679**	.941**	.916**	.514*	.963**	.926**
	Sign. (with two tails)		.000	.000	.000	.001	.000	.000	.024	.000	.000
	N	19	19	19	19	19	19	19	19	19	19

VAR02 Total degree courses	Pearson correlation	.958**	1	.956**	.939**	.766**	.976**	.884**	.628**	.984**	.951**
	Sign. (with two tails)	.000		.000	.000	.000	.000	.000	.004	.000	.000
	N	19	19	19	19	19	19	19	19	19	19
VAR03 M-EDF 01 total	Pearson correlation	.988**	.956**	1	.955**	.669**	.935**	.889**	.553*	.953**	.911**
	Sign. (with two tails)	.000	.000		.000	.002	.000	.000	.014	.000	.000
	N	19	19	19	19	19	19	19	19	19	19
VAR04 M-EDF 02 total	Pearson correlation	.989**	.939**	.955**	1	.673**	.925**	.921**	.464*	.950**	.920**
	Sign. (with two tails)	.000	.000	.000		.002	.000	.000	.046	.000	.000
	N	19	19	19	19	19	19	19	19	19	19
VAR06 1st level degrees	Pearson correlation	.679**	.766**	.669**	.673**	1	.752**	.655**	.656**	.758**	.671**
	Sign. (with two tails)	.001	.000	.002	.002		.000	.002	.002	.000	.002
	N	19	19	19	19	19	19	19	19	19	19
VAR07 2nd level degrees	Pearson correlation	.941**	.976**	.935**	.925**	.752**	1	.864**	.701**	.992**	.980**
	Sign. (with two tails)	.000	.000	.000	.000	.000		.000	.001	.000	.000
	N	19	19	19	19	19	19	19	19	19	19
VAR08 Academic years	Pearson correlation	.916**	.884**	.889**	.921**	.655**	.864**	1	.335	.903**	.870**
	Sign. (with two tails)	.000	.000	.000	.000	.002	.000		.161	.000	.000
	N	19	19	19	19	19	19	19	19	19	19
VAR09 53S LM47	Pearson correlation	.514*	.628**	.553*	.464*	.656**	.701**	.335	1	.636**	.601**
	Sign. (with two tails)	.024	.004	.014	.046	.002	.001	.161		.003	.007
	N	19	19	19	19	19	19	19	19	19	19
VAR010 76S LM75	Pearson correlation	.963**	.984**	.953**	.950**	.758**	.992**	.903**	.636**	1	.966**
	Sign. (with two tails)	.000	.000	.000	.000	.000	.000	.000	.003		.000
	N	19	19	19	19	19	19	19	19	19	19
VAR011 75S LM76	Pearson correlation	.926**	.951**	.911**	.920**	.671**	.980**	.870**	.601**	.966**	1
	Sign. (with two tails)	.000	.000	.000	.000	.002	.000	.000	.007	.000	
	N	19	19	19	19	19	19	19	19	19	19

**. The correlation is significant at level 0.01 (two-tailed). *.The correlation is significant at level 0.05 (two-tailed).

In the Table 2 there are Significant correlation and not Not significant correlation.

The figure 1 shows the trend over the years (from 2001/02 to 2019/20) in relation to the total number of the professors. Since 2006/07 there has been an exponential increase in the number of them, compared to previous years.

The table 1 shows the whole data where is the complex data in aggregated form and disaggregated one.

The value of the Pearson correlation (Table 2) shows how much more is near to 1 and more it is a high correlation, for example 0.989; otherwise, how much more it is near to 0, the more it is a lower correlation, for example 0.335.

DISCUSSION

A large part of the variables are strongly correlated with each other, while the variables 1st level degrees and 53S LM47 only show a lower correlation with the other variables. This means that the variables 1st level degrees and 53S LM47 do not follow the same development and trend of the other variables, over the period of time considered.

The total structured variable shows a fair correlation (0.514) with the LM47, with the 1st level Degrees a good correlation (0.679); while a strength correlation with the remaining variables: Total degree courses (0.958); M-EDF 01 total (0.988); M-EDF 02 total (0.989); 2nd level degrees (0.941); Academic years (0.916); 76S LM75 (0.963) and 75S LM76 (0.926).

The variable total degree courses shows a good correlation with the 1st level Degrees (0.766) and the LM47 (0.628), while with the remaining variables a strength correlation (M-EDF 01 total (0.956); M-EDF 02 total (0.939); 2nd level degrees (0.976); Academic years (0.884); 76S LM75 (0.984); 75S LM76 (0.951).

The total M-EDF 01 variable shows a fair correlation (0.553) with the LM47, with the 1st level Degrees a good correlation (0.669) and a strength correlation with the remaining M-EDF 02 variables total (0.955); 2nd level degrees (0.935); Academic years (0.889); 76S LM75 (0.953) and 75S LM76 (0.911).

The total M-EDF 02 variable shows a fair correlation (0.463) with the variable LM47, with the 1st level degrees a good correlation (0.673) and a strength correlation with the remaining variables 2nd level degrees (0.925); Academic years (0.921); 76S LM75 (0.950); 75S LM76 (0.920).

The 1st level Degree variable shows good correlations with the 2nd level Degrees (0.752), Academic years (0.655), 53S LM47 (0.656), 76S LM75 (0.758) and 75S LM76 (0.671); while it does not have a strength correlation with any of the variables.

The 2nd level Degree variable shows a good correlation (0.701) with the LM47 variable and a strength correlation with the Academic years (0.864), 76S LM75 (0.992) and 75S LM76 (0.980) variables.

The variable Academic years shows a low correlation (0.335) with the variable LM47, while a strength correlation with the variables 76S LM75 and 75S LM76.

The variable 53S LM47 shows a good correlation with the variables 76S LM75 (0.636) and 75S LM76 (0.601); finally, the variable 76S LM75 shows a strength correlation with the variable 75S LM76 (0.966).

CONCLUSION

The results show a significant correlation between the variables examined in relation to time, demonstration of a progressive development; moreover the correlations between all the examined variables are significant, further demonstration of a gradual development. It would be further useful to know the trends in the number of students and the trends of the degree courses and professors to check if there are significant correlations between them also for these trends.

REFERENCES

D'Elia, F. (2019). The training of physical education teacher in primary school. Journal of Human Sport and Exercise, 14(1proc), S100-S104. https://doi.org/10.14198/jhse.2019.14.Proc1.12

D'Isanto, T. (2019) Physical and sport education between Italian academic system and European Research Council structure panel, Journal of Human Sport and Exercise, 14, pp. S66-S76. https://doi.org/10.14198/jhse.2019.14.proc1.08

Sanseviero, I., Cassese, F.P., Fonzo, E., Altavilla, G., D'elia, F. (2019a) Study on the master's degree in sciences of sports evaluation and sport for disabled at the University of Salerno, Italy, Journal of Human Sport and Exercise, 14 (Proc2), pp. S239-S244. https://doi.org/10.14198/jhse.2019.14.proc2.12