Original article

THE RELEVANCE OF CONTROL TRIALS IN COMPETITIONAL PERFORMANCE PREDICTABILITY IN THROWING EVENTS

ANTON MARGARETA[1]

Abstract

Aim. We may wondered to our self in which measure these two probes 30 m sprint and pushed from lying down position are relevant for prognosis of the competitional results in hammer throwing and weight throwing probes. We consider that the statistic correlations are nonlinear, meaning that the veracity of the probes and control norms depending on the athletes performance, on ages or level training and in the last instance on probe it-self.

Methods. Were taken into consideration the results of the control probes, sustained with three weeks before and, have correlated statistic labeled with the results from sportive competition. Were four athletes at hammer throwing and nine at weight throwing (men and women) from the representative lot of Romania.

Results. For the 30 m sprint probe do not identified the significant correlations, the fact which limit the discussion of these probe utility at prediction of one result in competition but even of an effort capacity diagnosis or the training level, eventual the body state. The graphic-analytical and statistic processing of the pushed lying down probe shows that this control probe is significant correlated with competition result and that may be taken in the calculation of prognosis of proximal contest result.

Conclusion. The pushed lying down probe show that this control probe is significant correlate with competition result and that may be taken into calculation of prognosis of the proximal contest result at weight throwing. Between the genuflections probe with barbell and the competition result of the man spear throwers the correlation items indicate a lower value (r=0.28). Therefore knowing the value of this probe can not make a prediction of the result from next competition. The result of this probe may offer us the structured and easy information in connection with: the diagnosis of the training level in different stages.

Key words: athletics, throwing, 30m sprint, pushed from lying down position, genuflections competition results.

Introduction

Our study employed IBM SPSS Statistics Professional, which presents additional capabilities with regard to the quality and complexity of the data, prognosis and automatization. The acronym SPSS, originally an abreviation for "Statistical Package for the **S**ocial **S**ciences", holds another form in IBM: "**S**tatistical **P**roduct and **S**ervice **S**olutions" *(*Sticlaru, 2012*)*. The original SPSS manual (Nie, Bent, Hull, 1970) has been described as one of *sociology's most influential books* for allowing ordinary researchers to do their own statistical analysis (Wellman, 1998).The correlations, graphs and tags, in other words the data processing, such as validation, sorting, aggregation, analysis, reporting, classification (Bourque, Clark, 1992,http://en.wikipedia.org/wiki/SPSS,http://en.wikipedia.org/wiki/Data_processing) have led to the discovery of interesting aspects regarding the relationship between the two data rows. In high performance sport the use of the meanings so specific in the throwers training lead to a better management of the athlete energy. The choice and the providing moment of the control probes is made for to obtain information, structured and easy in connection with: the diagnosis of the training level (the general physical, specific, special, etc.); the diagnosis of the body state (fatigue, athletes shape etc.); the selections, the controls, the detection of deficiencies etc; the evolution control, the learning etc; the prognosis of behavior and of results from immediately next competitions; the prognosis of progress rate of the effort capacity, of the limits for the accident prevention; the prognosis of entry in sportive shape (Anton, 2003). The control norms, must to permit the appreciation of great functions at the request of probe specific effort, "motrical skills development items, control level of some technical procedures" (Ivan, 2003).

We may wondered to our self in which measure these three probes 30 m: sprint and pushed from lying down position are relevant for prognosis of the competition results in hammer throwing and weight throwing probes and genuflections for javelin throwing. We consider that the statistic correlations are nonlinear, meaning that the veracity of the probes and control norms depending on the athletes performance, on ages or level training and in the last instance on probe it-self.

[1] Faculty of Physcal Education and Sport, Ecological University, of Bucharest ,Vasile Milea 1G, ROMANIA
E-mail address: margaretabosanceanu@yahoo.com

Methods. Were taken into consideration the results of the control probes, sustained with three weeks before and, have correlated (Gagea, 1996) and statistic labeled with the results from sportive competition. The subjects were four athletes at hammer throwing, nine at weight throwing, 14 javelin throwing (men and women) from the representative lot of Romania.

Nr. crt	Name, surrname	Date of birth	Sports club	Event	Performance
1.	Ţ.F.	1967	C.S.Dinamo	Javelin	66.94 m
2.	Ţ. M.	1975	C.S.Dinamo	Javelin	65.08 m
3.	I. C.	1973	C.S. Dinamo	Javelin	57.92 m
4.	I. C.	1976	C.S. Steaua	Javelin	54.76 m
5.	S. M.	1982	C.S.M. Sibiu	Javelin	51.80 m
6.	S. R.	1981	CSS Dinamo	Javelin	49.55 m
7.	P. T.	1982	C.S.M. Arad	Javelin	53.90 m
8.	R. L.	1980	C.S. Ploieşti	Javelin	57.39 m
9.	R. F.	1975	C.S. Ploieşti	Javelin	74.86 m
10.	B. L.	1979	A.N.E.F.Buc.	Javelin	71.90 m
11.	B. L.	1977	A.N.E.F.Buc	Javelin	73.98 m
12.	M. C.	1976	C.S. Ploieşti	Javelin	73.75 m
13.	M. B.	1984	CSS7 Dinamo	Javelin	54.60 m
14.	F.I.	1984	L.P.S. Arad	Javelin	55.33 m
15.	V. A.	1978	CSMCraiova	Shot put	17.51 m (4 kg) m
16.	N.I.	1985	C.S.4 Buc.	Shot put	15.05 (5Kg)m
	N. I.	1985	C.S.4 Buc.	Shot put	12.50 (7.260 Kg)m
17.	D. Ş.	1983	C.S.4 Buc.	Shot put	13.43 (7.260 Kg) m
18.	M.A.	1985	C.S.4 Buc.	Shot put	18.77 (5 Kg)m
19	M. A.	1985	C.S.4 Buc.	Shot put	13.82 (7.260 Kg) m
20	S. V.	1983	C.S.S7 Buc.	Hammer	59.30 (7.260 Kg) m
21	Z.M.	1984	C.S.S7 Buc.	Hammer	45.17 (7.260 Kg) m
22	S.A.	1983	C.S.S7 Buc.	Hammer	50.80 (7.260 Kg) m
23	V. M.	1977	CS Dinamo	Shot put	19.65 (7.260 kg) m
24	G. G.	1968	CS Zalau	Shot put	20.21(7.260 kg) m
25	S.I.	1972	CSM Craiova	Hammer	75.96 m
26	F.A.	1979	CS Dinamo	Shot put	17.56 (4 kg) m
27	H. E.	1974	CSM Sibiu	Shot put	18.73 (4 kg) m

Table 1 Subjects and results

The control probes:

- Speed run (30 m sp). Measure the movement speed. The athlete goes under the audible command with standing start. They run through the ones 30 m with maximum intensity speed. The running is made without special shoes (without nailing). They run two times and they are noted with the best result. Is measuring in seconds and splits second;

– *genuflections:* measure the muscle force of lower limbs. With the bar lateral charged with weights, placed on the scapular-humeral belt is executed a complete flexion of a lower limbs, after that is following the complete standing-up from flexion. Is executed only once and is noting the number of raised kilos.

- Pushed from lying – down position (î.c). Measure the arms muscles force: biceps, triceps, pectoral. Standing laying – down in supine position with the arms strait forward, is raising the bar with charge and execute one complete flexion of the arms till of the chest level after that push the bar again in the initial position. Is noted the number of pushed kilos.
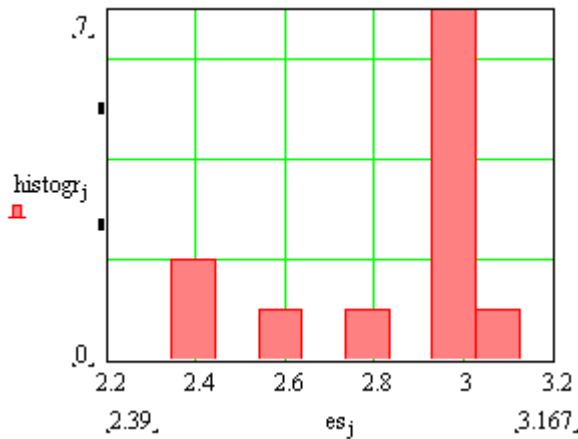
Results.

Fig.1. The hammer throwing. The histogram of 30m sprint control probe

Fig. 2. The hammer throws. The label characteristic of the 30m sprint control probe

For the 30 m sprint probe do not identified the significant correlations, the fact which limit the discussion of these probe utility at prediction of one result in competition but even of an effort capacity diagnosis or the training level, eventual the body state.
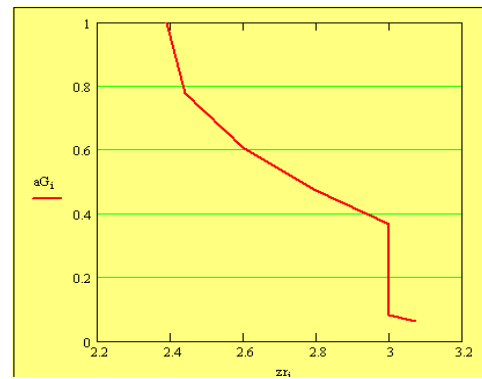
The prediction pattern has needed the comparable rate for the probes labeling, the significant statistic correlations and logical ground for the eventual causal links. From the presented swatches above these conditions seems do not be fulfilled.

	The weight throw	Pushed form lying down
	0 1	1
The weight throw	1 **1**	**.71**

Table 2. The weight throws. The correlation items between weight throwing and pushed lying down position control probe
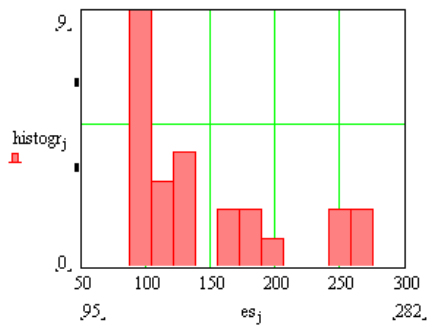
Fig. 3. The weight throws. The histogram of barbell pushed from lying down control probe
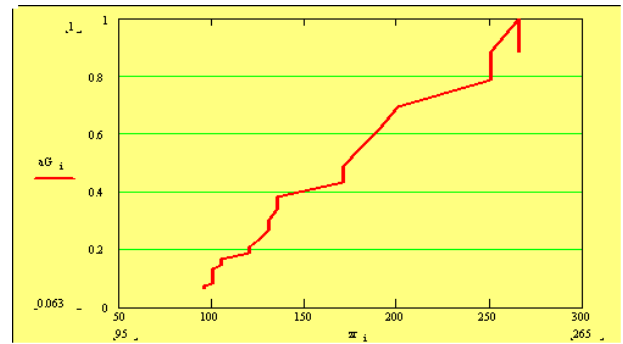

Fig. 4. The weight throws. The label characteristic of the barbell pushed from lying down probe

The graphic-analytical and statistic processing of the pushed lying down probe shows that this control probe is significant correlated with competitional result and that may be taken in the calculation of prognosis of proximal contest result. The label varies relatively constant, showing distinct value classes for the same progress rate.

	Genuflections	
	0	7
The spear throwing	1	**0.28**

Table nr.3. Javelin throw. The correlation of the genuflection probe with the competition result
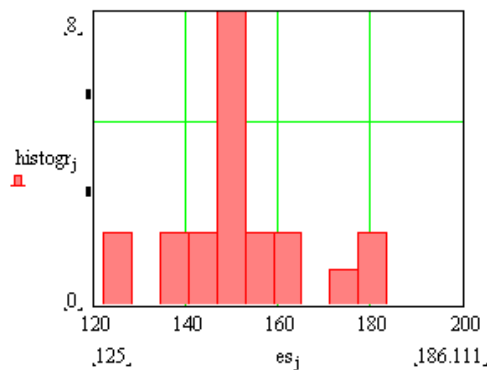

Fig.5. The histogram of control probe weightlifting genuflections

From the histogram of the genuflection probe and other statistical aspects (such as the correlation coefficient) result that the probe is not convincing for the predictive pattern of the spear throwing probe.
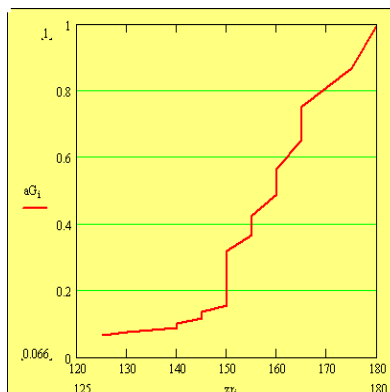
Fig.6 . The label characteristic of the barbell genuflections probe

The label characteristic of the barbell genuflections control probe reveal the same synthetic fact, meaning irrelevant of the test in connection with the predicted result for the next contest. "Any omen (entity, object, thing) or phenomenon has one or more characteristics (properties, skills, attributes, etc.), and for every characteristics may be attached a category (qualification, note, score, mark, value or in general, a subjective qualitative expression)". According to the same author the measurable potential characteristics is called measured, and by the label of measured understands any awarding approach (process) of one's categories for the respective measured. (Gagea, 1996; 1999).

Discussions

In statistics, dependence is any statistical relationship between two random variables or two sets of data. Correlation refers to any of a broad class of statistical relationships involving dependence. (http://en.wikipedia.org/wiki/Correlation_and_depend ence)

The first label of a correlation coefficient is that significant correlation. Within the significant correlation it is customary to be given the three qualitative categories: weak correlation, average correlation and strong correlation (or tight) (Gagea, 1999).

In generally, the correlation coefficient shows the concordance between relative position of one variable in its repartition and the relative position of its pair into the string repartition from which makes part the pair variable. When the correlation coefficient is maximum ($r = 1$), then each of the two variable has the same relative position in repartition, so the same scoring (z) of the standard version.

"The evaluation is diverse and even contradictory. We believe that evaluation must to have at least three criteria: fidelity, significance, practicality. We put the question in which measure the control probes are accurate, significances and practical" (Anton, 2003).

With reference at significance we believe that must to exist a link first of all between the practiced probe and control probes, but especially between performance and control probes, so that the progress at these probe to permit an anticipation of the result.

Regarding the practicality the probes must to be accessible, standardized to permit the fast evaluation.

We put the question in what degree the control probes are accurate, significant and practical.

With reference at significance we believe that must to exist a link first of all between the practiced probe and control probes, but especially between performance and control probes, so that the progress at these probe to permit an anticipation of the result. Regarding the practicality the probes must to be accessible, standardized to permit the fast evaluation. Regarding the prognosis we express our conviction that the prognosis must to be as well as sustained by theoretical arguments and practical result. The prognosis is even better that more are taken into account on several relevant indicators in compensated correlative shape.

Conclusion

For the 30 m sprint probe, the correlations being insignificant, limit the discussion of this probe utility at the prediction of one result in competition at hammer throwing, even and of diagnosis of effort capacity or of the training level, eventual of the body state.

The pushed lying down probe show that this control probe is significant correlate with competition result and that may be taken into calculation of prognosis of the proximal contest result at weight throwing.

Between the genuflections probe with barbell and the competition result of the man spear throwers the

correlation items indicate a lower value ($r=0.28$). Therefore knowing the value of this probe can not make a prediction of the result from next competition. The result of this probe may offer us the structured and easy information in connection with: the diagnosis of the training level in different stages.

Acknowledgments

References

Anton M, 2003, The Study of Competitional Performance of the Relevant Control Probe at Throwing, ANEFS, PhD Thesis, Bucharest.

Bourque LB, Clark VA, 1992, In www.abebooks.com/.../bourque-linda-b-clark-v

Gagea A, 1999, The Methodology of Scientific Research in Physical Education and Sport. The Foundation Romania of Tomorrow. Publishing House, Bucharest, 1999, pg. 105-115; 139-143; 156-163;

Gagea A, 1996, Informatics and Statistics Lecture, ANEFS, 1996, Bucharest;

Ivan C, 2003, Contributions on methodology improvement for motor skills development in high performance javelin throwing athletes, PhD Thesis, UNEFS, 2003, Bucharest;

Sticlaru G, 2012, Aplicații statistice cu SPSS. Editura Cool Print, București;

Wellman B, 1998, Personal Relationships'Mentoring Award.Required Reading: Sociology's Most Influential Books, edited by Dan Clawson.Pg. 71-78;

http://en.wikipedia.org/wiki/SPSS;

http://en.wikipedia.org/wiki/Data_processing;

http://en.wikipedia.org/wiki/Correlation_and_dependence.