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The relationship between rough artificial stadiums and sports injuries received by athletics

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Abstract:

The study centering on various injuries received by athletics during training in hard floors, whether competitive, recreational, health training and exposure to different types of injuries and the reasons leading to it; also adopted in this research on the descriptive approach which included the analysis and interpretation of the results obtained depending on the necessary measures, including tests the law of proportionality and adequate square test; the researcher used the questionnaire as a tool to gather information, as this study has supported the theoretical background was the references relied upon.

Key words : **Training; Hard synthetic playgrounds; Sports injuries.**

الملخص:

تتمحور الدراسة حول مختلف الإصابات التي يتلقاها عدائي ألعاب القوى أثناء التدريب في الأرضيات الخشنة سواء كانت التدريبات تنافسية أو ترفيهية أو صحية والتعرض لمختلف أنواع الإصابات والأسباب المؤدية إليها؛ كما اعتمد في هذا البحث على المنهج الوصفي الذي تضمن تحليل وتفسير النتائج المحصل عليها تبعا للاختبارات اللازمة بما في ذلك قانون التناسب واختبار كاف تربيع؛ استخدم الباحث الاستبيان كأداة لجمع المعلومات كما دعمت هذه الدراسة خلفية نظرية تمثلت في المراجع المعتمد عليها.

الكلمات المفتاحية: التدريب الرياضي؛ ملاعب صناعية صلبة؛ الإصابات الرياضية.

1-Introduction:

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Should contain: a preliminary research, problematic, hypotheses, if any, methodology and tools used.

Training is one of the best ways to make players able to reach higher levels of sport and ensure continuous development of physical, functional, psychological and mental abilities and contribute to their development.

"Sports training does not stop at a level other than that, and it is not limited to the preparation of higher levels, but because each level has its own methods and methods. Therefore, sports training is a process of improving, providing and continuously developing the level of players in various sports fields," said (Bastoise, 1999, p23).

Floor and shoe are essential elements for the exercise of any physical activity. This importance lies in the fact that they affect the performance and the integrity of the practice as well as their effect on each other, where one cannot be seen without looking at the other, the current revolution in physical activity accompanied by a closer look And deeper into the shoe and ground because of the revolution in the exercise of physical activity of health problems, many of them returned to the shoe and ground, and here lies the importance of looking at these two elements and try to know their role in physical performance and safety from sports injuries, Despite the difficulty of this process, future indicators suggest the success of these efforts, provided that this technical development supports the awareness of the need to wear appropriate footwear , As well as the physical exercise on the ground is also appropriate, where each individual sport with its own shoes, which helps them to perform well with the protection of the risks of injuries related to the type of sport, we find sports shoes for running, and other exercises, and there are specialized in playing in the stadiums, Including those who specialized in playing in open and artificial fields ... and others.

It is noted that these facts are available only to professional athletes, while they are absent much from the average user, and each sport or game characterized by the floor and shoes commensurate with the movements and reactions, and due to the mechanism and mechanics of movement of the lower body and movement of the foot during the exercise of any kind Sports and sports are different from each other. To clarify, the floor and the healthy sneakers must provide foot support and shock absorbers when the foot hits the ground. They should also reduce pressure from the bottom of the foot, as the height

may lead to injury of various types over time. Walk All the foot in the athletes such as: stagnates and pain in the foot and pain of the knee joint ... etc; and to stand on the reality of this development we have raised a research problem that:

2- The general question: Is the type of sports shoe used in coarse synthetic playgrounds related to injuries received by athletics athletes?

3- General Hypothesis: The type of sports shoes used in coarse synthetic playgrounds is related to the injuries received by the athletics enemies. Several hypotheses have emerged from this hypothesis:

4-Research Objectives:

1- Review the reality of sports training among the runners in Algeria.

2 - To clarify the importance of training and practice in the life of hostility, and the acquired social, physical, psychological and educational dimensions.

3 - Try to know the role of the floor and sports shoes in physical performance and safety from sports injuries.

5. Definition of terms and concepts:

1. Training: Some believe that the word "training" is a term derived from the Latin word Trahére, which means "withdraw" or "attract." This term ended up in English and was meant to be "pull or pull the horse from the horse stall") to set up to participate in races (Enzyklopadie, 1965, p5). In our Arabic language it is said that "Darb" is a thing, and therefore it has a return and flexibility.

Procedural definition: Training is a set of physical exercises of various types in terms of type and intensity, aiming to achieve a qualitative athletic performance. (Glossary of the Mediator, 1960, p276).

2. Coarse artificial playgrounds: It is an area of flat land free of obstacles with specific geometrical dimensions in which various sports activities are practiced. Matches, competitions and performances are held on them and have special specifications, whether they are established, planned or maintained.

3. Sports Injuries: There are several definitions of sports injury, including:

"The exposure of different tissues of the body to external or internal effects leads to anatomical or physiological changes in the place of injury, which disrupts the function or function of that tissue (Khalil Mohammed, 2007, p5)," says Dr. Haim Rufail. "The injury is a harmful change of one or more species Of the body's various tissues, are accompanied by physiological reactions of physiological reactions due to high internal or external strength (Rufail Hayat, p53).

Procedural definition: is the lack or total cessation of the functional functioning of a tissue or a member of the body as a result of exposure to an external or internal influence.

6. Approaches and techniques used:

- The choice of the method used in the study: Through the problem of research, which tries to show the relationship between training in rough artificial playgrounds and injuries received by athletics enemies, and that the study we target research is characterized by a large statistical society, which is the hostility of athletics and impossible to study entirely Because of our very limited material potential and the time in which this research was conducted, we had to determine more precisely the variables we were studying as we had to study a sample of the total statistical community, which would be purely intentional by:

- Selection of male sex instead of female for different size of practice between the sexes and their differences in psychological and physiological characteristics.

- Targeting the University of Khamis Maliana from among the Algerian universities being closer to the place of study and suitable for the researcher on the one hand, and the impossibility of conducting the study on all universities.

- Targeting teachers to isolate non-teachers.

- Targeting the place of the university because we are training intensively on rough artificial playgrounds.

- Studying the first year Master's specialization in competitive sports training among other years.

The concept and organization of research is through the curriculum, which determines the nature of the subject teacher, and the method is the objective way the researcher to study a particular phenomenon, "complementary approaches that help the researcher to create a connection with the reality experienced by social actors. Due to the nature of the study, we chose the descriptive approach because it fits the study.

7.1.Question No. (01): Have you been subjected to morphological measurement?

The purpose of the question: To know the level of application of the morphological measurement of the respondents.

Table N°1: shows respondents' responses to their morphological measurements.

answer	Repetition	Th eratio %	Counte d K^2	Planned K^2	Level of significance	Significance
YES	51	63.75		6.05		
NO	29	36.25				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 05.

Analysis of Table (01): Through the results obtained, we note that 63.75% of the respondents were subjected to morphological measurement, while 36.25% were not subject to morphological measurement.

Statistical Decision: We observe from the table that the calculated Ka 2 (06.05) is greater than the Ka 2 (3.481) and the result is positive. There is a statistical significance with differences at the level of (0.05) between the respondents' answers regarding their morphological measurement.

Explanation of the results of Table (01): The results show that a large percentage of the respondents (runners) have been subjected to morphological measurement and this is due to the professionalism of the club and provide the necessary possibilities for that by officials, while a small proportion of the respondents (runners) were not subjected to morphological measurement, Giving him great importance and negligence by the club officials as well as the lack of the necessary means.

The conclusion of table N° (01):

- The need for morphological measure at the beginning of the season.
- Morphological measurements help to diagnose the strengths and weaknesses of the athlete.
- The trained morphological measurement process helps to plan the training program for the team and individuals.

7.2.Sub-question (1a): If the answer is "Yes", did the measurements include?

Purpose of the question: To know the extent of the morphological measurement of all physical measurements.

Table N°2: shows the respondents' answers about their coverage of morphological measurements.

Answer	Repetition	The ratio	K2 Calculated	K2 Programmed	Level of significance	significance
Weight	41	46.60	80.63	7.815	0.05	+
Height	45	51.12				
Width	02	02.28				
Foot	00	00				
total	88	001				

Source: Bouali and Nemroud and Nassar (2021), p 06.

Analysis of Table (02): The results obtained showed that 46.6% of the subjects were subject to weight measurement, while 51.12% of the subjects were measured in length.

Statistical resolution: We note that the calculated Ka2 (80.63) is greater than the planned Ka2 (7.815). The result is positive, ie there is statistical significance with differences at the level of significance (0.05) among the respondents' answers regarding their inclusion of morphological measurements.

Explanation of the results of Table (02): Physical measurements are important factors for the exercise of sports activity, because of the association with many of the abilities of motor and excellence in the various activities, so we find that most of the respondents were measured the length and weight, while the rest is due to lack of professional club and the medical team and Lack of the necessary means.

Table conclusion N° (02):
- Evaluation of physical structure.
- Studying human evolution and identifying the changes that occur in its form.
- Discover the body proportions of different age groups.
- To identify the morphological characteristics and characteristics of different breeds.
- The need to acquaint the trainers and specialists in training on the results of research and studies to benefit from them in their field of training.

7.3.Second question: have you bought your sport shoe?.
The purpose of the question: To know who was accompanied by hostility when buying sports shoes.

Table N°3: shows respondents' answers about who was accompanied by hostility when buying sports shoes

Answer	Repetition	Ratio	K2 calculated	K2 progrmmed	Level of significance	Significance
By yourself	75	93.75	201.9	7.815	0.05	+
The coach	00	00				
The club	02	02.5				
Parents	03	03.75				
total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 08.

Analysis of Table (03): Through the results obtained we note that (93.75%) of the respondents prefer to buy their own sports, while the answer rate of the coach is absent, and the proportion of respondents answer to the club and parents almost non-existent.

Statistical Decision: We note that the calculated Ka 2 (201.9) is greater than the scheduled Ka 2 (7.815) and the result is positive, i.e there is statistical significance with differences at the level of significance (0.05) among the respondents' answers regarding the choice of sports shoes.

Explanation of the results of Table (03): The results show that a large proportion of respondents prefer to buy their own sports shoes, and this is due to reach most of the respondents and the desire to bring some kind of brands as well as knowledge to measure his leg, and the ratio obtained in the second proposal that the coach Is not responsible for the problems of the players, while we find the answer to the club is almost non-existent because he does not have enough funds for that.

Table (03):

- The need to choose high quality shoes.
- Choose the appropriate size for each athlete.
- Choosing the right shoe for your sports activities is very important to keep you safe and away from the risk of injury.

- Select the activity you want to exercise before you go to the shoe store to buy the shoe.
- Tell the seller if you are exercising more than one sport activity then you will need to buy more than one shoe.

7.4.Question No. (04): Your sporting suit you bought from.

The purpose of the question: To know where the hostility to his athletic shoes is acquired.

Table N°4: shows the respondents' answers on the place where hostility was obtained for their sports shoes.

Answer	Repetition	Ratio +	K^2 calculated	K^2 Planned	Significance level	Significance
Private shop	39	48.75	31.47	5.99	0.05	+
Private enterprise	03	03.75				
Market	38	47.5				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 09.

Analysis of the results of Table (04): Through the results obtained, we note that (48.75%) of the runners bought their shoes from private stores, the largest percentage, while 47.5% of the runners bought their shoes from the market, (03.75%) runners who buy their shoes from private establishments.

Statistical Decision: We note that the calculated Ka 2 (31.47) is greater than the Ka 2 (5.991) and the result is positive, ie there is a statistical significance with differences at the level of significance (0.05) between the responses of the runners regarding the acquisition of their shoes. Explanation of the results of Table (04): From the scientific point of view on hostility buy sports shoes from shops dedicated to the sale of sports supplies, the owners of these shops are fully aware of the details of the exercises, and knows the type of shoe that fits each exercise, (48.75%) that the majority of runners buy their shoes from private shops, while the percentage obtained in the answer to the market indicates that many of the runners buy their shoes from the market This is due to the attenuation The price of sports shoes in

private shops, as well as the lack of monthly income, including the lack of knowledge of the need to fit the shoe with exercise exercises.

Table (04) Conclusion:

- The need to purchase sports shoes from private stores.
- Sports shoes should fit into practice exercises.
- Tell the seller what type of game or exercises to exercise.

7.5.Question (05): When you buy a new sneaker you measure it in:

The purpose of the question: To know the period of measurement of hostility to his athletic shoes.

Table N°5: shows the responses of respondents about the period of measurement of hostility to their athletic shoes

Answer	Repetition	The ratio +	K^2 calculated	K^2 Planned	Significance level	significance
Morning	20	25	15.17	5.99	0.05	+
Afternoon	17	21.25				
You Don't care	43	53.75				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 10.

Analysis of Table (05): 25% of the respondents measured their shoes in the morning, while 21.25% of the respondents prefer to have their shoes in the evening, while 53.73% of the respondents are not indifferent in the measurement period of their athletic shoes.

Statistical resolution: We note that the calculated Ka 2 (15.17) is greater than the Ka 2 (5.991). The result is positive, i.e. there is a statistically significant difference at the level of significance (0.05) between the respondents' answers regarding the measurement period of the sports shoes.

Explanation of the results of Table (05): Scientific studies have proved that the left man is larger than the right man, and that the human body expands in the evening for men, while the length of the athlete's height in the evening to 2 centimeters because of the compression of discs between the vertebrae, (53.73%). Most athletes do not care to measure their shoes when they buy. This is a serious

mistake. The period of measurement of the sports shoe is very important. That the muscles of the foot expand with the movement, giving it a larger size s The night of the morning, the piece of hostility that went shopping early is perhaps his shoe size is not suitable.

7.6.Question No. (06): What is the brand of your sports shoes?

The purpose of the question: To know the type of sport shoe brand owned by the runner.

Table N°6: shows respondents' answers about the type of sport shoe brand owned by the athlete.

Answer	Repetition	K^2 calculated	K^2 planned	The ratio +	Significance level	Significance
Nike	44	55	102.77	11.07	0.05	+
Reebock	01	01.25				
Adidas	20	25				
Puma	05	06.25				
Lotto	02	02.5				
Other	08	10				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 11.

The results of Table (06) show that 55% of the runners have the Nike brand, the largest percentage, while 25% of the runners have Adidas brand, while 10% %) Of runners have other types of brands.

Statistical Decision: We note that the calculated Ka2 (102.77) is greater than the Ka2 (11.070). The result is positive, ie there is a statistical significance with differences at the level of significance (0.05) among the respondents' answers regarding their ownership of the brands.

Explanation of the results of Table No. 06: Nike is one of the most famous and best brands of sports shoes in the world because of the designs and types of shoes suitable for all types of sports, and the shoes are comfortable and long lasting, so that most runners have a large proportion of the type of this brand.

7.7.Question No. (07): The method of the sports shoe is caused by the injury.

The purpose of the question :is to know if the method of the sports shoe is the cause of the injury.

Table N°7: The respondents' answers to the question of whether the method of the sports shoe is the cause of the injury

Answer	Repetition	The ratio +	K^2 calculated	K^2 Planned	Significance level	Significance
Yes	56	70	12.8	3.84	0.05	+
No	24	30				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 12.

Analysis of the results of Table (07): Through the results obtained, we note that (70%) of the runners who answered yes to the method of the shoe lace caused the injury, while the proportion of (30%) the opposite.

Statistical Decision: We note that the calculated Ka 2 (12.8) is greater than the scheduled Ka 2 (3.841) and the result is positive, i.e. there is statistical significance with differences at the level of significance (0.05) between respondents' answers regarding the method of lace and its causes.

Explanation of the results of Table (07): Results show that 70% of the runners believe that the method of the shoe lace caused the injury because they know that the method of the shoe lace varies from person to person, there are many types such as the intersection or crossover Is tightly tied from the top of the holes. This method has been evaluated for the most stable methods. Therefore, the correct method of the

sports shoe gives efficiency and safety both in competition and exercises and also provides more comfort for the foot.

7.8.Question No. (08): When the sports shoe is worn.

The purpose of the question: To know if the condition of the shoe sports caused the injury.

Table N°8: shows respondents' answers on whether the shoe size is the cause of the injury

Answer	Repetition	The ratio +	K^2 Calculated	K^2 planned	Significance level	significance
You stich it	34	42.5	01.8	3.84	0.05	-
You change it	46	57.5				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 13.

Analysis of the results of Table (08): The percentage of (42.5%) of the answers of the runners at the erosion of the shoes they use to pat him, while 57.5% of the answers of the runners when the corrosion of sports shoes they use replace it with another new.

Statistical resolution: We note that the calculated Ka 2 (01.8) is smaller than the scheduled Ka 2 (3.841) and the result is negative, that is, there is no statistical significance at the level of significance (0.05) between respondents' answers regarding shoe status and cause of injury.

Explanation of the results of Table (08): The percentage (57.5%) of the respondents indicated that most of the runners replace their sports shoes when they erode and this is due to the fact that they are aware of the effects on their health, while 42.5% The respondents are liking

their sports shoes to their poor physical condition, as well as the lack of sports supplies by club officials.

7.9.Question No. (09): Changing the sports shoe is related.

Table N°9: The respondents' answers to Changing the sports shoe is related.

Answer	Repetition	The ratio +	K^2 calculated	K^2 planned	Significance level	significance
Sessions number	04	05	105.73	5.99	0.05	+
Utilization years	06	07.5				
The shoe state	70	87.5				
total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 14.

Table (09): The results of the table show that (87.5%) of the runners agree that their athletic shoes are related to shoe status, while (50%) of the runners agree that their shoes are tied to the number of rations, 07.5%) of the answer runners admit that their athletic shoes are associated with years of use.

Statistical Decision: We note that the calculated Ka 2 (105.73) is greater than the Ka 2 (5.991) and the result is positive, ie there is a statistical significance with differences at the level of significance (0.05) between the answers of the respondents regarding the change of shoes.

Explanation of the results of Table No. 09: Some scientific studies indicate that it is preferable to replace the old shoe with a new one after a distance of 500 to 800 km maximum, which shows the results obtained that most runners admit that changing their shoes is linked to

his condition and this is a serious error . This may be due to their lack of knowledge of the situations that may occur to them when exercising with an expired sneaker, as well as their inability to purchase the requirements of other sports shoes because of the high prices.

7.10.Question No10.: The weight of the sports shoe contributes to injury.

The purpose of the question: To know the contribution of the weight of the athletic shoe in the injury.

Table N°10: shows the respondents' answers on the contribution of the weight of the sports shoe to injury

Answer	Repetition	The ratio +	K^2 planned	K^2 planned	Significance level	significance
Yes	70	87.5	45	3.84	0.05	+
No	10	12.5				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 15.

Analysis of the results of Table 10: Results show that 87.5% of the runner's responses acknowledge that the weight of the sports shoe contributes to the injuries they receive, while 12.5% acknowledge that the weight of the shoe does not contribute to the injuries they receive.

Statistical resolution: We note that the calculated Ka 2 (45) is greater than the planned Ka 2 (3.841) and the result is positive, ie there is statistical significance with differences at the level of significance (0.05) between the respondents' answers regarding the contribution of the shoe weight in the injury.

Explanation of the results of Table (10): The results of the table show that 87.5% believe that the weight of the sports shoe contributes

to the injuries they receive through the way the force of the shock absorbs when the man hits the ground. The weight of the shoe is about 20 to 40 times the weight, and here lies the importance of the weight of the shoes with high characteristics of shock absorbers in carrying such a heavy weight.

7.11.Question No. 11: Your ankle is twisted because of the thread of the shoe.

The purpose of the question :is to find out if the failure of the shoe string caused the injury.

Table N°10: shows the respondents' answers to whether the shoe failure caused the injury

Answer	Repetition	The ratio+	K^2 calculated	K^2 planned	Significance level	significance
Yes	31	38.75	04.05	3.84	0.05	+
No	49	61.25				
Total	80	100				

Source: Bouali and Nemroud and Nassar (2021), p 16.

Analysis of the results of Table 11: 38.75% of the runners who responded yes to the sprain of their ankle because of the fall of the shoe string, while 61.25% of the runners who answered the contrary.

Statistical decision: We note that the calculated Ka 2 (04.05) is greater than the scheduled Ka 2 (3.841) and the result is positive, ie there is statistical significance with differences at the level of significance (0.05) between the responses of the runners in the case of ankle sprain because of the fall of the shoe string.

Explanation of the results of Table (11): This question aims to know whether the runners have received ankle sprain injury because of the fall of their string of shoes, but we found from the above that

(38.75%) received ankle sprain injury caused by the fall of the string of their shoes, And the negligence of this problem by the technical staff of the club, as we note here that the percentage that responded not to receive injury ankle sprain because of the fall of the shoe string is due to the sport shoes without strings, or receive information and tips for how The correct connection to the shoe string, To give him the utmost importance of technical and medical staff to avoid injuries.

8.General conclusion:

The study of the tables on this axis shows that the relationship between sports shoe and sports injuries should be all aspects, which should be headed primarily morphological measurements. The development of sports medicine during the fifties allowed the conduct of several scientific researches, especially on the morphology of athletes. Morphology as a science is concerned with studying the structural changes of the body under the influence of physical exercise, not only determined here, but also concerned with the body's reactions to adaptation and compensation in different stages of life, the morphology call to study shape and external structure For man, Fujb the high level that the mandatory assessment of the body's ability and individual characteristics of an athlete at the beginning of the season, this assessment affects the range of measures including: weight, height, physical space, fat mass, muscle and bone.

As far as the sport is considered the godfather of your health and saves your muscles from cramping and the first catalyst for your diary and fitness, but a simple error in the selection of your tools during the exercise may cost you dearly or muscle disruption or faltering or even confusion and the inability to move smoothly, the most important points you should stop When you buy a sneaker is the function of this shoe as a link to the sport you exercise, running shoes should be lighter than the walking shoes in nature, which must be over the ankle and be heavy to keep your foot and prevent you from stumbling and falling. Choosing a suitable sports shoe is a challenge such as

challenging exercise. You can reduce the risk of joint pain, muscle and tissue rupture. If you choose the appropriate boot for your feet and for the activity you exercise, you should follow these tips:

- Experience the shoe on both feet in the store before buying it, and not just wear it in one foot to find out the suitability of size, with a little walk to make sure that the size fits you and do not mind doing some sports movements assigned to the shoe from jumping or running.

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