

## EXPERIMENTAL STUDY ON EFFICIENCY PROGRAM DEVELOPMENT ON EMOTIONAL INTELLIGENCE TO IMPROVE PERFORMANCE SPORTS JUNIOR GYMNASTS IV LEVEL 1

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**ABSTRACT.** Research they wish to undertake tooth emerges a practical necessity on finding answers to some of the cause's failure of athletes in competitions. I stopped on this subject because of the experience I had as artistic gymnastics athlete, noting difficulties in competitions during the exercises because emotions even if physical and technical preparation were high. I believe that in addition to physical and technical preparation of athletes and coaches theoretical knowledge necessary knowledge and managing emotions, feelings and rational thought to improve athletic performance. In conducting the research we proposed a strategy to drive growth by developing emotional intelligence sports performance, identifying and valuing emotional and social skills training and competitions and evaluating the effectiveness of this strategy. This study has a two-factor design with two variables: independent (initial testing partial and final training program) and dependent (performance). In the experiment of 3 gymnasts participated artistic gymnastics clubs in Romania, aged between 6 and 10 years. To test the preparedness of gymnasts using a grid of observation for monitoring difficulty and fulfilled the requirements for implementing the 4 devices, noted in training and competitions.

**Keywords:** emotional intelligence, performance sports, artistic gymnastics

**REZUMAT.** *Studiu privind eficiența programului experimental de dezvoltare a inteligenței emoționale asupra îmbunătățirii performanței sportive la gimnastele junioare IV - nivel 1.* Cercetarea pe care doresc să o efectuez se conturează dint-o necesitate practică privind găsirea unor răspunsuri la unele din cauzele care determină eșecul sportivilor de performanță în competiții. M-am oprit asupra acestei teme datorită experienței pe care am avut-o ca și sportivă de performanță în gimnastica artistică, observând dificultățile care apăreau în timpul desfășurării exercițiilor în competiții din cauza emoțiilor chiar dacă pregătirea fizică și tehnică erau la un nivel ridicat. Consider că pe

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lângă pregătirea fizică și tehnică a sportivilor și cunoștințele teoretice ale antrenorilor este necesară cunoașterea și gestionarea emoțiilor, sentimentelor și gândirii raționale pentru a îmbunătăți performanțele sportive. În realizarea cercetării ne-am propus elaborarea unei strategii de acționare în vederea creșterii performanței sportive prin dezvoltarea inteligenței emoționale, identificarea și valorificarea competențelor emoționale și sociale în antrenament și competiții și evaluarea eficienței acestei strategii. Acest studiu are un design bifactorial cu 2 variabile: independentă (testarea inițială, parțială, finală și programul de pregătire) și dependentă (performanță). La realizarea experimentului au participat gimnaste de la 3 cluburi sportive de gimnastică artistică din România, cu vârste cuprinse între 6 și 10 ani. Pentru testarea nivelului de pregătire a gimnastelor s-a folosit o grilă de observație pentru monitorizarea îndeplinirii cerințelor de dificultate și a cerințelor de execuție la cele 4 aparate, notate în antrenament și competiții.

**Cuvinte cheie:** inteligență emoțională, performanță sportivă, gimnastică artistică

## **The purpose and importance of research**

Because complex artistic gymnastics is a discipline in which the athlete is required at a high level both physically and mentally and changes in the last period in the Code of Points (requirements are very high and difficult to achieve physical ), sees a need in their training approach and emotionally.

As general purpose in conducting the research we proposed a strategy to drive growth by developing emotional intelligence sports performance, identifying and valuing emotional and social skills training and competitions and evaluating the effectiveness of this strategy.

## **Objectives and tasks of research**

This study aims to highlight the extent to which various programs of technical and psychological influence the performance of gymnasts.

## **Research hypotheses**

In professional sports besides their technical, physical and tactical play an important role in achieving performance plays psychological preparation. For this reason emotional intelligence can help the athletic performance through its development through various means.

In developing this research hypothesis we started the next general premise:

We assume that the application of emotional intelligence development strategies to prepare gymnasts, improve sports performance in 4 apparatus in the competition.

### **Variables and experimental design**

This study has a two-factor design with two variables.

#### *The independent variable*

Factor 1 - initial testing T1 (pretest) → T2 → testing means testing the final T3 (posttest)

Factor 2 - program: - standard program;  
- complex technical training program;  
- technical training program complex + program emotional development;

*The dependent variable* - Performance: - degree of difficulty;  
- runtime errors;  
- on each device;  
- conditions for training and competition.

### **Subjects**

In the experiment of 3 gymnasts participated artistic gymnastics clubs in the country, namely: CSS Viitorul Cluj-Napoca, CSM Cluj-Napoca and CSS CSM Sibiu. Gymnasts were divided into 3 groups: 19 gymnasts in the experimental group (CSSV Cluj-Napoca), 19 in control group 1 (CSM Cluj-Napoca) and 20 in control group 2 (CSS Sibiu). Subjects were aged between 6 and 10 years.

### **Materials**

To test the preparedness of gymnasts using a grid of observation for monitoring difficulty and fulfilled the requirements for implementing the 4 devices, noted in training and competitions. The grid contains the point value of the exercise of technical and value in terms of execution. (Classification schedule FRG, 2001; Code points of the International Federation of Gymnastics, 2011).

### **Procedure**

The study was conducted in the period December 2012 - June 2013, three tests were performed: initial testing period December, 2012, partial testing period April, 2013 and final test on June 2013. This test was applied to

check the level of technical and artistic training both in the last practice before the competition and compete and applied on the 3 lots of gymnasts.

Gymnasts were noted by coaches during a workout, a week before the competition and during the competition scoring was done by a qualified arbitration, with arbitration records.

To achieve our research was necessary to study the internal competition calendar Romanian Gymnastics Federation. Following consultation we determined its main competitions attended by gymnasts involved in the experiment conducted. To enable participation in competitions and gymnasts aged 6 and 8 years old too small for competition program organized by the FRG, was performed in parallel with these competitions, contests Friendly fulfilling all the conditions of a major competition (spectators, referees, organized atmosphere specific race).

Testing the level of technical and artistic training was conducted taking into account the classification of the FRG program and the FIG Code of Points. Arbitration in artistic gymnastics consists of two committees: the jury and the jury B. A jury has rated the difficulty of assessing the value of elements and groups of elements requirements jury B seeks and evaluates mistakes and penalties exercises general and specific performance and composition appropriate artistic mistakes.

During the experimental study was introduced to prepare the gymnasts two training programs: an improved technical training program which applied both experimental group and control group 1:01 psychological training program for developing emotional intelligence, which applied only experimental group. Gymnasts' control groups 2 were conducted preparatory work under the standard model with traditional means, not interfering with their preparation in any form. Control group 2 athletes have benefited in the training, psychological preparation.

### **Develop the structure and content of the experimental model of psychological training - development of emotional intelligence**

Education Program rational emotive behavior involves three steps:

- Planning stage, which fixes the problematic areas of interest, plan lessons;
- Implementation phase, when activities are planned, it develops strategies for problems that may occur;
- Stage feedback when evaluating previous activities and changes are future actions.

Develop program became the model author Ann Vernon (Vernon, 2006), who developed two programs: thoughts, emotions and behaviors, translated to us in the name of development and emotional intelligence Passport Program. Our program was guided by the author's first program, development of emotional intelligence, and covers the following topics (Vernon, 2004):

- self-acceptance: self observation and awareness of feelings as they occur, to have presence of mind, to have the power to hold things you think but not accepted rest of the world
- emotions: emotions involved awareness and adaptation to the situation of the moment, awareness of the cause that generated a sense and finding ways to control emotions (fear, sadness, anger, anxiety) can make the connection between what you think, say and do;
- beliefs and behaviors: guidance by values and personal goals, you support certain principles you believe in, even if they are not embraced by the rest of the majority, act ethically and flawless, to recognize the causes and effects of behaviors
- problem solving and decision making;
- Interpersonal relationships.

For self-acceptance has been working on self observation and awareness of feelings as they arise. Controlling emotions involved adapting to the situation of the moment, awareness cause that generated a sense and finding ways to control emotions (fear, sadness, anger, anxiety). Motivation to work on the car, here's emotions were channeled to an end. He was concerned sensitivity to the feelings and problems of others and the ability to look from their point of view, understanding that people can things differently than I felt. Interpersonal relations aimed to control the emotions of other people, competence and social skills. The program takes into account the level of development of the gymnasts and the specific problems that may occur at this level (Vernon, 1983).

Program duration was 3 months, with a session of one hour per week. The program was held in the gym at the end of training and was conducted by a qualified person is licensed psychologist, assisted by graduate students from the Faculty of Psychology of the University of Babes-Bolyai University, Cluj-Napoca.

### **Develop the structure and content of the experimental model of technical and artistic**

Current artistic gymnastics is characterized by great dynamism, amplitude and execution risk, requiring a higher level of precision and expressiveness in terms of execution of technical elements. Change continues to

special requirements contained in the code of points and permanently change the value of the various elements leads to the requirement of permanent adaptation of the training process, where these adaptations need to be very fast, in order to obtain the best results in competitions (Popa, 2011).

Improved technical training program was conducted during a calendar year competition and contains a wide variety and range of means to augment technical and artistic content to be consistent with the highest standards of composition exercises the 4 devices.

Content technical and artistic training program includes:

1. Exercises for developing technical training of all elements of the programs FRG classification at the 4 devices contest (vault, parallel beam ground). They aim to:

- Learning, strengthening and improving the technical elements;
- Training the skills they require technique and proper execution of the movement;
- Developing and improving motor skills and psychomotor.

2. Exercises to improve artistic training resolves the following issues:

- Specific training attire, correct;
- Development of general bases of the movement;
- Learning, strengthening and improving the artistic elements;
- Educating rhythm and musicality.

At the basis of technical and artistic pattern formed:

- ✓ technical requirements of Schedule FRG classification at the 4 units;
- ✓ execution requirements, the mistakes, according to the FIG Code of Points ;
- ✓ analysis gymnasts preparing planning documents on the 3 clubs;
- ✓ data obtained from the study of literature .

The technical training and artistic gymnasts was designed for each stage of preparation (preparatory, pre-competitive and competitive) with a well defined structure and content. Shares driving the training means were set in such a way as to contribute to objectives.

## **Results and Discussion**

Analysis of program results took into account the three conditions of the program (standard program PS, improved technical program PT, technical program improved psychological preparation PTP) and 2 cases of measurement of the dependent variable: conditions for training and competition conditions.

The dependent variable was performance measured as mark in each unit and made note. Each dependent variable was measured at the beginning, middle and end of the program.

### Results

In the table below are past averages and standard deviations for all variables considered in the study, measured 3 times for each of the three training programs, conditions for training and competition.

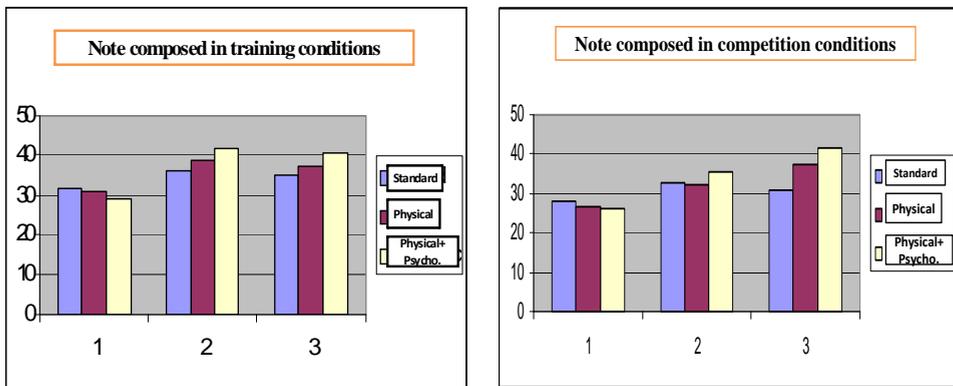
**Table 1.**

#### Results of ANOVA

	<i>Program S</i>			<i>Program PT</i>			<i>Program PTP</i>		
	Initially	Partially	Final	Initially	Partially	Final	Initially	Partially	Final
<b>TRAIN</b>									
Total	31.73 (11.36)	30.79 (10.85)	29.85 (9.93)	36.03 (9.05)	38.57 (7.87)	41.39 (7.59)	34.88 (6.74)	37.17 (6.57)	40.43 (6.19)
Vault	7.99 (3.22)	8.19 (3.22)	7.89 (2.79)	9.40 (2.66)	9.80 (2.55)	10.26 (2.44)	8.65 (2.46)	8.87 (2.24)	9.67 (2.13)
Unevers bars	7.90 (2.98)	7.72 (2.95)	7.39 (2.77)	8.81 (2.05)	9.41 (2.07)	9.98 (1.94)	8.57 (1.67)	9.24 (1.52)	9.75 (1.44)
Balance beam	7.51 (2.83)	6.70 (2.68)	6.75 (2.28)	8.83 (2.48)	9.44 (1.80)	10.44 (1.63)	8.73 (1.60)	9.31 (1.44)	10.20 (1.48)
Floor	8.33 (2.66)	8.18 (2.48)	7.82 (2.60)	9.01 (2.10)	9.91 (1.87)	10.61 (1.84)	8.92 (1.52)	9.74 (1.61)	10.80 (1.48)
<b>COMP</b>									
Total	27.89 (10.64)	26.51 (10.56)	26.22 (9.80)	32.50 (9.09)	32.37 (8.74)	35.31 (8.63)	30.92 (6.19)	37.35 (6.28)	41.37 (5.53)
Vault	7.17 (3.04)	6.93 (3.63)	7.36 (3.17)	8.66 (2.69)	8.51 (3.17)	9.04 (2.32)	7.74 (2.27)	9.25 (2.07)	10.09 (1.93)
Unevers bars	6.87 (2.74)	6.88 (2.55)	6.25 (2.54)	8.15 (2.08)	8.08 (2.55)	8.52 (2.53)	7.84 (1.57)	9.25 (1.40)	9.85 (1.18)
Balance beam	6.02 (2.65)	5.34 (2.69)	5.79 (2.25)	6.77 (2.68)	6.87 (2.24)	8.95 (1.82)	6.71 (1.58)	9.02 (1.49)	10.30 (1.41)
Floor	7.83 (2.60)	7.36 (2.74)	6.81 (2.33)	8.91 (2.06)	8.90 (2.05)	8.78 (2.54)	8.62 (1.43)	9.82 (1.60)	11.12 (1.31)

The first groups were compared to the baseline before the start of the program to see if there are any significant differences between them. ANOVA showed no significant difference between the three groups for any of the variables. The fact that the three groups are based on a similar level of performance allows us to compare the groups without having to control the variables. Thus, comparing the performance of three test groups using ANOVA

for repeated measures computed separately in terms of training and competition conditions, with the independent variables and the type of training program factor (groups) and the three points of measurement of the dependent variable (time factor). Thus, the note made in terms of training, there is significant intra-group differences (F<sub>timp</sub>), which shows that all athletes have evolved over time, regardless of the group they belong to. The differences are observed between the groups and an effect of the interaction, indicating that there are differences in performance depending on the program and the time course of preparation. Virtually all athletes evolve over time, but not the same, but different, depending on the group to which it belongs. The same results are found in conditions of competition. The results are presented graphically.



Note: 1 = initial T 2 = partial T 3 = T final

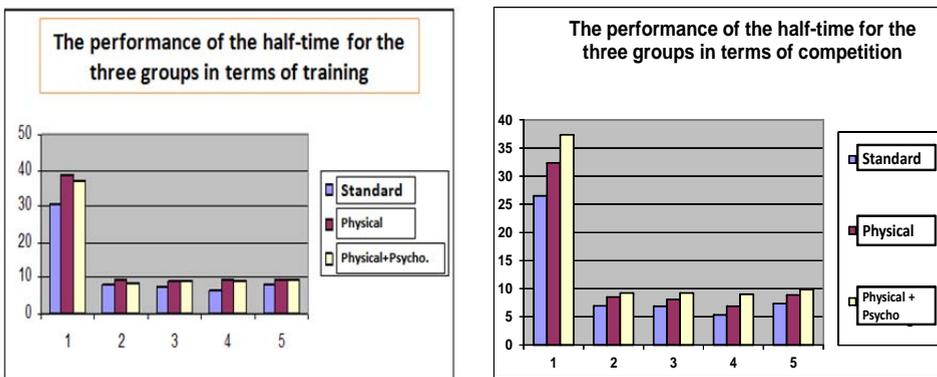
**Chart no. 1.** Note composed – training and competition

To better understand the differences between groups, we analyzed two groups in the active moments of the program (middle and end, initial measurement not involving differences between groups and there are no significant differences between groups, as we have already pointed out). The reason we chose to measure the dependent variables and half of what we considered to be the duration of a training program related to cost-effectiveness. Basically, the program with enhanced technical training involves a different way of doing training gymnasts (takes longer). But the program that involves both technical and psychological preparation is clearly a program involving higher implementation costs. Thus, if the effect of improving performance and faster I could appear in future development programs include a shorter program, but with the same effects and lower costs. Half-time was 6 weeks and end at 12 weeks.

Regarding the note made in terms of training, it appears that both groups have modified training program (PT and PTP) were significantly better compared to the control group (PS) with a large effect size. And performance is significantly better devices for PT and PTP groups except performance on vault, where results do not appear significantly different from those of the control group. The best performance is recorded on the balance beam, where we find a large effect size, while the parallel and soil have a medium effect size.

In terms of training, both the total score and on each machine, there are significant differences between the 2 groups with the modified program. At half-time, part psychological preparation for PTP group does not bring any benefit.

Under conditions of competition, however, the results look different. Compared with the control group (PS), physical training group improved significantly better performance has only beam apparatus ( $t(37) = 2.108$ ,  $p = .042$ ,  $d = 0.61$ ), remaining significant differences disappear training provided. But the group with physical training and psychological (PTP), the differences are significant for the group with both standard program composed note (with a large effect size) and on each machine (large effect size). In addition, competitive conditions and significant differences between PT and PTP group composed note (where we have a medium effect size), and the beam (with a large effect size in favor of PTP).



Note: 1 = initial T 2 = partial T 3 = T final

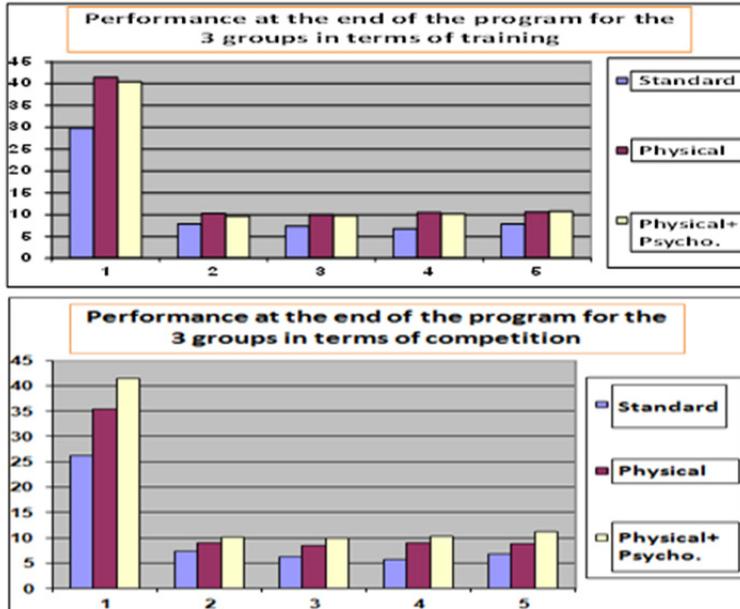
**Chart no. 2.** Performance at the middle of the program - training and competition

Summarizing the results of the mid program note that after 12 weeks of training under both PT group and PTP group (namely groups that have a training program changed from the usual) already have better performance in note composed and almost all devices except jumping machine. Here, technical

training program could be reviewed and improved to achieve significant outcomes to this unit. In terms of competition, by the middle of the program PTP group has a clear advantage both to the standard group and to the group with enhanced technical training.

In terms of training, at the end of the program we find significantly better groups with modified training (PT and PTP) both made note (large effect sizes) and for each machine to the standard training group. Between the two groups with modified training (PT and PTP) there are significant differences in terms of training or at the end of the program.

In terms of competition, PT group has significantly better results compared to the control group composed note and jumping all devices except where differences are not significant. PTP group, having the advantage of psychological preparation, has a significantly better performance compared to the control group to note that compound (large effect size) and every machine, and significantly better results compared to the PT group, note composed (large effect size) and all appliances except jumping. Thus, if the training conditions did not find significant differences between groups modified training program, competing group benefit from psychological preparation is clearly superior performance.



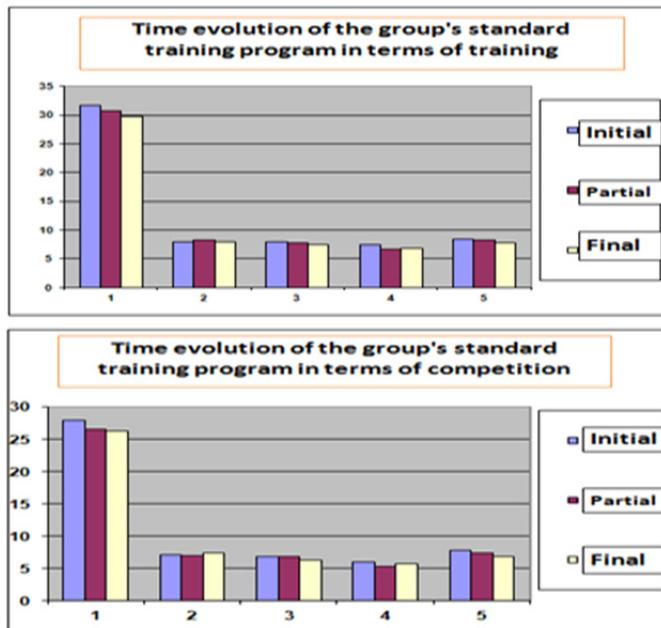
Note: 1 = initial T 2 = partial T 3 = T final

**Chart no. 3.** Performance at the end of the program – training and competition

If you sum up the results, we can say that if we follow the performance in terms of training, the additional benefit is made especially enhanced technical training component. However, this component reduces its effects in terms of competition, where the advantage is obvious psychological preparation.

Next we watched and the time evolution of each group to understand more deeply our results.

Chart 4 presents the group with standard training program, the training conditions and standard conditions.



Note: 1 = composed note 2 = vault 3 = unevers bars 4 = balance beam 5 = floor

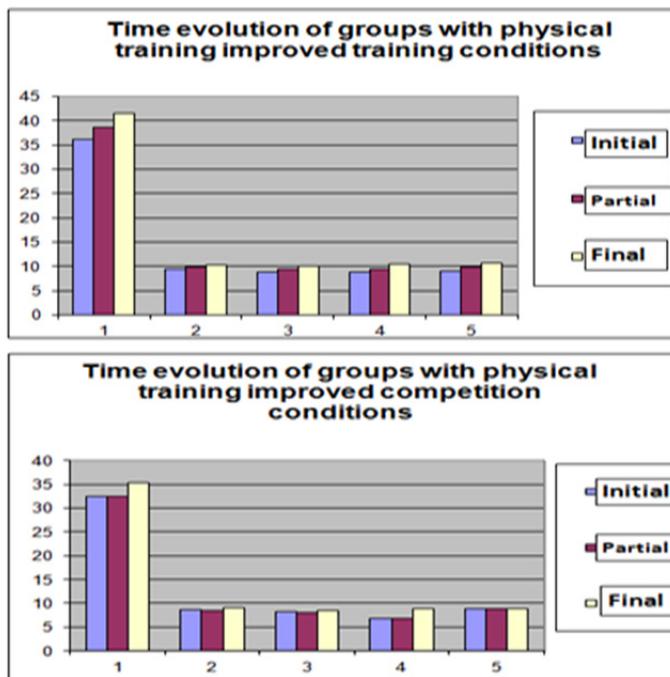
**Chart no. 4.** The evolution of the PS group –training and competition

The evolution of the control group at the standard preparation is an interesting one. See some significant over the program, but the effects are both in order to improve the performance and downward. Thus, the performance in terms of training significantly decreases composed note from beginning to end of the gymnasts watched. But one effect size is negligible. The decrease is significant and ground. Significant decrease in performance is observed and early to mid- grade program for the beam, but this device then see a performance from the middle to the end. Overall, this initial decrease followed by a recovery gives an insignificant difference from the start to the end of the program.

Under conditions of competition again find significant differences in performance downward (note composed parallel ground from beginning to end), but increases performance (beam, from the middle to the end).

Summarizing, we can say that the gymnasts in the control group receiving standard training program have a fluctuating time course characterized by decreases and increases athletic performance (these decreases and increases were generally small effect size or very small but).

Then, we analyzed the time evolution of the group with enhanced technical training program.



Note: 1 = composed note 2 = vault 3 = unevers bars 4 = balance beam 5 = floor

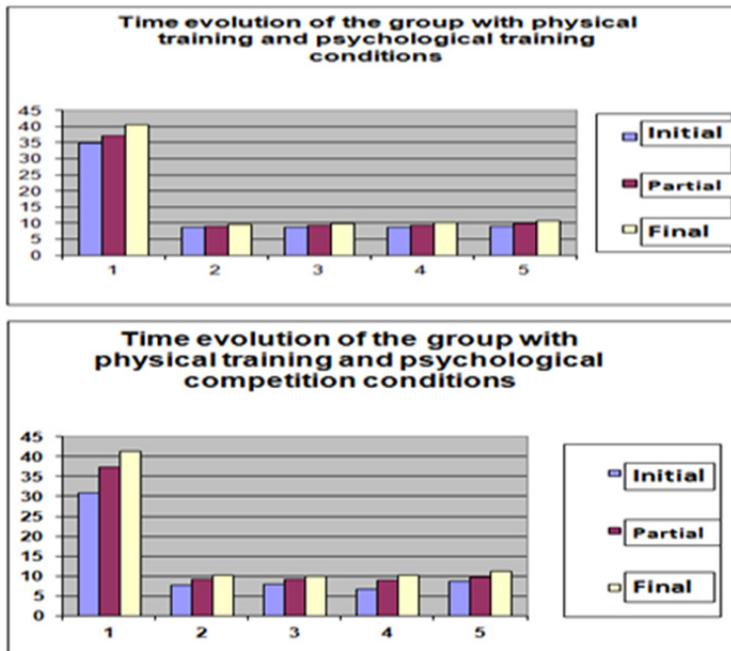
**Chart no. 5.** The evolution of the PT group – training and competition

If we follow the evolution of the technical training group improved in terms of training, we see significant performance increases throughout the program, all modes dependent variable. The best trend is observed for the device ground ( $d = 0.81$ , large size) and beam ( $d = 0.76$ , large size), and in parallel ( $d = 0.58$ , medium). Jumping occurs but smaller effect ( $d = 0.33$ ). To mark made on all devices, there is a medium to large effect size ( $d = 0.64$ ).

In terms of competition but the results look totally different. First we see a significant effect from the beginning to the middle of the treatment. So, six weeks of training techniques are insufficient to show results in competitive conditions. At the end results are seen, however, in comparison to early program note composed and beam effects that become apparent from the middle to the end of the program. The beam is again best performers, with a large effect size ( $d = 0.95$ ), while the overall performance on all devices is a small effect size ( $d = 0.31$ ).

Summarizing, we can say that the effects appear quickly improved technical preparation training conditions, but under significant competition occurs only after the middle of the program, and these effects are smaller than the training framework.

Finally, we analyzed the performance of the group with enhanced technical training program and psychological preparation.



Note: 1 = composed note 2 = vault 3 = unevers bars 4 = balance beam 5 = floor

**Chart no. 6.** The evolution of the PTP group – training and competition

Performance throughout the training program, both in terms of training and competition conditions is significant, showing all devices and note improvements made. Effects occur in the mid-program except apparatus

jumping training conditions, although under competition is a significant difference and jumping. Thus, we can say that this group has the fastest and most consistent evolution in time of the three groups. In terms of training, the group recorded an increase in performance at the end of the program to start, with large effect sizes (except jumping where size is average). Under conditions of competition, however, the effects are even more impressive, we find very large effect sizes for all grade appliances and composed most notable progress being again when the beam ( $d = 2.39$ ).

## Conclusions

As stated above, this paper aims to show how emotional intelligence can influence the performance of gymnasts in competitions.

Analysis of the survey results on the effectiveness of emotional intelligence development program on improving the performance of gymnasts was performed in three conditions of the program (standard program PS, PT improved technical program, technical program improved psychological preparation PTP) and 2 cases: conditions for training and competition. Groups were compared to the baseline before the start of the program to see if there are any significant differences between them. The results showed no significant differences among the three groups for any of the variables. The fact that the three groups are based on a similar performance level has allowed us to make comparisons between groups without having to control the variables. Thus, the note made in terms of training, there was significant intra-group differences, indicating that all athletes have fared over time, regardless of the group they belong to. Also observed differences between the groups and the interaction effect, indicating that differences in performance depending on the training program and trends. Virtually all athletes have evolved over time, but not the same, but different, depending on the group to which it belongs. I found the same results in terms of competition. In a separate analysis, the 4 apparatus, found the same structure of the results for each device, except to note jumping training conditions where there was no significant difference between groups, although there is a significant effect for time evolution and a significant interaction between time and type of training. The analysis in the 2 groups active points of the program (partly final, initial measurement not involving differences between groups and there are no significant differences between groups, as already pointed out) the results look like this.

As the note made in terms of training, it was observed that both groups have modified training program (PT and PTP) were significantly better compared to the control group (PS) with a large effect size. And performance is

significantly better devices for PT and PTP groups except performance on vault, where results do not appear significantly different from those of the control group. The best performance is recorded on the balance beam, where we find a large effect size, while the parallel and soil have a medium effect size.

In terms of training, both the total score and on each machine, there are significant differences between the 2 groups with the modified program. At half-time, part psychological preparation for PTP group does not bring any benefit. Under conditions of competition, however, the results look different. Compared with the control group (PS), group physical training has improved performance significantly better beam device only remaining significant differences vanish provided workout. But the group with physical training and psychological (PTP), the differences are significant for the group with both standard program composed note (with a large effect size) and on each machine (large effect size). In addition, competitive conditions and significant differences between PT and PTP group composed note (where we have a medium effect size), and the beam (with a large effect size in favor of PTP).

The results from the middle of the program note that after 12 weeks of training under both PT group and PTP group (ie groups that have a training program changed from the usual) already have better performance in note composed and almost all apparatus except vault apparatus. Here, technical training program could be reviewed and improved to achieve significant outcomes to this unit. In terms of competition, by the middle of the program PTP group has a clear advantage both to the standard group and to the group with technical training improved. In training conditions at the end of the program we find significantly better trained groups modified (PT and PTP) both made note (large effect sizes) and for each machine to the standard training group. Between the two groups with modified training (PT and PTP) no significant differences in terms of training or at the end of the program. In terms of competition, group PT is significantly better compared to the control group composed note and jumping all devices except where differences are not significant. PTP group, having the advantage of psychological preparation has significantly better performance than that of the control group composed note and every device, but significantly better results compared to the PT group, composed note and all appliances except jumping. Thus, if the training conditions were not found significant differences between groups with modified training program, competing group that benefited from psychological preparation had clearly superior performance. We can say that, following the performance in terms of training, the added benefit was brought mainly by improved technical training component. But this component has reduced the effects in terms of competition, where the advantage is obvious psychological preparation.

Track and the time evolution of each group. Some significant effect was observed over the program, but the effects were both in order to improve the performance and downward. Thus, the performance in terms of training in note composed decreased significantly from the beginning to the end of the period we watched gymnasts. But one effect size was negligible. The decrease is significant and ground. A significant decrease in performance was observed from the beginning to the middle of the beam note program, but this product was observed and then an increase in the performance in the middle at the end. Overall, this initial decrease followed by a recovery gives an insignificant difference from the start to the end of the program. Under conditions of competition again find significant differences in performance downward (note composed parallel ground from beginning to end), but increases performance (beam, from the middle to the end). We can say that the gymnasts in the control group who received standard training program had a fluctuating time course characterized by decreases and increases athletic performance (these decreases and increases were generally small effect size or very small but).

The analysis of the time evolution of the group with enhanced technical training program results showed that the group with enhanced technical training, training conditions had significant increases in performance throughout the program, all modes dependent variable. The best trend is observed for the device floor and beam, but also parallel. Jumping appeared but smaller effect. To mark made on all devices, there was a medium to large effect size. In terms of competition but showed very different results. First of all, there was no significant effect seen at the beginning of the middle of the treatment. So, six weeks of training techniques are insufficient to show results in competitive conditions. At the end results were seen, however, in comparison to early program note composed and beam effects that became evident from the middle to the end of the program. The beam was again best performers, with a large effect size, while the overall performance on all devices was a small effect size. We can say that the effects of improved technical training occurred faster in terms of training but competing under significant effects emerged only after the middle of the program, and these effects are smaller than the training framework.

We also investigated the performance of the group with enhanced technical training program and psychological preparation. Performance throughout the training program, both in terms of training and competition conditions was significant, which showed improvements in all units composed note. They appeared in the middle of the program, except for jumping on an exercise machine; although in terms of competition is a significant difference and jump. Thus, we can say that this group had the most rapid and consistent time evolution of the 3 groups. In terms of training, this group has increased the

performance at the end of the program to start, with large effect sizes (except jumping where size is average). Under conditions of competition, however, the effects were even more impressive, they found large effect sizes for all grade appliances and composed most notable progress being again when the beam. Analyzing all our results, we can say that we have an important effect both component technical training and psychological training component. Effects seen improved technical training to the control group in better performance in terms of training, but also perform better in terms of competing for overall performance even if the size of this effect is a small one. Even if there are small differences between the two groups, they are significant in terms of competition; this small effect can make the difference between a podium and one outside. The effects of psychological preparation of the component can be seen particularly in the superior performance of the group which received this component to the group that received the improved technical background component. While training conditions no significant differences were observed between the two groups in terms of the differences are significant competitive effect sizes of the large and very large. This is actually the entire stake preparation, performance in competition.

The most notable of the time evolution of group analysis with psychological training is that the effects on performance are, in most cases, smaller than the first part of the program in the second part. This supports the need for psychological preparation for 12 weeks to get these effects. Partial results (after 6 weeks) show us that we can achieve significant increases in performance after six weeks. Therefore, in the context of preparation for imminent competition under low cost, might develop a psychological training program just 6 weeks, less effective than 12, but still provides an increase in performance especially under competition.

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