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The specifics of sensations and perceptions in students from different faculties

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Abstract

*Aim:*This article is a starting point for a much wider research towards sensations and communication channels. *Methods*: Our research has taken place over four months and has had 50 participants, students fromPhysical Education and Sport Faculty andFine Arts Faculty. The questionnaire used contained closed and open questions alongside standard questions. The results obtained from the research were statistically and graphically represented using SPSS Data Editor.
Results: We obtained statisticallysignificant results forthe first hypothesis, namely that the participants studying fine arts will have more accurate visual feelings than those studyingsports andphysical education.

Key words*: sensations, perceptions, sports, fine arts*

Rezumat

*Scop:*Acest articol este un punct de pornire către o cercetare mult mai amplă în direcţia senzaţiilor şi canalelor de comunicare. *Metode*: Cercetarea noastră s-a desfăşurat pe parcursul a patru luni şi a avut 50 de participanţi, studenţi de la Facultatea de Educaţie Fizicăşi Sport şi de la Arte Plastice. Chestionarul utilizat a cuprins întrebări închise şi deschise, alături de întrebările standard. Rezultatele obţinute în urma cercetării au fost reprezentate statistic şi grafic utilizând programul SPSS Data Editor. *Rezultate:* Am obţinut rezultate statistice semnificative in prima ipoteză. Studenţii participanţi de la Arte Plastice au avut acurateţea senzaţiilor vizuale mai precisă, decât studenţii de la Educaţie Fizică şi Sport.

Cuvintecheie*:senzaţii, percepţii, sport, arteplastice*

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Problem statement

This article is intended to be a starting point for a much more complex research into the study of sensations for all five channels of communication: visual, auditory, kinesthetic, olfactory, and taste. The subjects of this small study are students from Babeş-Bolyai University and the University of Fine Arts.

Apart from the perceptions that define the communication channels above, we also encounter spatial perceptions in practical activity.

Space perceptions ensure human orientation in the environment. Their importance in corporal activities lies in the fact that they give the subject the possibility to act in the most varied situations and conditions both in the sporting branches in which they act independently and in the activities in which he depends on the actions of his partners and opponents.

Space perceptions arevery different. Existing objects in space have a certain size, shape, or volume and are perceived in depth and motion. Perceptions are achieved through the collaboration of several analysts, among which, along with the visual artistic, an important role is played by the Physical Education analyst. Perceptions consist of sensations.

Sensation is a cognitive, psychic process and is the first level of knowledge of the world that surrounds us. Through this we receive information about the appropriation of objects and phenomena of the world. Types of sensations are determined by our sensory organs: hearing, visual sensations, taste sensations, smell and skin sensations. Năstase et. al. [1]analyzes the role of sensations and perceptions in thetechnical execution in ballet and dance training. Also, the influence of sound and vibrations on the impact on sport and on the perception of players is analyzed in an article published by the author in 2006.

The relationship between the internal and external visual imagery was analyzed by the representations of the motor act, mirrored by ideomotor representations. The results indicated a significant correlation between the image of the motor act and the perceived kinesthetic sensation. However, the correlation between internal visual imaging and kinesthetic imaging was not significant. The results are discussed in relation to the mentally-visual motor acts and the processes that can underpin the kinematic images. Callow, N., & Co.[2], Pop D.[3] shows in *The Eye and the Body - Modern and Postmodern in the philosophy of visual culture,* the relationship between subject and object from a visual perspective,it is a predictable picture of our relationship with nature and the environment. They form a mental ecosystem composed of collective representations by which we imagine the outer world [3].

The conscious perception of fatigue [4] was also examined.

Fatigue is described as a conscious sensation rather than a physiological appearance. Fatigue is the awareness of changes in subconscious homeostatic control systems and derives from a temporal difference between subconscious representations of these homeostatic control systems in neuronal networks that are induced by changes in activity level. These inconsistencies are perceived by the brain-producing structures as a feeling of fatigue. In this article, fatigue is a complex emotion that is affected by factors such as motivation and leadership, by other emotions such as anger, fear and memory of previous work;itis unclear whether the origin of conscious sensation of fatigue isassociated with certain localized brain structures or is the result of electrophysiological synchronization of all brain activity[5].

Callow N. et.al. [6] conducted a studyon the efficacy of a kinesthetic imagery intervention of three professional flat-race horse jockeys, with the secondary objective of examining the relationship between performance and sport confidence.

Other interesting articles refer to the characterization of reward and effort mechanisms in apathy [7].

Other authors have argued that this frontal-midline theta provides a neuro-physiologically plausible mechanism for optimally adjusting behavior to uncertainty, a hallmark of situations that exacerbates anxiety and demand cognitive control [8].

Purpose of thestudy

Given the place and role that scientific research playsin developing the field, any type of Sports or Artistic attitude, we aim to highlight the effect of Sports research in Art and sports programs on the functional development of man. Throughout our research, sports or artistic research intervention programs have been conducted in accordance with special sociological standards, completing different types of concepts and visions of any elaborate artistic creation, in which the sporting event seems real, the unrepeatable experience. In this paper we aim to identify the types of sensations and perceptions experienced by people belonging to different domains.

There is a close correlation between sensations, perceptions and representations. Representations are sensory images [9], on images and symbols, showing that through the succession of their own experiences, people as individuals and human communities manage to harmonize and maintain the rigor of their thinking.

Methods

Our research took placefrom March 2015 to June 2015 and included a total of 50 students participating in the questionnaire. Beforehand, a questionnaire was applied to the participants, after which appropriate responses were established. The questionnaire was applied in two steps. In the first stage students from the Faculty of Physical Education and Sport, from Babeş-Bolyai University of Cluj-Napoca, were questioned, while students and artists from the University of Art and Design were questioned in the second part.

The questionnaire contained closed and open questions alongside standard questions about the gender, age, occupation, and studies of the respondents. They attempted to provide a sociological picture of the perception of Sport in Art and its interdisciplinary state in the multitude of researched hypostases: submodal (visual, auditory, kinesthetic), and operative (visual, auditory, kinesthetic, olfactory/gustative) their simple schemes and motivations.

We have formulated two hypotheses:

• The participants from the fine arts field will have more accurate visual feelings than those from the physical education field of study.

• Physical education students will have more accurate kinesthetic feelings than plastic arts students.

The questionnaire was preceded by a series of explanations designed to achieve a qualitative side of the proposed sociological research. For the quantitative research of the obtained data we used the SPSS Manager® program. The data obtained were entered as variables in the SPSS Data Editor® program. Data from the application of the questionnaire was encoded and entered into the Microsoft Office Excel® program. The variables have been defined by assigning a name, setting the type, missing values, format, and notation. The obtained results were represented statistically and graphically.

Table I. Physical Education students after using the Sid Jacobson Test

Nr crt	Name	Visual submodality	Auralsubmodality	Kinestheticsubmodality	Submod. olfactory/ gustatory	Total
1	B K fitness	35	28	27	15	105
2	O P fitness	20	16	28	13	77
3	F M fitness	22	20	31	15	88
4	M Mfootball	13	12	0	0	25
5	P C football	28	28	32	6	94
6	B E football	25	19	17	0	61

7	C V dans sp.	42	30	39	18	129
8	V C swim	26	28	38	18	110
9	D S gimn.	31	18	38	10	97
10	C V basketball	25	30	40	15	110
11	S C football	18	0	0	0	18
12	P P football	35	29	28	11	105
13	Cr P athletics	24	16	8	2	50
14	V S ski	32	18	27	8	85
15	K G fitness	35	28	27	15	105
16	P O fitness	20	16	28	13	77
17	E M fitness	22	20	31	15	88
18	G G football	13	12	0	0	25
19	F H football	28	28	32	6	94
20	J I football	25	19	17	0	61
21	A J dans sp.	42	30	39	18	129
22	V H swim	26	28	38	18	110
23	G L gimn.	31	18	38	10	97
24	J L basketball	25	30	40	15	110
25	C S football	18	0	0	0	18
26	K C football	35	29	28	11	105
27	C O athletics	24	16	8	2	50
28	V F ski	32	18	27	8	85

Table II. Arts students after using the Sid Jacobson Test

Nr crt	Name	Visual submodality	Aural submodality	Kinesthetic submodality	Submod. olfactory/ gustatory	Total
1	T D	19	17	13	10	59
2	E G	18	15	10	10	63
3	G M	37	25	33	17	102
4	O A.	33	20	20	21	94
5	B V	41	32	40	20	133
6	C I	15	9	19	10	53
7	Z E	38	30	36	18	122
8	O O	29	21	18	12	80
9	C A	43	32	38	20	133
10	H G	52	34	41	21	148
11	G D	19	17	13	10	59
12	D J	18	15	10	10	63
13	H R	37	25	33	17	102
14	O I	33	20	20	21	94
15	V J	41	32	40	20	133
16	R H	15	9	19	10	53
17	J I	38	30	36	18	122
18	D I	29	21	18	12	80
19	J K	43	32	38	20	133
20	H U	52	34	41	21	148

As we can see, the highest total of submodalities in a Physical Education student is 129 (a practitioner of sports dance), less than an artist (148). Hart E.A.et.al.[10] showed that the human perceptions of their physiques constituted a central yet insufficiently researched aspect of exercise psychology and that is why we decided to conduct this experiment.

Table III. Physical Education students after the Richard Bandler&Garner Thomson Test

No crt	Name	Visual submodalities	Aural submodalities	Kinesthetic submodalities	Total
1.	B K fitness	25	20	21	66
2.	O P fitness	23	18	19	60
3.	F M fitness	22	19	22	63
4.	M Mfootball	13	12	0	25
5.	P C football	26	20	21	67
6.	B E football	15	18	21	54
7.	C V dans sp	35	30	27	62
8.	V C swim	25	19	24	68
9.	D S gimn.	12	5	2	19
10.	C V basketball	22	20	22	64
11.	S C football	36	20	19	75
12.	P Pfootball	23	19	22	64
13.	Cr P athletics	33	19	23	75
14.	V S ski	21	18	18	57
15	K G fitness	25	20	21	66
16	P O fitness	23	18	19	60
17	E M fitness	22	19	22	63
18	G Gfootball	13	12	0	25
19	F H football	26	20	21	67
20	J I football	15	18	21	54
21	A J dans sp.	35	30	27	62
22	V H swim	25	19	24	68
23	G L gimn.	12	5	2	19
24	J L basketball	22	20	22	64
25	C S football	36	20	19	75
26	K C football	23	19	22	64
27	C O athletics	33	19	23	75
28	V F ski	21	18	18	57

Table IV. Arts students after using the Richard Bandler&Garner Thomson Test

No crt	Name	Visual submodality	Aural submodality	Kinesthetic submodality	Total
1	T D	21	15	8	44
2	E G	36	22	9	67
3	G M	30	16	19	65
4	O A.	32	12	16	60
5	B V	36	25	24	85
6	C I	21	8	8	37
7	Z E	36	24	20	80
8	O O	23	17	18	58
9	C A	37	26	24	87
10	H G	42	24	25	91

11	G D	21	15	8	44
12	D J	36	22	9	67
13	H R	30	16	19	65
14	O I	32	12	16	60
15	V J	36	25	24	85
16	R H	21	8	8	37
17	J I	36	24	20	80
18	D I	23	17	18	58
19	J K	37	26	24	87
20	H U	42	24	25	91

Following Bandler R., Thomson G. et. al. [11], test results of artists are better than those of athletes'. The total visual, auditory and kinesthetic submodality is 75, the highest for an athlete, and 91 for a student from the Fine Arts. Representations are considered to be a generalized image of an object [12]. Representations are made of hundreds of thousands of images of perception and represent generalized images in which the most important is the dimensions of the object or action: size, dominant color, details that distinguish it from other objects or similar actions.

Statistics – a comparison between fine arts and physical education students

In table 5we can observe the comparative statistical results of students from Physical Education and Sports (EFS)and Fine Arts.

Table V. Kinesthetic, auditory, visual, olfactory-taste sensations in EFS and Fine Arts

	Participant	N	Mean	Std. Deviation	Std. ErrorMean
S kinestheticJacobson	PhysicalEducation	28	25.2143	13.53283	2.55747
	Fine Arts	20	26.8000	11.61487	2.59716
S acousticJacobson	PhysicalEducation	28	20.8571	8.46655	1.60003
	Fine Arts	20	23.5000	8.22384	1.83891
S visualJacobson	PhysicalEducation	28	26.8571	7.52140	1.42141
	Fine Arts	20	32.5000	11.80767	2.64028
S olfactory-gustativeJacobson	PhysicalEducation	28	9.3571	6.61768	1.25062
	Fine Arts	20	15.9000	4.71169	1.05357
S visualBandler	PhysicalEducation	28	23.6429	7.27866	1.37554
	Fine Arts	20	31.4000	7.22860	1.61636
S acousticBandler	PhysicalEducation	28	18.3571	5.21546	.98563
	Fine Arts	20	18.9000	6.00789	1.34340
S kinestheticBandler	PhysicalEducation	28	18.6429	7.66529	1.44860
	Fine Arts	20	17.1000	6.51234	1.45620

Findings and Results

To test the proposed hypotheses, we applied a t test for independent samples using the SPSS program. We only analyzed the visual and kinesthetic sensations part measured by both Jacobson and Bandler tests.

The first hypothesis was confirmed if we take a look at the Bandler test because the assumption of equality of variance is fulfilled. An average M = 23 for the physical education participants and an average M = 31 for the artists, while t (46) = -3.6, + 0.0 < 0.05, meaning statistically significant. In other words, the participants in the visual arts field have more developed visual feelings than Physical Education students. For the Jacobson

measurement, a statistical significance p has been obtained, but cannot be taken into account because the assumption of equality of variance has not been fulfilled.

Regarding the second hypothesis, related to kinesthetic sensations, the results in the Jacobson test were the following: t (46) = -0.4, p + 0.6 > 0.05, and for Bandler: t (46) = 0.7, p =0.4 > 0.05. The second hypothesis was not confirmed because statistically significant results could not be obtained.

Table VI. T Test for independent samples

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error difference	95% Confidence interval of the difference	
									Lower	Upper
S_kinesthetic Jacobson	Equal variances assumed	0.000	0.984	-0.424	46	0.674	-1.585	3.740	-9.114	5.943
	Equal variances not assumed			-0.435	44.36	0.666	-1.585	3.644	-8.930	5.758
S_visual Jacobson	Equal variances assumed	6.244	0.016	-2.023	46	0.049	-5.642	2.789	-11.258	-.0275
	Equal variances not assumed			-1.882	29.84	0.070	-5.642	2.998	-11.768	.4823
S_visualBandler	Equal variances assumed	0.287	0.595	-3.651	46	0.001	-7.757	2.124	-12.034	-3.479
	Equal variances not assumed			-3.655	41.25	0.001	-7.757	2.122	-12.042	-3.471
S_kinesthetic Bandler	Equal variances assumed	0.061	0.805	0.731	46	0.469	1.542	2.111	-2.706	5.792
	Equal variances not assumed			0.751	44.52	0.457	1.54286	2.05401	-2.595	5.681

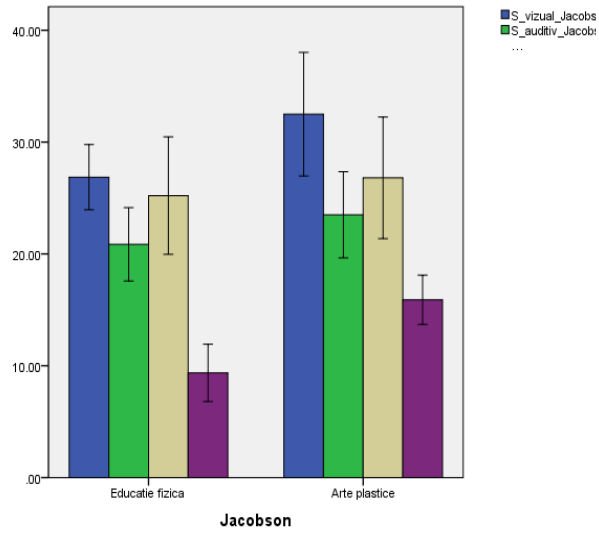


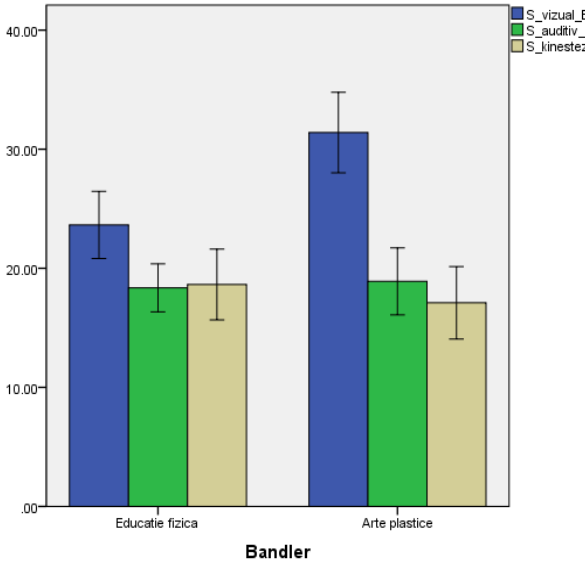
Figure 1. Data of visual, auditory, kinesthetic and olfactory sensations when applying the Jacobson test

As can be seen in Figure 1, students in the visual arts have visual, auditory, and kinesthetic feelings that are more accurate than those of Physical Education students.

As for the olfactory-gustatory sensations, the same profile is maintained, being of higher value for the students of the Fine Arts.

The role of sensations, perceptions, representations, and imagination is present in the mind while gathering the information. In Nastase's article[16], the side of formation, memorizing and tehnical movement, logic of the imagination for standard and Latin dance is being analysed. A study aimed to examine the perceptions of sports people wearing different uniform colors in competitions[17]. The assessment of sports performance' equipment is derived from technical parameters mostly, like accuracy, distance, speed and power. Robert J. and his team analyzed the individual perceptions[18].

An auditory and tactile sensation from impact was found to influence the feel of a shot in many sports[19].



Figue 2. Record data for visual, auditory,and kinesthetic sensations in the Bandler test

Conclusions and recommendations

The perception of time depends on the appreciation of the duration and the changes in the moments of the actions taken bya person. As in the perception of time in human consciousness, the relationships between the various stages or moments of certain phenomena, their alternation and their sequence are reflected. Visual holograms of Rudie Berkhout's work, as they are sometimes prefigured in artistic works, are represented by a group of lines, shapes and colors and often do not tell us anything. On the other hand, they manage to contribute to our temporal perceptions through the aesthetic value of the compositions that have an impact on one's personal aesthetic sensibility. On the ground of a receptive aesthetic attitude it will be easier to build ethical and educational consciousness [13].

The thermo-spatial perception is influenced by a series of dimensions: the nature and magnitude of the spatial contexts, the kinetic state of the people, and the temporal scale of their perception: now or in the past. Recently, new qualitative methods have been developed to link the thermal and spatial information of people's perceptions. In order to get an overview of these methods, we conducted an extensive review of the literature. The results of this research have shown that these qualitative methods respond to various dimensions through long-term, thermal, perceptual, research combinations in a stationary and moving mode in different spatial environments. These qualitative methods provide an explicit combination of thermal and space combinations [14]. Other studies, such as Bădău D., and Bădău A., [15] show that between the components of the physiological capacity and the physical degree of physical exercise is a direct interrelation, which is influenced by a number of factors, out of which deployment environment with its features has got a leading role.

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