

ON THE IMPORTANCE AND NEED OF FLEXIBILITY AND STRENGTH REFINEMENT AS AN ELEMENT OF DANCERS' TRAINING

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ABSTRACT

Contemporary professional dance art is close, to a great extent, to sport of excellence. The requirements to performers are constantly increasing and hence the need of properly organised specialised training, including a system of drills, stretching and dance exercise for developing their motor skills.

The aim of this empirical study is to establish the need of including a specialised methodology for the development of the motor skills in the dance practice in the Republic of Turkey – strength and flexibility for the dancers of Turkish folk dances. The tasks are: to study the dance practice in the Republic of Turkey and to explore the views of the future dance pedagogues on the implementation of a program in dance training for the development of motor skills.

The survey was conducted among dance students of Turkish folk dances with the help of a specially designed questionnaire.

Our sustained observations and the analysis of the existing literature show lack of exhaustive research in the field of the dance theory and practice in the Republic of Turkey. There is insufficient data on the existence of a uniform methodology for working in the dance groups for the development of flexibility and strength with the use of specially elaborated programs, including dance exercises. The results of the conducted survey confirm the absence of a unified and purposeful work in this area.

At present, in teaching dance, there is not enough emphasis put on the purposeful development of dancers' motor skills. Given the increasing requirements dancers face, we consider it unreasonable that the scientific achievements not be widely introduced in the pedagogic practice in Turkey. Such discrepancy between theory and practice may have serious consequences – an increased risk of injuries and lasting disabilities, shorter career as a dancer and a debased professional satisfaction.

Keywords: *dance, motor skills, strength, flexibility*

INTRODUCTION

During different time periods, peoples have encoded in their dances the habitual cultural and ethnic characteristics reflecting the spirit of the respective epoch. After the Renaissance dance art in Europe gradually became more professional. This process demanded a more specialised training of the performers. The emergence and development of classical dance, i.e. ballet, came as a solution to this issue. Various complexes of dance exercises were elaborated for development of dancers' motor skills and training.

The main motor skills required for dance performers are strength, flexibility, jumping ability and endurance. These qualities are developed through specialised training that includes a system of drills, stretching and dance exercises. By applying such a complex during the training process muscle groups are strengthened and physical qualities are developed, such as: proper body and head position; coordinated functioning of all parts of the body; improved physical training of the dancers. The improvement of physical training is necessary because it is of particular importance that the body and the whole organism of the dancer be adequately prepared as dance is realised by the body. The good performance depends not only on the talent and sensation of the dancer but also on some physiological characteristics, namely the optimal development of motor skills. So, one of the main tasks of dance pedagogy is to develop the individual skills of dance practitioners and to improve their physical condition.

All those skills are also vital to anybody who practices folk dances which have been "revived" and have become

more popular since the 20th century. Before that time those dances (Irish, Balkan, Asian, African, provincial English, etc.) were "almost lost" for the wide public. Their popularity is growing, both in their endemic areal and in the West (Mackrell, 2015). In its turn, this is a prerequisite for the professionalisation of folk dances, which implies the need of specific training of the performers. It is important for dancers to possess appropriate physical qualities, based on a complex of developed motor skills as well as on the good body space orientation. Over the time, the requirements to folk dancers gradually and constantly have increased. For this reason, the attention towards the physical and technical training of dance performers is growing steadily in choreographic practice. According to Zl. Kostov (2005) the necessary complex of skills (athletic, performing and artistic) should be developed in stages, while the dances themselves also influence the development of motor skills.

Contemporary professional dance art is close to a great extent to sport of excellence. The requirements to performers are constantly increasing and hence the need of properly organised specialised training. In this context "*from pedagogical view point, sport and dance practice are identical. And like some authors, who place certain sports on the border between sport and art, we can conclude that on the stage dance is an art (stage art), while before the performance, during the stage preparation, during rehearsals or dance lessons – it is a sports practice*" (Ünlü, Vladova, 2016). In dancers' physical training, exercises (for warming up the organism and prevention of traumas and also for improving the very perfor-

mance) are of particular importance, as well as the specialised stretching program and the set of exercises for development of motor skills.

It is obvious from the theory and practice that all motor skills are subject to development.

Strength is the motor skill that lies in the base of all other motor skills and of the good dance technique and it leads to the improvement of the dancer's performance. It is developed through systematic and purposeful training of particular muscular activity and different methods for strength training: repeated effort method, dynamic effort method and maximal (next to the limit) effort method. The included exercises can be performed by the overcoming of the own weight (self-weight), by overcoming external resistance (weights, elastic bands, springs, etc.) or by performing structured special-strength exercises, which develop power in a mode close to the main motion action in the muscle groups that are involved in its performance (Nikolov, 2014). In dance practice, in order to develop the quality "strength" one should mainly use self-weight exercises in isometric, isotonic and auxotonic mode.

Flexibility is also a very important quality for successful professional realisation of dancers. Flexibility is a function of the resiliency of the different units of the locomotor system and is measured by the magnitude of the amplitude of the movements. This is the general mobility of the joints and the ability of movement in the joints. Critchfield (2011) studies flexibility in relation to the scope of movement in the respective joint. It is determined by the anatomical structure that provides stability and allows the movements in

the joint. The largeness of movement in the joint depends on several anatomical, biomechanical and physiological factors: shape and size of the bones participating in the movement; connective tissue; joint capsule and joint connections that in turn stabilise and at the same time restrict the movements in the joint; muscle mass and nerves; the strength of the muscle groups that perform the movements in the different joint ties. Flexibility is regarded as the ability of soft tissue structures (muscles, tendons and connective tissue) to extend smoothly and easily through the available capacity of movement (Hadjiev, Andonov, Dobrev & Petrov, 2011; Alter, 2004; Critchfield, 2011). Therefore, the magnitude of movement amplitude depends on the anthropometric features of joint surfaces, the elastic properties of joint ties and on the muscle tonus. The amplitude of motion is specific for each joint and its high level in one joint does not predetermine the same level in another joint (Zheliazkov, Dasheva, 2011; Lorraine, Urmston, 2016; Butulis, 2016). It has been established that the flexibility and elasticity of the muscles and tendons is higher in women than in men of the same age. Despite this fact, male dancers should also work to develop this quality (Critchfield, 2011). Some authors explain these gender-based differences with the higher level of estrogen in the body of women. The development of this quality is influenced by gender, age, body morphology, genetics, bone-joint apparatus, nerves, muscles, tendons, connective tissue (Lorraine, Urmston, 2016). Zheliazkov and Dasheva (2011) associate flexibility with the morpho-functional properties of the locomotor system, which are also "the limiting factors of its manifestation". They also

enumerate some additional factors such as: air temperature (the higher temperatures are more favourable); warming up of the motor system; suitable clothing that does not restrict movements; adequate recovery after fatigue or injury; part of the day – reduced flexibility during the morning hours. The level of flexibility depends also on the level of development of the other motor qualities but there should be a balance, especially between flexibility and strength (Zheliakov, Dasheva, 2011; Lorraine, Urmston, 2016).

Depending on the nature of the motor activity, flexibility can be: general; special and relative compensatory. According to the type of muscle extension it could be: static or isometric; dynamic or kinetic and the difference between the two is the backup (Zheliakov, Dasheva, 2011). To improve the elasticity of the muscles and the joint ties, respectively to improve flexibility, active and passive movements and exercises are recommended. Active exercises involve one's own muscular efforts and are performed without external resistance: these are different folds, stretches and general exercises, swings, tilts, etc. They are of great importance and application in dance practice and are included in the dance exercises.

Passive exercises to develop flexibility – with the help of external forces or resistances or by the own body mass; static restrained exercises. Ancillary exercises are used to increase the amplitude of movements by pushing or overcoming a resistance.

A group of passive-active exercises can also be distinguished (Zheliakov, Dasheva, 2011). The authors also talk about some recent trends of the so called stretching exercises in sports prac-

tice aimed at development of flexibility, which are actively used in dance schooling and training of the dancers. Stretching is considered passive flexibility in the slow extension of agonist muscles to the threshold of pain caused by the changes of muscle length by exciting nerve endings and muscle spindles. This, in turn, leads to “creating an additional tension in the muscle”, which is felt as a slight pain. Some of the stretching benefits are that the physical condition of the body is generally improved; the risk of injuries in the joints, joint ties and tendons is reduced; muscle tension and fatigue is decreased; tissue nutrition is improved (Zheliakov, Dasheva, 2011; Alter, 2004). It is important not to confuse stretching with warm up, because the warming-up is intended to increase the temperature of muscle tissue (Critchfield, 2011).

The issue of stretching is studied by researchers in the sphere of sports, dance, sports medicine and rehabilitation (kinesiotherapy). They explore its varieties and compare the advantages and drawbacks, which may be encountered when stretching is included in the practice of athletes and dancers. Usually the advantages and disadvantages are considered in view of increasing the range of movement in the joints and in view of its effectiveness in developing flexibility or in reducing the trauma risks (Zheliakov, Dasheva, 2011; Tanigawa, 1972; Moore, Hutton, 1980; Prentice, 1983; Condon, Hutton, 1987; Etnyre, Lee, 1988; Sullivan et al., 1992; Bandy et al., 1998; Alter, 2004; Sharman et al., 2006; Critchfield, 2011; Lorraine, Urmston, 2016). Some researchers try to refute the “myth” that stretching is the best prevention and strategy for avoiding sprains. It is known that through its

practicing the state of the joint-articular apparatus, the neuromuscular efficiency and the working capacity are improved. However, it is not absolutely proven that stretching prevents injuries (Sutton et al., 2012; Butulis, 2016). The physiology of stretching is complex and many authors associate it with the development of flexibility. However, according to Lorraine & Urmston (2016) the causal relationships between the extension during stretching and the greater levels of flexibility are not fully elucidated. Regardless of the above allegations, stretching is included in the dance practice precisely for the development of flexibility.

The types of stretching known in theory and practice are: passive (static); active (with varieties as dynamic and ballistic) and proprioceptive neuromuscular facilitation (PNF). Any of these types is effective and is more or less beneficial to the development of flexibility. It is important that the dance pedagogue not only know the different types but also be able to find the optimal stretching techniques for the respective training corresponding to the dance style, level of the dancers or the stage of the preparation.

We can summarise that the qualities strength and flexibility are in correlation, as strength depends on the muscle area and flexibility – on the extent of its stretching. In this regard, strength exercises should be performed alongside with those for flexibility (Yarali, 2016). From methodological point of view, it is important to find the balance between them. This is due to the fact that when working for flexibility the connective tissue both stretches and relaxes. When the connective tissue of some muscle is weak, the probability of trauma and overload is

greater. At the same time, strengthening of muscles prevents injuries. Lorraine & Urmston (2016) cite Julie Alter's words: "*Strengthen what could be stretched and stretch after strengthening*". At the same time, the percentage of work for strength and work for flexibility depends also on the dancers themselves or on their condition and body specifics. Dancers who are "more floppy" should do less stretching and more strength exercises than the others. There is also a reverse trend – dancers who have "tight" bodies are more stable and have a thicker connective tissue and their muscles are less elastic (Critchfield, 2011).

By taking into account the safety principles and searching for positive effects in the dance practice, the dance pedagogues should be able to judge when and how to apply productively the different types of exercise and techniques for development of motor skills.

Dance practice aims at maximal refining of the dancing movements (of dance as a whole), both by each dancer individually and by everyone participating in the activity or in the dance performance/stage production.

However, to ensure this, the main tasks of dance pedagogues (choreographers) should be:

- ▶ To develop, ensure and enhance the competence of dancers, which includes a complex of: optimal development of motor skills, the necessary skills and dexterity, that find expression in their dance culture and "literacy";

- ▶ To make systematic efforts to protect dancers' health as the most important factor for their physical and psychic well-being. This, in turn, is a prerequisite for ensuring dancing longevity.

According to Butulis (2016) injury prevention demands a holistic approach to the managing of numerous risk factors which he divides into: internal - determined by the characteristics of the individual (bone density, flexibility, muscle endurance, hormonal balance, nutrition, etc.) and external factors (hall and floor condition, shoes, workload, training schedule, etc.). Hyper-mobility, which also carries a certain risk of trauma, can be considered an internal factor too (Grahame, 1971; Klemp et al., 1984). According to Morris (2016), the healthy and safe dance practice involves much more than rules and norms. It is the best way to reduce the risk of injury to the dancers and improve the performance. It is a fact that the risk of injuries and traumas in the dance activity is great, but the safe dance practice actually means to minimise that risk without compromising the scope of the activity or diminishing its artistic and creative effect. It is important to support the dancers in getting the most out of their creative potential. For this purpose, it is necessary to perform a physiologically effective warming-up and improve the flexibility and strength. It is also necessary that the dance activities be physiologically correctly structured. Thus, training shall be safer and shall improve together with dancers' skills (Morris, 2016). When working on development of flexibility and strength, dance pedagogues should adhere to the principle of the individual approach to teaching which in its turn guarantees trauma prevention (Ünlü, Vladova, 2016). Dancers' bodies are different, even if they practice one and the same dance style. Some of them are less flexible and agile, have a dense connective tissue, and their muscles are not very elastic, un-

like other dancers who are more flexible by nature. Some are even hypermobile. This is good for flexibility, respectively for the performance, but is also a serious prerequisite for an increased risk of traumas and injuries. Dancers who have a greater range of movement volume are also more vulnerable to serious tendon injuries. Both excessive flexibility and insufficient flexibility can increase the danger and the risk of trauma. Consideration should be given to the fact that when the muscle has reached its absolute maximum length and is subjected to further stretching, it causes stress on the tendons. They could tear at tensile exceeding 6% of the normal length. Even if these adverse effects do not occur, it is likely that the joint stiffness will be reduced or the joint ties become loose. These are additional prerequisites for an increased/serious trauma risk (Lorraine, Urmston, 2016).

From injury prevention and performance improvement stand point, consideration is needed when and how stretching is done. As we have mentioned above, the temperature on the premises affects the development of flexibility. Even if it is warm, it is still not recommended to make a basic stretch before dancing (including stage performance) (Critchfield, 2011). Critchfield also recommends that when during stretching, a tingling in fingers or in toes is felt (which is a symptom of a neurological effect), the respective exercise should be avoided, especially if it is done before the performance of a more demanding choreography where the excellent control is of paramount importance. Such disturbing effects disappear over time. It is also recommended that before rehearsals or performances a dynamic stretching may be more appropriate,

which includes some dance movements and is less “harmful” than the static one (Viale, Nana-Ibrahim, & Martin, 2007; Critchfield, 2011).

Summarising we may affirm that one of the main tasks to be solved by the dance pedagogues, besides dance training, is to ensure above all a healthy and safe dance practice.

MATERIALS AND METHODS

Purpose and objectives of the study

Object of this study is the physical qualities “strength” and “flexibility” achieved by persons practicing Turkish folk dances.

The research on these qualities is not an end in itself, arbitrary or accidental. The optimal level of their development by the respective dancer is a factor for achievement of performance mastery. Dancers have a substantial long-term training which often resembles the training of athletes. In order to turn dance into art that “*brings aesthetic pleasure to the viewers, there are many advance hours and years of work*”, regardless of the dance style, age group or dancers’ level of the preparation (amateurs or professionals) (Ünlü, Vladova, 2016). Dances are combination of complex movements involving both artistry and good body skills. Dancers are expected to have simultaneously the creativity and originality of an artist and the strength and the body control of an athlete (McKinnon, Etlin-Stein, 2015). The modern dancer needs a complex of qualities that are necessary for a good performance. According to Judith Mackrell (2015), dancers are not just performers; their bodies are instruments of dance art. It is exactly the

motor skills and abilities of the dancers that determine the quality of the art performed. She concludes that the stronger and more flexible a dancer’s body is, the better he/she shall be able to perform a wider range of movements. The good dancer should be strong, agile and flexible, well coordinated (able to make all parts of the body work together well). He/she should perform balanced movements and have highly developed “kinetic consciousness”. Dancers need also to manage to control their body and to be able to control its weight. Besides the above qualities, the dancer should have a sense of rhythm and musicality, which are also of great importance (Mackrell, 2015). In dance performances ease of execution, plasticity and jumping ability are demanded and appreciated above all. Dancers’ movements often include various jumps and landings. But as Ambegaonkar, Caswell & Cortes (2014) assert, dancers need strength in the lower body part (LBP) in order to assure their safety, in the sense of preventing traumas and injuries when performing such explosive movements. According to them, 70% of all traumas, related to dances, happen in the lower body part. Several authors study what, for example, influences the height of the jumps. For the successful performance of jumps, along with the flexibility, age, some anthropometric indices (height and weight) and the experience of the dancers, the muscular mass and the isometric muscle strength play a role as well (Wyon et al., 2006; Golomer et al., 2004; Kraemer et al., 2004). A manifestation of this quality lies in speed endurance (the speed of performance of the movements). It has been established that in athletes who have better achieve-

ments, the quality “strength” is well developed. Analogically, in a study among 61 female dancer students Ambegaonkar, Caswell & Cortes (2014) search the same relation in respect of the link between the strength (in the LBP) and the balance during dancing. This is of interest to them because dancers are expected to have a better balance than non-dancers, and because in the contemporary development of the dance the aesthetic results and the jumping abilities are in a positive correlation with each other. They find out that balance and strength correlate, being positively linked. Stronger dancers have better balance. By these conclusions, the authors refute the myth that stronger dancers are more muscular and consequently the dance performance is deteriorated (Ambegaonkar, Caswell & Cortes, 2014).

The aim of this empirical study is to establish the need of including a specialised methodology for the development of the motor skills in the dance practice in the Republic of Turkey – strength and flexibility for the dancers of Turkish folk dances. The tasks we have set are:

1. To study whether a methodology for development of motor skills is applied in the dance practice in the Republic of Turkey, including special exercises for strength and flexibility, and stretching and dance exercises;

2. To explore the views of the future dance pedagogues on the implementation of such program in dance training on all levels: both with non-professional dancers and in professional dance groups.

Thesis and hypothesis of the research

In the Turkish scientific literature, we do not find information about a unified and specialised program for develop-

ment of motor skills, incl. also specialised stretching methodology and Turkish dance exercise.

The hypothesis of this study is that such practice has been absent in the training in Turkish folk dances. Although the folklore dance art in the country has actively entered the stage of its professionalisation there is still no unified specialised methodology for the training of the performers.

Undoubtedly, the unified, rigorous and infinitely stylised classical technique is necessary for the development of the basic motor skills (strength, flexibility, jumping ability, speed, endurance). In this sense, the pillars of the classical exercise are steady. However, the study and mastering of any folklore performance style, especially at professional level, requires a specialised technical training, which is as close as possible to the protoplast of the folk dance. Every nation has its own dance traditions, specific dance vocabulary, style and character of performing its regional dances. This makes the literally transferred classical exercise inapplicable to the folk dance. Its specificity necessitates a certain change in the content, arrangement and performance of the drills of the exercise. In folk dance, the exercise is intended not only to build up the muscles and develop the flexibility and the strength of the performer, but also to prepare him/her for the style and character of the dances, which will be rehearsed or performed on the stage.

We assume that the elaboration and introduction of such a program in the dance practice shall contribute to the overall development of the Turkish dance folklore in the process of its professionalisation.

Applied methodology and methods

The survey was conducted among dance students (n=64) with major “Turkish Folk Dances” at the Sakarya University State Conservatory, Department of Turkish Folk Dances, Republic of Turkey, with the help of a specially developed questionnaire.

The interviewed students are from all Bachelor’s degree courses (I to IV), and their number represents 80% of the total number of students with major “Turkish Folk Dances”. The distribution by gender is as follows: 33 (51,6%) of the interviewed students are male with mean age M=23 years (Min=19; Max=28; SD=2,02) and 31 (48,4%) are female with mean age M=22 years (Min=19; Max=25; SD=1,55).

The field of this study is the system of university dance education in the Republic of Turkey.

In order to achieve the objective and tasks of the study, we applied a complex methodology, which included: a theoretical-logical analysis of literary sources and methodology for collecting empirical information. The methodology was based on pedagogical observation (the purpose of which was to get a preliminary orientation in the problem) and a specially developed questionnaire. The questionnaire contains two subscales with five questions and information about the gender and the age of the interviewed students and about their dancing experience before enrolling in the Conservatory.

The first subscale is related to questions whether during the dancing practice before enrolling in the Conservatory the respondent worked on developing motor skills such as “strength” and “flexibility” and whether during the same period the

respondent worked independently in that particular field.

The second subscale (Cronbach’s Alpha $\alpha=0,803$) is related to another set of five questions. They focus on obtaining the students-dancers’ opinion about the inclusion of a motor skills development program in the dancing practice. A three-point Likert-type scale was applied: the answer “No” marked with 1, the answer “No opinion” – marked with 2 and the answer “Yes” – marked with 3.

RESULTS AND DISCUSSION

Our sustained observations and the analysis of the existing literature show lack of exhaustive research in the field of the dance theory and practice in the Republic of Turkey. There is insufficient data on the existence of a uniform methodology for working in the dance groups for the development of flexibility and strength with the use of specially elaborated programs, including dance exercise. Prior to joining the Conservatory, the interviewed students were engaged in dances, with an average duration of their dance practice before the university 9,6 years (Min=4; Max=18; SD=3,21). For women, the duration of the previous practice is shorter M=8 years (Min=4; Max=13; SD=2,63), while for men it is longer M=11 years (Min=7; Max=18; SD=3,03). We focused on establishing to what extent during that period their pedagogues had worked purposefully and in an organised manner for the development of their motor skills and namely the flexibility and strength. Regretfully, the results of the conducted survey confirm the absence of a unified and purposeful work in this area. The results from students’ responses are presented in Figure 1.

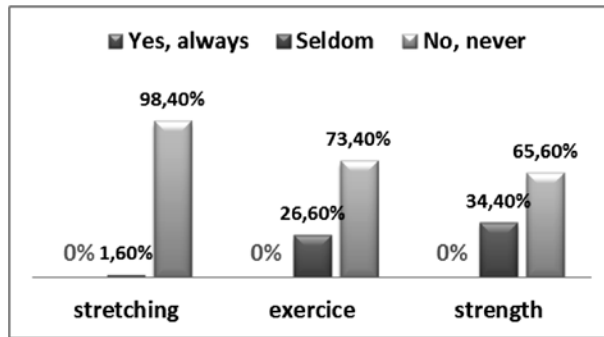


Figure 1. Work for developing strength and flexibility, incl. stretching and dance exercise

It was established that the respondents, by the time they enrolled in the Conservatory, practically had not worked purposefully and in an organised manner on developing the motor skills strength and flexibility during the Turkish folk dance activities. Their dance pedagogues had not included stretching, exercise and special strength exercises in the trainings, no matter how beneficial they are known to be for dancers. Only 26,6% of the respondents seldom did exercise while 34,4% of the interviewees rarely

did some strength exercises during their previous dance practice. We can summarise that these results are rather worrying.

A supplementary aspect of the survey is to establish to what extent the dancers worked independently for developing the motor skills “strength” and “flexibility” during the same time period. The results from their responses are shown in Figure 2 and Figure 3. The responses rebut our presumptions for a greater rate of self-sufficient training activity in the respective area.

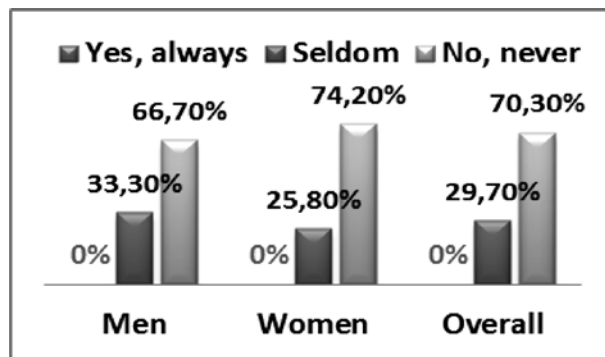


Figure 2. Strength independently

None of the interviewed dancers gave the answer “Yes, always” in respect of autonomous development of their strength. Only about one third of the interviewed students have done strength exercises rarely, resp. 33,3% of the male students and 26% of the female ones. The remaining respondents marked the answer “No”. As regards flexibility,

female respondents had the same attitude as that of the development of their strength, while male interviewees indicated a greater activity. We found out that of all respondents only one male student worked independently for developing his flexibility and 36,4% did this seldom. The remaining male respondents marked the answer “No”.

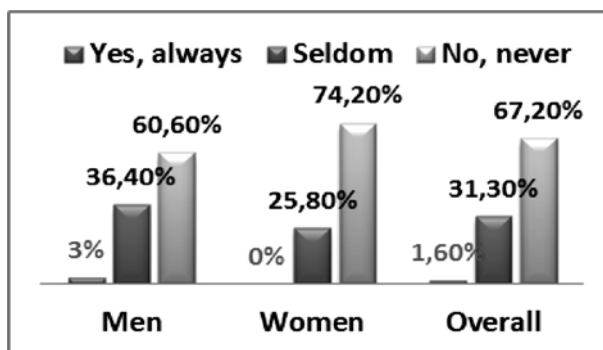


Figure 3. Flexibility independently

The obtained results about the independent activities are not surprising. Without methodological guidance or a good example on behalf of dance pedagogues, dancers could hardly be expected to reach some rational approaches regarding their self-training. The results support the thesis of Dragon (2014) that learners often expect to be trained and believe that there is only one way to learn, through the traditional authoritarian paradigms, like the “demonstration and reproducing” model. However, such expectation often poses many challenges both to dance pedagogues and to trainees themselves.

In the research, we also focused on studying the views of the future dance

pedagogues on the need and benefits of implementation of a special program for development of motor skills in the dance practice in the Republic of Turkey. The questionnaire included questions regarding the students’ opinion whether a specialised program with exercises for developing the motor skills – strength and flexibility, including also a dance exercise should be implemented in the dance classes (for professionals and amateurs). The results show that a significant part of the respondents share the opinion of the absolute need of introduction of these programs and their relative share is greater than the share of those who are of the opposite opinion. A summary of the responses (n=64) is presented in Figure 4.

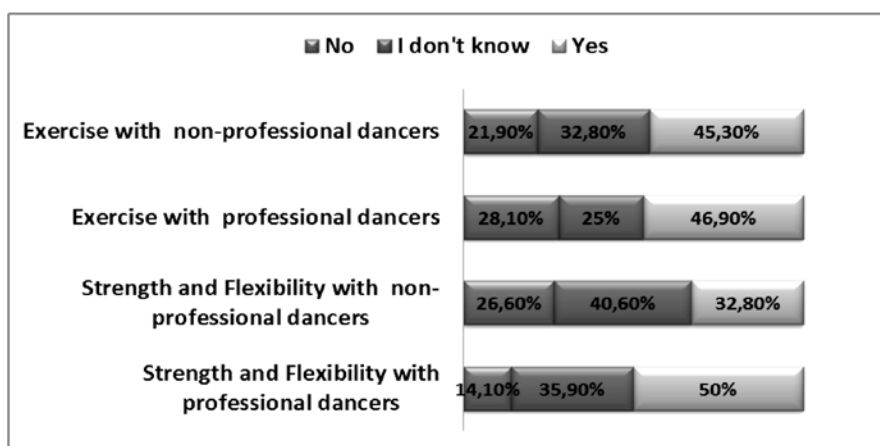


Figure 4. Respondents’ opinion on the implementation of a program for developing motor skills in dance training

According to 32,8% of the interviewees it is necessary to work for the development of motor skills of non-professional dancers, while in regard of professional dancers this opinion is firmly supported by half of the interviewed students. It is worth noting that a relatively great part of the respondents does not have an opinion on this issue both for professional and amateur dancers. Regarding the inclusion of the exercise in the dance training almost half of the respondents believe that this should be done for both groups, but still some of the interviewed students consider it unimportant (the negative answers and that of “no opinion” are almost balanced).

We received more encouraging answers to the question whether they would use a specialised motor skills developing program when they become dance pedagogues. Most of the interviewed students (57,8%) declare that they shall work to develop the motor skills of dancers; 31,3% of the future dance pedagogues do not intend to apply such program, while 10,9% still have no opinion on the issue.

The data from the questionnaire survey conducted among 64 dance students affirm the necessity of introducing a specialised program, including a dance exercise in the dance practice. If applied on the level of university dance education, it shall become a prerequisite for its gradual introduction into practice even among non-professional dancers. Once it is included in the university curriculum, later on, when students become dance pedagogues, they shall apply such program in their practice since they shall be aware of its positive effects.

CONCLUSION

The training in Turkish folk dances

in the Republic of Turkey should not be viewed only as a subject in the university curriculum. This is a specific subject that has the potential to build the personality of dancers. The properly organised training activities are an important and complex factor for achieving this. At present, in teaching dance, there is not enough emphasis put on the purposeful development of dancers' motor skills. Given the increasing requirements dancers face, we consider it unreasonable that the scientific achievements not be widely introduced in the pedagogic practice. Such discrepancy between theory and practice may have serious consequences – an increased risk of injuries and lasting disabilities, shorter career as a dancer and a debased professional satisfaction. This risk is more pronounced with male dancers, whose performances more often include jumps, squats and kneeling that additionally load the locomotor and joint-articular apparatus.

Traumas are inevitable due to the specifics of the activity. The issue is to avoid serious injuries and to keep them within acceptable limits.

The achievement of high dance mastery and the related increased physical workloads are a challenge to dance performers and their choreographers. The obvious need to avoid injuries and to preserve the health of professional dancers is directly related to providing an adequate workload regime. Establishing such a balance is the foundation of both personal development and refinement of the dancer and of the improvement of the quality of the artistic product as a whole.

The results of our research and the outlined generalisations allow affirm-

ing with conviction the necessity of adopting a unified teaching program in the curriculum of the major Turkish Folk Dances at the universities in the Republic of Turkey. A similar practice has already been established in Bulgarian schools and it gives its good results. The practical realisation of the idea of introducing a unified program involves a number of interrelated activities such as:

► Elaboration of the necessary methodological manuals (guides) with versions for professionals and for amateurs;

► Organisation of courses and seminars for the preparation of dance pedagogues;

► Promotion of the results achieved after the application of the programs and exchange of good pedagogical practices.

REFERENCES

- Alter, M. (2004), *The Science of Flexibility*, Champaign, Illinois, USA: Human Kinetics.
- Ambegaonkar, J., Caswell, S. and Cortes, N. (2014), *Relationships among lower body power measures and balance in female collegiate dancers*, Paper presented at the 24th Annual Meeting of the International Association for Dance Medicine & Science, Basel, Switzerland.
- Bandy, W., Irion, J. and Briggler, M. (1998), "The effect of static stretch and dynamic range of motion training on the flexibility of the hamstring muscles", *Journal Orthopedic Sports Physical Therapy*, Vol. 27, No. 4, p. 295.
- Butulis, M. (2016), *Caring for bony injury demystified! International Association of Dance Medicine and Science*, available at: www.iadms.org (accessed 12 December 2016).
- Condon, S. and Hutton, R., (1987), "Soleus muscle electromyographic activity and ankle dorsiflexion range of motion during four stretching procedures", *Journal Physical Therapy*, Vol. 67, pp. 24-30.
- Critchfield, B., (2011), *Stretching for Dancers. Resource Paper*. International Association of Dance Medicine and Science, available at: www.iadms.org (accessed 15 December 2016)
- Dragon, D. (2014), "Creating Cultures of Teaching and Learning: Conveying Dance and Somatic Education Pedagogy", *Journal of Dance Education*, Vol. 15, No:1, pp. 25-32.
- Etnyre, B. and Lee, J. (1988), Chronic and acute flexibility of men and women using three different stretching techniques, *Res Quart Exerc Sport*. Vol. 59, pp. 222-228.
- Golomer, E., Keller, J., Féry, Y. and Testa, M. (2004), Unipodal performance and leg muscle mass in jumping skills among ballet dancers, *Percept Motor Skills*, Vol. 98, No: 2, pp. 415-418.
- Klemp, P., Stevens, J. and Isaacs, S. (1984), A hypermobility study in ballet dancers, *Journal of Rheumatology*, Vol. 11, No:5, pp. 692-696.
- Kraemer, W., Nindl, B., Ratamess, N., Gotshalk, L., Volek, J., Fleck, S., Hakkinen, K. (2004), Changes in muscle hypertrophy in women with periodized resistance training, *Journal of Medicine Science and Sport Exercise*, Vol. 36, No:4, pp. 1124-1131.
- Lorraine, M. and Urmston, E. (2016),

- Stretching: Some thoughts on current practice*. Resource Paper. International Association of Dance Medicine and Science, available at: www.iadms.org (accessed 12 December 2016).
- Mackrell, J. (2015), "Dance." In: *Encyclopedia Britannica Online*, Encyclopedia Britannica. available at: <https://www.britannica.com/art/dance> (accessed 10 November 2016).
- McKinnon, M. and Etlin-Stein, H. (2015), *Pilates: A natural choice for dancers*, Resource Paper, International Association of Dance Medicine and Science, available at: www.iadms.org (accessed 12 December 2016).
- Moore, M. and Hutton, R. (1980), Electromyographic investigation of muscle stretching techniques, *Journal of Med Science Sports Exerc.*, Vol. 12, No:5, pp. 322-329.
- Morris, M., (2016), "What is Safe and Healthy Dance Practice?", available at: <http://www.safeindance.com/tag/dance-injury/>, (accessed 10 January 2017).
- Prentice, W. (1983), A comparison of static stretching and PNF stretching for improving hip joint flexibility, *Journal Athletic Training*, Vol. 18, pp. 56-59.
- Grahame R. (1971), Joint hypermobility: clinical aspects, *Proceedings of the Royal Society of Medicine*. Vol. 64, No:6, pp:692-694.
- Sharman, M., Cresswell, A. and Riek, S. (2006), Proprioceptive Neuromuscular Facilitation Stretching Mechanisms and Clinical Implications. *Journal of Sports Medicine*, Vol. 36, No:11, pp. 929-939.
- Sullivan, M., DeJulia, J. and Worall, T. (1992), Effect of pelvic position and stretching method on hamstring muscle flexibility, *Journal Med Science Sport Exerc.*, Vol. 12, pp. 1382-1389.
- Tanigawa, M. (1972), Comparison of the hold-relax procedures and passive mobilization on increasing muscle length, *Journal Physical Therapy*, Vol. 52, No:7, pp. 725-735.
- Ünlü, Y. & Vladova, I. (2016), *Dance lesson as a pedagogical process. E - Bildiriler Kitabı. 2 Uluslararası Müzik ve Dans Kongresi*, Muğla, pp. 355-362.
- Viale, F., Nana-Ibrahim, S. and Martin, R. (2007), The effect of active recovery on acute strength deficits induced by passive stretching, *Journal Strength Cond Research*, Vol. 21; No:4, pp. 1233-1244.
- Wyon, M. Allen, N., Angioi, M., Nevill, A., and Twitchett, E. (2006), Anthropometric Factors Affecting Vertical Jump Height in Ballet Dancers, *Journal of Dance Medicine & Science*, Vol. 10, No:3&4, pp. 106-110.
- Wyon, M. (2010), Stretching for Dance, *IADMS Bulletin for Dancers and Teachers*, Vol. 2, No:1, pp.9-12.
- Желязков, Ц. & Дашева, Д., (2011), *Основи на спортната тренировка*. Трето допълнено издание ред. София: ГЕРА-АРТ. (Zheliakov, C., Dasheva, D. (2011), *Osnovi na sportnata trenirovka*, Treto dopulneno izdanie, red. Sofia: GERA-ART)
- Костов, З., (2005), *Теория и практика в учебно-тренировъчния процес по спортни танци*. Ръководство за студенти IV курс специалност „Спортни танци“ ТФ. София: НСА ПРЕС. (Kostov, Z. (2005), *Teoriya i praktika v uchebno-trenirovachnyja proces po sportni tanci*. *Rakovodstvo za studenti IV kurs specialnost "Sportni tanci" TF*, Sofia: NSA PRES)
- Николов, Е., (2014), Силата като фактор на спортното постижение.

От: *Лека атлетика*, София: НСА ПРЕС. (Nikolov, E. (2014), *Silata kato faktor na sportnoto postijenie. Ot: Leka atletika*. Sofia: NSA PRES)

Хаджиев, Н., Андонов, К., Добрев, Д., Петров, В., (2011), *Гимнастика – физическа подготовка*. София: НСА ПРЕС. (Hadjiev, N., Andonov, K., Dobrev, D., Petrov, V. (2011), *Gimnastika – phisicheska podgotovka.*, Sofia, NSA-PRES)

Яралъ, С., (2016), *Изследване на физическото развитие и дееспособност на момичета, занимаващи се с фолклорни танци в Република Турция*. Дисертация. София: НСА. (Yarali, S. (2016), *Izsledvane na fizicheskoto razvitie i deesposobnost na tomicheta, zanimavashti se s folklorni tanci v Republoka Turcija*. Disertacija. Sofia: NSA)

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