METRIC PROPERTIES OF AN ATTITUDES-TOWARDS-DANCE INVENTORY

Jadranka Vlašić, Goran Oreb and Ksenija Bosnar

Faculty of Kinesiology, University of Zagreb, Croatia

Original scientific paper

Abstract

Attitudes are relevant for understanding and predicting human behaviour whenever it is not automatic or habitual. Information about attitudes towards dance should help to understand why some people like to dance and consequently do it regularly, and why some other ones avoid this activity. Therefore, two forms of an inventory for the assessment of attitudes towards dance were created. The first form consisted of 42 items, and the subjects denoted the level of their agreement with each statement on a 5-point Likert scale. Metric properties of this inventory were examined on the sample of 201 students of kinesiology. The first eigenvalue of the matrix of item correlations explained almost 40% of common variance, showing that the scale clearly defined the first object of measurement. The average inter-item correlation was .356. The scale showed high reliability, and the Cronbach's alpha coefficient was .955. The lowest value of an item on the standardized first principal component was .18, and 39 items had values higher than .30. Excellent properties of this 42-item version of the inventory allowed the construction of a shortened form. The second version of the Attitudes-Towards-Dance Inventory (ATDI) was shortened to 20 items and had almost the same reliability as the longer version, the Cronbach's alpha coefficient value being .942. It could be concluded that both forms of the Attitudes-Towards-Dance Inventory had very good metric properties and were appropriate for application.

Keywords*: Attitudes-Towards-Dance Inventory, metric properties, students*

Introduction

Dance consists of rhythmical movements of the body, in other words, of a series of rhythmical steps and body movements of a particular tempo that are executed according to the musical measure – dance is one of artistic expressions. Dance can also be regarded as a joy of life, as body language either in rhythm, in music or in silence, as a part of cultural education of every individual as well as a part of a nation's culture, but also as a sporting activity, the most beautiful court sport, as 'mother of all arts', as the way towards one's inner self (Zagorc, 2000).

The list of dance definitions as postulated by various authors is long, however, it should be emphasized that most authors consider dance simultaneously as sport and as art (Laban, 1948; Krameršek, 1961; Maletić, 1986). As a sporting activity, i.e. from the kinesiological point of view, dance is defined as a conventional-aesthetic motion. It is characterized by a wide possible range of motor abilities, of abilities connected with oxygen-transport system, as well as with morphological features upon which dance efficiency depends in other words, the wide variability of demands in terms of abilities and skills of a dancer. Various types of dance have different specific demands regarding the abilities of dancers in particular dances.

A claim seems logical that endurance, coordination and realization of rhythmical structures are abilities specific for success in most dance structures. As for sports and folk dancers, they need to have some additional abilities.

Success in folk dance depends on the level of balance and explosive strength of dancers (Oreb, 1984; Srhoj, Katić & Kaliterna, 2006), but also on the level of speed and frequency of simple movements performed in particular rhythm (Miletić, 1999). Top-level dancers of standard and Latino-American dances have, apart from coordination (Kostić, Zagorc & Uzunović, 2004; Kostić, Uzunović, Oreb, Zagorc & Jocić, 2006), a high level of flexibility, explosive strength and muscular endurance of dynamic type (Zagorc, Zaletel, 1997). The high level of abilities connected with the oxygen-transport system is also a prerequisite of success in sports dance (Zagorc, Karpljuk & Friedl, 1999; Kostić, Zagorc & Uzunović, 2004).

Morphological characteristics likewise determine, to a certain extent, the success of dancers. In the research into body type of top-level ballet and modern ballet female dancers Dolgner and associates (1980) found that, when compared to female athletes and inactive women, the female dancers had lower body weight and a lower percentage of body fat, and that they had, on average, smaller bodily proportions. Similar results were also obtained for male dancers by several authors (Zagorc, Zaletel, 1997; Kostić, Zagorc & Uzunović, 2004). There are numerous reasons why more people should engage in dance. Firstly, dance is a suitable operator for people of very different status types. Children, young people, old people, people who are obese, people who are sick, persons with disabilities, children with learning difficulties, etc. can all dance, so that

it would be desirable for dance to be an activity more frequently participated in by more people. In primary and secondary school curricula dance exists as a unique sporting activity by means of which specific goals can be realized. Thus it can be said that dance has pedagogical, educational and transformational values regardless of whether we are talking about folk dances, social dances or any other type of dance. The importance of the presence of dance in school curricula also relates to the development of aesthetics and artistic creativity, as well as to the regulation of body weight and increase of aerobic endurance which nowadays significantly decreases in children and in young people (Prosen, Zagorc & Bizjak, 2008).

It should be mentioned that Prosen, Zagorc and Bizjak (2008) found that dance in physical education classes motivates children for class attendance in general. Designing dance choreography is a dimension of dance activity which may be used to influence creativity, individuality and originality in students, as well as the sense of rhythm and aesthetic perception of movements, thus ultimately creating a positive physical and emotional effect which constitutes the basis of healthy growth and development of children (Miletić, Dundić, T. & Dundić, M., 2008). International folk dance participation on recreational basis represents a more 'gentle' type of recreation for people of various age groups, so that it can be used as work therapy, which satisfies the need for social engagement, it is a physical challenge, and it can be regarded as creativity, as well as a cultural and mental activity (Connor, 2000). Dance can also be applied for therapeutic purposes. Dance as a therapeutic means helps to overcome the feeling of inferiority, it helps to develop communication and re-socialization, and it stimulates people for being active.

Methods

First a set of 42 items was created. The items were selected in compliance with an opinion that they will activate the subjects' attitude towards dance. The items were constructed in such a way as to encompass, to the largest possible extent, the concept of *dance*, so that they related to social and folk dances, to dances executed with and without a partner, as well as to wheel dancing. The construction of items was aimed at covering affective, cognitive and action aspects of attitudes, as well as to reflect, in a similar number of items, both the positive and the negative attitude towards dance. Each item was assigned a five-point Likert scale, which contained levels of agreement with the given statements, these levels ranging from *completely incorrect* to *completely correct*. Ultimately, the first version of the *Attitudes-Towards-Dance Inventory* (ATDI) was created. The first version of the inventory was circulated to 201 male students with the Faculty of Kinesiology in Zagreb. The measurements were done by the same person during regular sophomore classes.

The sample was comprised of students who have not yet attended the classes in the subject *Dance*. Participation in measurements was voluntary and anonymous. Metric characteristics of 42 items were identified by the Reliability option of the statistical package *Statistica for Windows*, version 8.0. The obtained results served to select 20 items with the best metric characteristics, and eventually the metric characteristics for the total scale in the proposed final version of the inventory were determined.

Results

Tables 1 and 2 contain the values regarding the measurement characteristics of the 42-item *Attitudes-Towards-Dance Inventory* (ATDI).

Table 1.: Metric characteristics of the results of the 42-item version of the Attitudes-Towards-Dance Inventory (ATDI) – 201 subjects.

AM	SD	Min	Max	AVR	Cronbach's Alpha
147.07	26.325	56	201	.356	.955

Almost all items on the first principal component displayed medium to high values (Table 2). The lowest result was obtained for item 14 – *I do not like it when I cannot follow (recognize) a dance rhythm*. Obviously, this item is the one that is least connected with the attitudes towards dance, so that it could be assumed that it relates to the self-assessment of one's own abilities. Lower values were also obtained for items 8 and 18. The item *Men who dance are homosexuals* probably more provokes homophobia than it actually measures the attitudes towards dance. The item *If my friends go out to a discotheque, I stay at home* might be obsolete since discotheques are no longer the only places for socializing and dancing.

The correlations of items with the sum scale also displayed lower values for the same three items. The reliability of the sum scale computed without a respective item (Table 2) shows that the exclusion of any item would not change the value of the Cronbach's alpha coefficient. On the basis of the data in Table 1 it could be concluded that the shortened version of the inventory should not contain the items 8, 14 and 18. Inter-item correlations (Table 3) showed that the inventory may be significantly shortened without losing relevant information. The .6 inter-item correlation indicates that large proportion of variance of the measurement object is common for items, so that one of them could be omitted. The contents of items served to retain all items that cover the range of the concept of *dance*, also retaining the three attitudes components (Katz, Stotland, 1959). Twenty items were retained in the final version of the inventory (items No. 1, 3, 6, 7, 9, 10, 13, 17, 19, 20, 24-30, 35, 40 and 41). The total result for the 20-item version of the *Attitudes-Towards-Dance Inventory* was calculated, and the metric characteristics of the overall scale for this shortened version of the inventory are presented in Table 4.

Table 2. :Metric characteristics of 42 items of the first version of the Attitudes-Towards-Dance Inventory (ATDI) (AM – arithmetic mean; SD – standard deviation; X1 – the result of an item on the first principal component; R – item-total correlation; A – reliability of the sum scale computed without a respective item)

	Statement	X1	AM	SD	R	A
1.	I like to dance.	-.860	3.736	1.134	.833	.952
2.	Dancing is healthy.	-.461	4.269	0.705	.428	.955
3.	When I go to a discotheque with my friends, I spend time talking to	-.480	3.378	1.037	.454	.955
4.	I like to dance alone.	-.377	2.403	1.137	.348	.955
5.	I do not visit dance productions.	-.313	2.353	1.311	.310	.956
6.	I do not like weddings because most people present there dance.	-.472	4.443	0.841	.446	.955
7.	I am embarrassed when somebody watches me when I dance.	-.609	3.353	1.225	.579	.954
8.	Men who dance are homosexuals.	-.250	4.522	0.872	.246	.956
9.	I enjoy when I see a harmonious dancing couple.	-.531	4.035	0.977	.518	.954
10.	Dancing with a female partner motivates me to dance even better.	-.650	4.000	0.866	.625	.954
11.	I feel comfortable when I dance.	-.715	3.876	1.113	.678	.953
12.	I have been dancing since the moment I started to go out alone.	-.499	3.040	1.131	.468	.955
13.	I am happy when I dance.	-.771	3.841	0.914	.736	.953
14.	I do not like it when I cannot follow (recognize) a dance rhythm.	-.184	3.363	1.141	.168	.956
15.	I love to move to good music.	-.728	4.085	0.859	.698	.953
16.	It is nice to dance with a partner.	-.358	3.965	1.644	.337	.956
17.	I avoid dancing.	-.826	3.766	1.183	.804	.952
18.	If my friends go out to a discotheque, I stay at home.	-.264	4.483	0.884	.234	.956
19.	I dance whenever I have a chance to do so.	-.826	3.338	1.107	.807	.953
20.	Dance creates unease in me.	-.737	4.015	0.930	.709	.953
21.	Every getting together with my friends is necessarily accompanied by	-.478	2.433	0.988	.463	.955
22.	I feel anxious when I dance in a pair.	-.475	3.975	0.946	.447	.955
23.	Wheel dancing is always merry.	-.431	3.975	0.790	.417	.955
24.	I like dance productions.	-.591	2.985	1.116	.577	.954
25.	I am uneasy when wheel dancing.	-.500	3.876	1.015	.477	.954
26.	It is difficult for me to lead a dance partner.	-.618	3.652	0.942	.592	.954
27.	I would like to dance day and night.	-.779	2.866	1.156	.761	.953
28.	I feel stupid when I dance.	-.561	3.448	1.195	.534	.954
29.	I dance whenever I have a moment free.	-.665	2.308	1.017	.645	.954
30.	I like pair dancing.	-.777	3.900	1.020	.742	.953
31.	When we wheel dance, I feel good.	-.475	3.448	0.937	.452	.955
32.	Pair dancing is very creative.	-.476	4.030	0.754	.446	.955
33.	I do not like to dance.	-.833	4.065	1.167	.808	.952
34.	I go to see all dance productions.	-.496	1.876	0.900	.482	.954
35.	I cannot imagine going out and not dance.	-.755	2.915	1.244	.730	.953
36.	I can express my feelings by dancing.	-.739	3.085	1.135	.714	.953
37.	I do not like it when my partner cannot dance.	-.488	3.124	1.191	.465	.955
38.	Dance creates the feeling of comfort.	-.836	3.662	1.012	.805	.953
39.	I use any opportunity to dance.	-.785	2.776	1.181	.764	.953
40.	I start dancing whenever I hear the music.	-.733	2.826	1.084	.711	.953
41.	I feel good when I dance.	-.864	3.776	0.992	.833	.953
42.	I do not feel comfortable when I dance.	-.776	3.811	1.036	.751	.953

Table 3. The excerpt from the correlation matrix of items from the Attitudes-Towards-Dance Inventory (ATDI) – 201 subjects.

ITEM	SPP1	SPP10	SPP19	SPP27	SPP30	SPP33	SPP35	SPP36
SPP11	.63	.43	.55	.53	.60	.09	.53	.53
SPP14	.13	.02	.16	.28	.04	.62	.05	.15
SPP38	.73	.58	.58	.63	.62	.72	.63	.64
SPP42	.67	.64	.62	.56	.62	.68.	.05	.51

Table 4. Measurement characteristics of sum scales of the 20-item version of the Attitudes-Towards-Dance Inventory (ATDI) – 201 subjects.

AM	SD	Min	Max	AVR	Cronbach's Alpha
71.856	14.215	26	100	.440	.937

Conclusion

To identify the attitudes towards dance in male students with the Faculty of Kinesiology, a 42-item inventory was created containing the 5-point Likert type scale for the expression of the subjects' agreement with the listed statements. The items were constructed in such a way as to encompass, to the largest possible extent, the range of the concept of *dance*, so that they related to social and folk dances, dancing with and without a partner, as well as to wheel dancing. Metric characteristics of the inventory were determined on the sample of 201 male students of kinesiology. The measurement characteristics of the 42-item inventory proved to be excellent. Further analysis showed that it was possible to shorten the inventory without distorting its metric characteristics to a larger extent. The final version of the inventory contained 20 items. While reducing the inventory, attention was paid to retaining affective, cognitive and action aspects of attitudes, for the items to ultimately reflect both the positive and the negative attitudes towards dancing. The final 20-item inventory is an efficient measurement tool, and regardless of the significant shortening of the initial version, it kept high reliability (Alpha 937).

References

Connor, M. (2000). Recreational folk dance: A multicultural exercise component in healthy ageing. *Australian Occupational Therapy Journal*, *47*, 69-76.

Dolgener, F.A., Spasoff, T.C., & St-John, W.E. (1980). Body build and body composition of high ability female dancers. *Research Quarterly for Exercise and Sport*, *51*(4), 599-607.

Kostić, R., Zagorc, M., & Uzunović, S. (2004). Prediction of success in sports dancing based on morphological characteristics and functional capabilities. Acta Univ. Palcki. Olomuc., Gymn., *34*(1), 59-64.

Kostić, R., Uzunović, S., Oreb, G., Zagorc, M., & Jocić, D. (2006). Relations of success in latino-american dances with coordination abilities. *Book of abstracts of the 12th FIS communications of the national scientific conference with international participation* (pp. 33). Niš: Fakultet fizičke kulture,

Katz, D., & Stotland, E. (1959). Preliminary statement to a theory of attitude structure and change. In S. Koch (Ed.), *Psychology: a Study of a Science, 3*, (pp. 423-475). New York: McGraw-Hill.

Krameršek, J. (1961*). Ritam i kretnja u vježbanju i igri*. Zagreb: Sportska stručna biblioteka.

Laban, R. (1948). *Modern educational dance*. MacDonald & Evans.

Maletić, A. (1986). *Pokret i ples*. Zagreb: Kulturno-prosvjetni sabor Hrvatske.

Miletić, Đ. (1999). Factors of successfulness with folk dances. In P. Parisi, F. Pigozzi & G. Prinzi (Eds.), *Proceedings of the 4th Annual Congress of the European College of Sport Science*, Rome, 1999 (pp. 374). Rome: University Institute of Motor Sciences.

Miletić, Đ., Dundić, T., & Dundić, M. (2008). Različitosti u plesnom izvođenju kod natjecateljki u Pom-pon i Double dance disciplinama. In B. Maleš (Ed.), *Proceedings of the 3rd International Conference "Contemporary Kinesiology"*, Mostar, 2008 (pp. 174-177). Split: Faculty of Kinesiology, University of Split; Mostar: Faculty of Natural Science, Mathematics and Education, University of Mostar; Ljubljana: Faculty of Sport, University of Ljubljana.

Oreb, G. (1984). *Relacije između primarnih motoričkih sposobnosti i efikasnosti izvođenja plesnih struktura kod selekcioniranog uzorka ispitanika*. (Master's thesis). Zagreb: Fakultet za fizičku kulturu Sveučilišta u Zagrebu.

Prosen, J., Zagorc, M., & Bizjak, K. (2008). Physical work-rate at salsa in school programmes. In G. Starc, M. Kovač & K. Bizjak (Eds.), *Book of Abstracts – 4th International Symposium Youth Sport 2008 "The Heart of Europe"*, Ljubljana, 2008 (pp.112-113). Ljubljana: Faculty of Sport.

Srhoj, Lj., Katić, R., & Kaliterna, A. (2006). Motor abilities in dance structure performance in female students. *Collegium Antropologicum*, *30*(2), 335-341.

Zagorc, M., & Zaletel, P. (1997). Comparison of some morphologic and motor characteristics of top dancers in Latin-American, standard dances and in rock 'n' roll dance. In: Milanović D. (Ed.) *Proceedings book of the 1st International Scientific Conference on Kinesiology – "Kinesiology- the present and the future"*, Dubrovnik. (pp. 174-176). Zagreb: Faculty of Physical Education, University of Zagreb.

Zagorc, M., Karpljuk, M., & Friedl, M. (1999). Anlysis of functional loads of top sport dancers. In: Milanović D. (Ed.) *Proceedings Book of 2nd International Scientific Conference "Kinesiology for 21st century"*, Dubrovnik. (pp. 240–243). Zagreb: Faculty of Physical Education, University of Zagreb.

Zagorc, M. (2000). *Družabni in športni ples*. Ljubljana: Združenje plesnih vaditeljev, učiteljev in trenerjev Slovenije.

METRIJSKE KARAKTERISTIKE SKALE STAVA PREMA PLESU

Sažetak

Stavovi su relevantni za razumijevanje i predviđanje ljudskog ponašanja, kad god ono nije automatsko ili uobičajeno. Informacije o stavovima prema plesu trebale bi pomoći razumijevanju zašto neki ljudi vole plesati, i plešu redovito, dok drugi izbjegavaju ovu aktivnost. Osmišljena su dva oblika skale za procjenu stavova prema plesu. Prvi oblik sastojao se od 42 čestice, s odgovorima na pet stupanjskoj Likertovoj ljestvici Metrijske karakteristike skale u ovom obliku su provjerene na uzorku od 201 studenata kineziologije. Prva svojstvena vrijednost matrice korelacija objašnjavala je gotovo 40% zajedničke varijance, što pokazuje da je skala jasno definirala prvi predmet mjerenja. Prosječna korelacija među česticama bila je 0,356. Skala je pokazala visoku pouzdanost, a koeficijent Cronbachove alfe bio je 0,955. Najniža vrijednost čestice na standardiziranoj prvoj glavnoj komponenti je 0,18, a 39 čestica je imalo vrijednosti veće od 0,30. Izvrsne metrijske karakteristike skale sa 42 čestice omogućile su formiranje skraćenog oblika skale. Druga verzija skale stava prema plesu (SPP) je skraćena na 20 čestica i imala je gotovo istu pouzdanost kao i duža verzija, koeficijent Cronbachove alfe iznosio je 0,942. Moglo bi se zaključiti da su oba oblika skale stava prema plesu imala vrlo dobre metrijske karakteristike te su prikladni za primjenu .

***Ključne riječi**: Skala stava prema plesu, metrijske karakteristike, studenti*

Received: June 28, 2014
Accepted: December 20, 2014
Correspondence to:
Assist.Prof.Jadranka Vlašić, Ph.D.
University of Zagreb
Faculty of Kinesiology
Horvaćanski zavoj 15, Zagreb, Croatia
Phone: +385 (1) 3658 666
E-mail: jvlasic@kif.hr