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Differences in the level of conative dimensions of male and female folk dancers

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Abstract

Let $\boldsymbol{\rho}^2 = (\rho_k^2)$, k = 1,..., m be a diagonal matrix whose elements are squares of canonical correlations, let $\mathbf{X} = (\mathbf{x}_k)$, k = 1,..., m be a matrix of eigenvectors obtained by solving the canonical discriminant problem, let $\mathbf{K} = \mathbf{MX}$ be a matrix of discriminant functions and let $\mathbf{L} = \mathbf{GX} = \mathbf{PMX}$ be a matrix of the discriminant functions projected in the hypercube defined by the vectors of matrix **S**. As $\mathbf{K}^t\mathbf{L} = \mathbf{X}^t\mathbf{AX} = \boldsymbol{\rho}^2$ and as, of course, $\mathbf{K}^t\mathbf{K} = \mathbf{I}$ and $\mathbf{L}^t\mathbf{L} = \boldsymbol{\rho}^2$, the canonical discriminant analysis produces two biorthogonal sets of vectors of variables by such transformation of vectors from **M** and **G** that orthogonalizes those vectors and maximizes cosines of the angles between the corresponding vectors from **K** and **L** , with the additional condition that the cosines of noncorresponding vectors from **K** and **L** are equal to zero because the correlations between variables from **K** and **L** are $\mathbf{K}^t\mathbf{L}\boldsymbol{\rho}^{-1} = \mathbf{X}^t\mathbf{AX}\,\boldsymbol{\rho}^{-1} = \boldsymbol{\rho}$.

Vectors $\mathbf{x}_k$ from $\mathbf{X}$ are, obviously, the vectors of standardized partial regression coefficients of the variables from $\mathbf{M}$ which generate discriminant functions $\mathbf{k}_k$ that, together with discriminant functions $\mathbf{l}_k$ formed by the vectors of standardized partial regression coefficients $\mathbf{x}_k$ from variables of $\mathbf{G}$, have maximum correlations. But as $\mathbf{M}^t\mathbf{K} = \mathbf{X}$, the elements of matrix $\mathbf{X}$ are, at the same time, the correlations of variables from $\mathbf{M}$ and discriminant variables from $\mathbf{K}$, which, unlike the standard canonical discriminant model, allows for easy testing of hypotheses on the partial impact of variables on the formation of discriminant functions.

To identify discriminant functions, the elements of the cross structural matrix defined as correlations between variables from $\mathbf{M}$ and $\mathbf{L}$, that is, the elements of matrix $\mathbf{Y} = \mathbf{M}^t\mathbf{L}\boldsymbol{\rho}^{-1} = \mathbf{AX}\boldsymbol{\rho}^{-1} = \mathbf{X}\boldsymbol{\rho}$, can also be of certain significance; note, by the way, that $\mathbf{Y}$ is a factor matrix of matrix $\mathbf{A}$ as, of course, $\mathbf{YY}^t = \mathbf{X}\boldsymbol{\rho}^2\mathbf{X}^t$.

As x_{jk} elements of matrix X and y_{jk} elements of matrix Y are ordinary correlations, their asymptotic variances are $\sigma_{xjk}^2 = (1 - x_{jk}^2)^2 n^{-1}$, respectively, $\sigma_{yjk}^2 = (1 - y_{jk}^2)^2 n^{-1}$, therefore, the hypotheses of type $H_{0xjk,}$ or $H_{0yjk,}$ can be tested on the basis of the functions $f_{xjk} = x_{jk}^2((n - 2)(1 - x_{jk}^2))$, or $f_{yjk} = y_{jk}^2((n - 2)(1 - y_{jk}^2))$, because under the hypotheses these functions have the Fisher-Snedecor F-distribution with the degrees of freedom of $\nu_1 = 1$ and $\nu_2 = n - 2$.

Keywords : / matrix / variance / correlation / function / discriminant / vector /

1. Introduction

The beginning of dance cannot be determined with accuracy. Dance was a need for expressing religious, warlike and other feelings in search of beauty, in the desire for entertainment, in the need of man to transfer the rhythm to the movements of everyday life and work.

It is closely related to music, rhythm and gymnastics, and it is assumed that dance is the first artistic aspiration of man or source of art which created music and rhythm, painting and sculpture, poetry and theatre.

For primitive man, dance meant a tool in the struggle for life. It depended on the dance whether hunting would be successful, harvest would be good, the enemy would be defeated, disease would be forced out of the village, whether the sun would come quicker, and winter would be chased away. Primitive man danced on every occasion, out of love or hatred, joy and sorrow. Dances featuring animals are immortalized in Stone Age cave paintings. These dances are still present among the primitive tribes.

For the development of the art of dance in Christian countries, the most unfavorable period was the Middle Ages. Christianity found dancing as a custom rooted in the people and at first it tolerated it, but later dancing was increasingly being banned and persecuted throughout the entire centuries. The people, despite all Church prohibitions, performed their traditional and entertainment dances.

After the Crusades, social dance among Western Europe nations began to flourish. The thirteenth and fourteenth centuries are characterized by two types of dance: “low”, stepping dances, or basse danse, and “high” dances. Dance teachers were hired (at courts) to compose, arrange, or create new dances.

In the seventeenth century in Paris, thirteen most renowned dance masters established the Royal Academy of Dance. At the end of the eighteenth century, interest in dances declined, partially because everything remained the same and partially because of the difficult political circumstances that led to the revolution. After the revolution, dances again came alive.

Modern dances are characterized by their dynamic changes and development which are almost daily, and therefore, sometimes difficult to follow.

2. Methods

2.1. The sample of respondents

The population from which the sample was taken for this study can be defined as a population of male and female dancers from folk dance ensembles of Serbia aged 18-24.

Based on the posed problem, subject and objective of the research, taking into account the organizational and financial capabilities necessary for the research procedure, an optimal number of subjects was taken into the sample in order to conduct the research correctly and obtain exact results.

The respondents fulfilled the following criteria: the age of respondents was defined on the basis of chronological age, so that the research covered 18-24-year-old respondents who did not suffer from organic and somatic diseases and were active members of folk dance ensembles.

The research was conducted in the following folk dance ensembles: „Vuk Stefanovic Karadzic“ from BackaTopola, “Svetozar Markovic” from Novi Sad, “Zeleznicar”, “Vila” from Novi Sad, “Ravangrad” from Sombor, “Kosta Abrasevic” from Backa Palanka, “Stepino Kolo” from Stepanovicevo, “Taras Sevcenko” from Djurdjevo, “Kisac” from Kisac, “Sonja Marinkovic” from Novi Sad, “Soko” from Indjija. The sample of respondents consisted of 248 male and female folk dancers, which was the optimal number for the planned research.

2.2. Sample of conative variables

There are a number of theories about the structure of conative factors which are based on empirical data and formulated in the form of structural or functional models and which enable an objective verification of the adequacy of these theories. The model of conative functions arising from the research of our authors (Momirovic, Horga, & Bosnar, 1982), served as a basis for this research.

The items that define the isolated hypothetical factors of the efficiency of conative functioning in the most representative, most reliable and best way were selected. By applying the above procedures, six 30-item tests were made with the following subject of measurement: activity regulation (EPSILON), regulation of organic functions (CHI), regulation of defense reactions (ALPHA), regulation of attack reactions (SIGMA), coordination of regulatory functions (DELTA), integration of regulatory functions (ETA).

The items are formulated in the form of statements, and the results are recorded by circling x, one out of 5 responses on Likert scale. The testing time is not limited (about 30 minutes for the whole battery of tests). The respondents` responses to certain items are scored as follows: absolutely true – 5 points, mostly true – 4 points, I`m not sure – 3 points, mostly incorrect -2 points, totally wrong – 1 point.

The method of calculating results of each test is usually summing the results bearing 1-5 points, which means that the final score of each test may range from 30 to 150 points.

2.3. Data processing methods

The value of a study depends not only on the sample of respondents and sample of variables, that is, the values of the basic information, but also on the applied procedures for transformation and condensation of that information. Some scientific problems can be solved with the help of a number of different, and sometimes equally valuable, methods. However, with the same basic data, from the results of different methods, different conclusions can be drawn. Therefore, the problem of selecting certain data processing methods is rather complex.

Taking this into account, the researchers, for the purpose of this study, selected those methods that corresponded to the nature of the problem and did not leave too heavy restrictions on the basic information. To determine differences between the groups, a method of discriminant analysis in Mahalanobis space was applied.

All the data in this research were processed at the Multidisciplinary Research Center of the Faculty of Sport and Physical Education, University of Pristina, through the system of data processing programs developed by Popovic, D. (1980), (1993) and Momirovic, K. & Popovic, D. (2003).

Discriminant analysis in Mahalanobis space

Canonical discriminant analysis can now be defined as a solution of the quasi-canonical problem $\mathbf{Mx}_k = \mathbf{k}_k$, $\mathbf{Gy}_k = \mathbf{l}_k | c_k = \mathbf{k}_k^t \mathbf{l}_k$ = maximum, $\mathbf{x}_k^t \mathbf{x}_q = \mathbf{y}_k^t \mathbf{y}_q = \delta_{kq}$ k = 1,...,s; s = min((g - 1), m) = m where δ_{kq} is the Kronecker symbol and $\mathbf{x}_k$ and $\mathbf{y}_k$ are unknown m-dimensional vectors.

As $c_k = \mathbf{x}_k^t \mathbf{A} \mathbf{y}_k$, the function to be maximized is, for k = 1, $f(\mathbf{x}_k, \mathbf{y}_k, \lambda_k, \eta_k) = \mathbf{x}_k^t \mathbf{A} \mathbf{y}_k - 2^{-1}\lambda_k(\mathbf{x}_k^t \mathbf{x}_k - 1) - 2^{-1}\eta_k(\mathbf{y}_k^t \mathbf{y}_k - 1)$.

After differentiating this function by elements of vectors $\mathbf{x}_k$, $\partial f/\partial \mathbf{x}_k = \mathbf{A}\mathbf{y}_k - \lambda_k \mathbf{x}_k$, and after differentiating it by elements of vectors $\mathbf{y}_k$, $\partial f/\partial \mathbf{y}_k = \mathbf{A}\mathbf{x}_k - \eta_k \mathbf{y}_k$; after equalizing with zero, $\mathbf{A}\mathbf{y}_k = \lambda_k \mathbf{x}_k$ and $\mathbf{A}\mathbf{x}_k = \eta_k \mathbf{y}_k$. Through differentiating by λ_k and η_k, from the condition that $\mathbf{x}_k^t \mathbf{x}_k = 1$ and $\mathbf{y}_k^t \mathbf{y}_k = 1$, it is easily obtained that $\lambda_k = \eta_k$.

As $\mathbf{A}^t = \mathbf{A}$, multiplying the first result by $\mathbf{x}_k^t$ and the second result by $\mathbf{y}_k^t$, $\mathbf{x}_k^t \mathbf{A} \mathbf{y}_k = \lambda_k$ and $\mathbf{y}_k^t \mathbf{A} \mathbf{x}_k = \lambda_k$, therefore, $\mathbf{x}_k = \mathbf{y}_k$ and the problem boils down to an ordinary problem of eigenvalues and eigenvectors of matrix $\mathbf{A}$, that is, the solution of the problem $(\mathbf{A} - \lambda_k \mathbf{I})\mathbf{x}_k = \mathbf{0}$, k = 1,..., m, so $c_k = \rho_k^2 = \mathbf{x}_k^t \mathbf{A} \mathbf{x}_k = \lambda_k$, k = 1,..., m are squares of canonical correlations between the linear combinations of variables from **M** and **G** which are proportional to the differentiation of centroids of the subsamples defined by selector matrix **S** in the space spanned by the vectors of variables from **M**.

Let $\rho^2 = (\rho_k^2)$, k = 1,..., m be a diagonal matrix whose elements are squares of canonical correlations, let $\mathbf{X} = (\mathbf{x}_k)$, k = 1,..., m be a matrix of the eigenvectors obtained by solving the canonical discriminant problem, let $\mathbf{K} = \mathbf{MX}$ be a matrix of discriminant functions and let $\mathbf{L} = \mathbf{GX} = \mathbf{PMX}$ be a matrix of the discriminant functions projected in the hypercube defined by vectors of matrix **S**. As $\mathbf{K}^t\mathbf{L} = \mathbf{X}^t\mathbf{AX} = \rho^2$ and as, of course, $\mathbf{K}^t\mathbf{K} = \mathbf{I}$ and $\mathbf{L}^t\mathbf{L} = \rho^2$, the canonical discriminant analysis produces two biorthogonal sets of vectors of variables by such transformation of the vectors of variables that orthogonalizes those vectors and maximizes cosines of the angles between the corresponding vectors from **K** and **L**, with the additional condition that the cosines of the angles of non-corresponding vectors from **K** and **L** are equal to zero because the correlations between the variables from **K** and **L** are $\mathbf{K}^t\mathbf{L}\rho^{-1} = \mathbf{X}^t\mathbf{AX}\,\rho^{-1} = \rho$.

Vectors $\mathbf{x}_k$ from **X** are, obviously, the vectors of standardized partial regression coefficients of variables from **M** that generate discriminant functions $\mathbf{k}_k$ which, together with discriminant functions $\mathbf{l}_k$ formed by vectors of standardized partial regression coefficients $\mathbf{x}_k$ of variables from **G**, have maximum correlations. But as

$\mathbf{M}^t\mathbf{K} = \mathbf{X}$, the elements of matrix **X** are, at the same time, the correlations of variables from **M** and discriminant variables from **K** , that, unlike the standard canonical discriminant model, allows easy testing of hypotheses on partial impact of variables on the formation of discriminant functions. For the identification of discriminant functions, the elements of the cross structural matrix defined as correlations between variables from **M** and **L**, that is, the elements of matrix $\mathbf{Y} = \mathbf{M}^t\mathbf{L}\rho^{-1} = \mathbf{AX}\rho^{-1} = \mathbf{X}\rho$, can also be of certain significance; note, by the way, that **Y** is a factor matrix of matrix **A** because, naturally, $\mathbf{YY}^t = \mathbf{X}\rho^2\mathbf{X}^t$.

As elements x_{jk} of matrix **X** and elements y_{jk} of matrix **Y** are ordinary correlations, their asymptotic variances are $\sigma_{xjk}^2 = (1 - x_{jk}^2)^2n^{-1}$, respectively $\sigma_{yjk}^2 = (1 - y_{jk}^2)^2n^{-1}$, therefore, hypotheses of type H_{0xjk}, or H_{0yjk}, can be tested on the basis of the functions $f_{xjk} = x_{jk}^2((n - 2)(1 - x_{jk}^2))$, or $f_{yjk} = y_{jk}^2((n - 2)(1 - y_{jk}^2))$, because under these hypotheses, the functions have the Fisher Snedecor F-distribution with the degrees of freedom of $\nu_1 = 1$ and $\nu_2 = n - 2$.

Unfortunately, with a usual application of canonical discriminant analysis, the main, and often the only, set of hypotheses related to the parameters of that model is the set $H_0 = \{\varphi_k = 0, k = 1,..., m\}$ where φ_k are hypothetical values of canonical correlations in population **P**.

To test the hypotheses of type H_{0k}: $\varphi_k = 0$ $k = 1,..., m$, researchers usually apply the function of the known Wilks measure $\lambda_k = \Sigma_{t+1}^s \log_e (1 - \rho_{t+1}^2)$ $k = t + 1$, $t = 0, 1,..., m – 1$ proposed by Bartlett (1941) who found that under the hypothesis H_{0k}: $\varphi_k = 0$, the functions $\chi_k^2 = -(n - (m + g + 3)/2)\ \lambda_k$ $k = 1,..., m$ have, approximately, χ^2 distribution with the $\nu_k = (m - k + 1)(g - k)$ degree of freedom.

However, the results of Bartlett test are not, even when dealing large samples, in full accordance with the results of the tests of type $z_k = \rho_k/\sigma_k$ $k = 1,...,s$ which are based on the fact that canonical correlations have also asymptotic normal distributions with parameters φ_k and $\sigma_k^2 \sim (1 - \varphi_k^2)^2n^{-1}$. (Kendall & Stuart, 1976; Anderson, 1984).

The centroids of the subsamples E_p, $p = 1,..., g$ from E on discriminant functions necessary to identify the content of the discriminant functions are, of course, the elements of the matrix $\mathbf{C} = (\mathbf{S}^t\mathbf{S})^{-1}\mathbf{S}^t\mathbf{K} = (\mathbf{S}^t\mathbf{S})^{-1}\mathbf{S}^t\mathbf{MX} = (\mathbf{S}^t\mathbf{S})^{-1}\mathbf{S}^t\mathbf{ZR}^{-1/2}\mathbf{X}$, and it is clear that they are, in fact, the centroids of the subsamples on the variables transformed into a Mahalanobis form projected into the discriminant space.

3. Discussion

To achieve high sports results in each kinesiological activity, as well as in dance, application of scientific research in the training process is crucial. As success in sports depends on a number of factors, it is very important to have reliable indicators of what are the dimensions and to what extent they influence the achievement of maximum results. Conative space represents the part of personality which is responsible for the modalities of human behavior. As there are normal and pathological modalities of behavior, analogically, there are normal and pathological conative factors.

The characteristic of normal conative factors is that they are mostly independent of each other and normally distributed in the population. Attempts of researching normal behavioral modalities and normal conative factors are rare, therefore, this personality subspace is not defined clearly enough.

In previous studies, pathological conative factors were much better defined than normal conative factors, and in most cases there are certain theoretical explanations for them.

Pathological conative factors are considered to be responsible for those behavioral forms which reduce the adaptive level of a person, with regards to his or her potential capabilities. The influence of conative factors is not the same for all the activities: there are activities which are slightly sensitive to the influence of conative factors, and there are those for which the influence of these factors is crucial. This influence can be positive or negative depending on the type of factors and activities. So, there is no activity that would be completely independent of the influence of conative factors, therefore, determination of the structure of conative regulatory mechanisms in folk dancing is also very important.

The cause of the increase in the number of studies of an athlete`s personality should be sought in the characteristics of a sport activity which imposes exceptional and different requirements not only on cognitive abilities but also the personality. Therefore, it is reasonable to presume that active and successful participation in particular sports, as well as in folk dancing, requires a specific pattern of personality dimensions, most suitable for these sports, or a pattern of personality dimensions suitable for participation in sports but not in other activities.

Therefore, the assessment of specific latent dimensions in such studies is possible when based on simple confirmatory algorithms which are suitable not only because of considerable efficiency and economy, but because they provide easy interpretation of the results as Vidakovic, M., Popovic, D., Kacumi, N., Popovic, M., Savic, V. (2013) demonstrated in their research.

The algorithm used in this study, together with the accompanying program, tries to solve the specificity of latent dimensions of the treated space in the simplest possible way similar to that demonstrated in the research conducted by Vidakovic, M., Boli, E., Popovic, D., Berstajn, P.R., Savic, V., Bojovic, M. (2013).

The results of the discriminant analysis in cognitive space are shown in Tables 1, 2, 3 and 4. By analyzing them closely, it is possible to determine that significant canonical correlation of (.34) is obtained. It explains 100.0% of valid variance of the whole system of the evaluated space.

This discriminant function is defined by the activity regulator that, at the same time, models the activating part of the reticular formation and thus is directly responsible for the energy level at which other systems function, including cognitive and motor processors.

Other regulators which define this function are the regulator for control of organic functions, regulator for coordination of regulatory functions and regulator of defense reactions located in the limbic system - it models tonic arousal. Because of the energy potential necessary for the regulation of aggression, such a model assumes a positive correlation between the attack regulator and activity regulator.

Based on the values and signs of the centroids for the first discriminant function of the groups, it can be concluded that male dancers have the ability to adequately model their tonic arousal on the basis of the programs, transferred by the genetic code or formed under the effect of learning, which are located in the centers for regulation and control of defense and attack reactions. They are able to coordinate functionally and hierarchically different subsystems, both cognitive and conative. Female dancers are able to adequately model the excitatory-inhibitory processes, which contributes to achieving better results compared to male dancers in this discipline.

DISCRIMINANT ANALYSIS OF CONATIVE VARIABLES

Table 1

Function	Eigenvalues	Variance %	Cumulative V %	Can. R	Wilks Lambda	Chi-skor	df	Sig
1	.13	100.0	100.0	.34	.88	30.91	6	.00

MATRIX M

Table 2

	FUNCTION 1
EPSILON	.14
CHI	-.01
ALPHA	.96
SIGMA	-.18
DELTA	-.93
ETA	.15

STRUCTURE OF CONATIVE VARIABLES

Table 3

	FUNCTION 1
EPSILON	-.54*
CHI	.49*
DELTA	.39*
ALPHA	.19*
SIGMA	.09
ETA	.09

CENTROIDS OF THE GROUPS

Table 4

Group	CEN1
female dancers	.30
male dancers	-.43

4. Conclusion

The research was conducted in order to determine differences in the structure of conative dimensions in male and female folk dancers.

To determine differences in the structure of conative dimensions of male and female folk dancers, 103 male and 145 female dancers aged 18-25 actively engaged in folk dancing were tested.

For the assessment of conative characteristics, CON6 measurement instrument was selected to assess the following conative regulators: activity regulator, regulator of organic functions, regulator of defense reactions, regulator of attack reactions, system for coordination of regulatory functions, system for integration of regulatory functions.

All the data in this study were processed at the Multidisciplinary Research Center of the Faculty of Sport and Physical Education, University of Pristina, through the system of data processing programs developed by Popovic, D. (1980), (1993) and Momirovic, K. & Popovic, D. (2003).

To determine differences between the groups, a method of discriminant analysis was applied.

The results of the discriminant analysis in cognitive space are shown in Tables 1, 2, 3 and 4. By analyzing them closely, it is possible to determine that a significant canonical correlation of (.34) is obtained. It explains 100.0% of valid variance of the whole system of the evaluated space.

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Razlike u nivou konativnih dimenzija plesača i plesačica narodnih plesova

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Sažetak

Neka je $\rho^2 = (\rho_k^2)$, *k = 1,..., m dijagonalna matrica čiji su elementi kvadrati kanoničkih korelacija, neka je* $X = (x_k)$, *k = 1,..., m matrica svojstvenih vektora dobijenih rešavanjem kanoničkog diskriminativnog problema, neka je* $K = MX$ *matrica diskriminativnih funkcija i neka je* $L = GX = PMX$ *matrica diskriminativnih funkcija projektovanih u hiperkub definisan vektorima matrice S. Kako je* $K^tL = X^tAX = \rho^2$ *i kako je, naravno,* $K^tK = I$ *i* $L^tL = \rho^2$, *kanonička diskriminativna analiza proizvodi dva biortogonalna skupa vektora varijabli takvom transformacijom vektora varijabli iz M i G koja ortogonalizira te vektore i maksimizira kosinuse uglova između korespodentnih vektora iz K i L uz dodatni uslov da su kosinusi uglova nekorespodentnih vektora iz K i L jednaki nuli, jer su korelacije izmđ|u varijabli iz K i L* $K^tL\rho^{-1} = X^tAX\,\rho^{-1} = \rho$.

Vektori x_k iz X su, očigledno, vektori standardizovanih parcijalnih regresijskih koeficijenata varijabli iz M koji generišu diskriminativne funkcije k_k koje sa diskriminativnim funkcijama l_k, formiranim vektorima standardizovanih parcijalnih regresijskih koeficijenata x_k iz varijabli iz G, imaju maksimalne korelacije. Ali, kako je $M^tK = X$, elementi matrice X su, istovremeno, i korelacije varijabli iz M i diskriminativnih varijabli iz K, što, za razliku od standardnog kanoničkog diskriminativnog modela, dopušta jednostavno testiranje hipoteza o parcijalnom uticaju varijabli na formiranje diskriminativnih funkcija. Za identifikaciju diskriminativnih funkcija od izvesnog značaja mogu biti i elementi kros strukturalne matrice, definisani kao korelacije između varijabli iz M i L, dakle elementi matrice $Y = M^tL\rho^{-1} = AX\rho^{-1} = X\rho$; uočimo, uzgred, da je Y faktorska matrica matrice A, jer je, naravno, $YY^t = X\rho^2X^t$.

Kako su elementi x_{jk} matrice X i elementi y_{jk} matrice Y obične korelacije, njihove asimptotske varijanse su $\sigma_{xjk}^2 = (1 - x_{jk}^2)^2n^{-1}$, odnosno $\sigma_{yjk}^2 = (1 - y_{jk}^2)^2n^{-1}$, pa se hipoteze tipa H_{0xjk} odnosno H_{0yjk} mogu testirati na osnovu funkcija $f_{xjk} = x_{jk}^2((n - 2)(1 - x_{jk}^2))$, odnosno $f_{yjk} = y_{jk}^2((n - 2)(1 - y_{jk}^2))$, jer pod tim hipotezama ove funkcije imaju Fisher - Snedecorovu F raspodelu sa stepenima slobode $\nu_1 = 1$ i $\nu_2 = n - 2$.

Ključne reči: */ matrica / varijansa / korelacija / funkcija /diskriminativna / vektor /*

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