

Renton M. (2024) COMPARATIVE ANALYSIS OF DIETARY HABITS AND PHYSICAL FITNESS IN CHILEAN AND ARGENTINE ATHLETES. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 24 (94) pp. 49-63.

DOI: <https://doi.org/10.15366/rimcafd2024.94.004>

ORIGINAL

COMPARATIVE ANALYSIS OF DIETARY HABITS AND PHYSICAL FITNESS IN CHILEAN AND ARGENTINE ATHLETES

Michael Renton*

University of La Frontera (Universidad de La Frontera - UFRO), Temuco, Chile.

Recibido 04 de Abril de 2023 **Received** April 04, 2023

Aceptado 07 de Diciembre de 2023 **Accepted** December 07, 2023

ABSTRACT

The main aim of the research is to determine a comparative analysis related to dietary habits and physical fitness in Chilean and Argentine athletes. Research from a comparison of the eating patterns and levels of physical fitness of athletes from Chile and Argentina are outlined related to study. The research explores how the athletes' cultural backgrounds shaped their dietary preferences, distribution of macronutrients, and training approaches. Argentina emphasizes steak, pasta, and dairy products; Chile observes a varied diet influenced by indigenous customs. For measuring the research based on primary data analysis, the research used SPSS software, and the run results included descriptive statistics, correlation coefficient, model summary, chi-square values, and control charts between them. Football teams from both nations are world-class, but their athletes' diets and training plans are very different. The analysis identifies areas that might benefit from more study, such as how these nutritional differences affect athletes' performance and how each country adjusts to its unique environment. Overall, this comparative study highlights the value of continued research and cooperation with sports science and nutrition specialists while offering a basic understanding of the complex relationship between culture, diet, and physical fitness in the sporting contexts of Chile and Argentina.

KEYWORDS: Dietary habits (DH), Physical Fitness (PF), Chilean and Argentine Athletes (CAA), Argentina (AA)

1. INTRODUCTION

Dietary habits and physical fitness play key roles in determining athletes' quality and level of performance during competition. Both of these factors are decisive in enhancing the performance of athletes during national and

international competitions. In this study, we are going to overview how these dietary habits and physical fitness affect Chilean and Argentinian athletes. Dietary Habits include the pattern, quantity, and quality of diet. This diet must be nutritious enough to provide enough energy to athletes for competition. Physical fitness includes weight, height, body mass, energy level, and other aspects related to athletes' physical health. We are going to study Chilean athletes first. In recent few years, we have seen that there have been exemplary and remarkable changes in the eating habits of the population of Chile (Gutman & Lavarello, 2012). The use of processed food and beverages has tremendously increased over time. As the level of use of these processed food items increases, the nutrition level in any population decreases rapidly. A very low percentage of the people of Chile has followed international guidelines to meet nutritional value. This study was conducted to understand the type of diet which is used in Chile (Gharib, 2020). By comparing income and expenditures, it was concluded that most of the income is spent on dairy products, meat, cheese, eggs, and others, but very little is used for oils, fish, or legumes. This unceasing and increasing level of consumption of processed food has affected physical health directly because physical health largely depends on diet and lifestyle habits. Most of the population of Chile has undergone obesity and overweight problems (Manzetti, 2009).

The same has been seen in athletes of Chile, who are mostly habitual in processing and consuming canned food. In recent years, awareness has been increased related to the overuse of processed food and its consequences, which has turned athletes towards a plant-based diet, introducing a new term called veganuary. This term is related to attracting the masses towards a plant-based diet that has a tremendous effect on athletes' health and performance. Pablo Nunez, who won a silver medal in the Pan American games, said in an interview that he has been a vegetarian since 2020, making him a game changer. Recent studies have shown that a plant-based diet is quite better than an animal-based diet because of a variety of benefits (Giakoni-Ramírez, Merellano-Navarro, & Duclos-Bastías, 2022). As we know, the weight of athletes is quite decisive in their performance, so eating only animal-based food can cause over-intake of protein, which can result in poor performance and less efficacy. The risk of cardiovascular disease and high blood pressure decreases by using a plant-based diet. There are also some natural antioxidants and no inflammatory substances present in a plant-based diet, which can reduce recovery time in case of injury in an athlete. So overall, we can say that there were some problems with Chilean athletes' nutritional or dietary habits, but now they have moved toward a plant-based diet for better performance during competition. When we studied the physical fitness and nutritional habits of Argentina athletes, we learned that there is very little data on these athletes (Finchelstein, 2017). The study of body composition entails identifying the major bodily parts, the processes and strategies utilized to acquire them, and the effects of biological variables (such as age, gender, level of physical activity, and diet). Understanding body composition is crucial for elite athletes

because, while fat mass does not directly supply the energy required for sports, it does add to the weight that must be mobilized during the activity and, when it surpasses appropriate limits, can negatively impact sports performance. We can determine the subject's present level of physical fitness due to several highly useful facts that the anthropometric exam gives us. Measurements, including diameters, creases in the skin, and perimeters, are crucial for determining the subject's body composition. With this data, we can keep an eye on the player's present fitness level and confirm any changes to their body brought on by diet and exercise. In body measurements, anthropometry emerges as a useful assessment and measuring instrument that helps quantify the dimensions of the human body and give objectivity. It is predicated on measuring the perimeters of muscles, skin wrinkles, bones' diameters, heights, lengths, and weights using the proper equipment (Emad, 2018). On the other hand, a large proportion of fat-free mass is linked to a high percentage of energy consumption, a low strength-to-weight ratio, and a reduced acceleration. Research has also revealed strong negative correlations between body fat percentage and athletic performance, emphasizing the incompatibility of maximizing athletic performance and high subcutaneous fat levels. A high percentage of body fat is associated with poor athletic performance.

This study is based on questionnaires and a few biochemistry measurements. It was seen that Argentina athletes had dietary habits much better than Chilean athletes. These athletes had plant-based and animal-based food in their daily routines. It was also seen that the haemoglobin level is far better in Argentine Athletes than Chilean athletes. It has also been observed that the average person in Argentina usually has fruits, cereals, grains, seeds, oils, and meat in their food, making them far more healthy and active than Chilean athletes (Rossi & Tirapegui, 2016). No single food fits all athletes, but it depends on the athlete's nutritional needs. The second important thing to discuss is the physical fitness of Chilean and Argentine Athletes.

As the dietary habits of Argentinian athletes are far better than those of Chilean athletes, their physical fitness is also better than that of Chilean athletes. Physical fitness is related to tolerance, endurance, recovery time, prone to injury, and other aspects of the athlete's performance (Giuliani, Morrison, & Rabellotti, 2011). For example, the aspect of weight is necessary for running, the aspect of power should be considered during wrestling, and the aspect of injury should be considered during running, jumping, and others. As described earlier, Chilean athletes are becoming overweight because of using more processed food. Thus, this processed food is affecting their physical fitness as well. Because the nutritional value of processed food is much less than fresh food, this food indirectly increases body weight, thus decreasing the endurance factor during the athlete's performance (Wilson, 1990).

The level of oxygenation in the blood is quite decisive during the performance of the athlete, and this level of oxygenation is dependent upon the level of haemoglobin in the body; the level of haemoglobin in the body is

dependent upon diet and lifestyle of the body. The haemoglobin level has been seen well in Argentinian athletes compared to Chilean athletes. The recovery time is an important aspect of athlete performance (Ponce, 2010). If the recovery time of any athlete is too prolonged, it will affect the athlete's level of performance. This recovery time is also dependent upon the diet person. The recovery time of Argentinian athletes has been seen to be far better than that of Chilean athletes. The reason is that Argentinian athletes mostly use plant-based food with natural recovery elements that can help decrease athletes' recovery time after injury (Cusmano, Morrison, & Rabellotti, 2010). After all of this discussion, we can conclude that dietary habits and physical fitness play key roles in enhancing the performance level of athletes. Both of these factors depend on the type, quality, and quantity of food used in the pre-performance, performance, and post-performance duration of competition (Grivetti & Applegate, 1997).

2. Research Objective

The main objective of this study is to understand the relationship between Dietary Habits and Physical Fitness for enhancing athlete performance in Chilean and Argentinian athletes. This study has also effectively explained the factors contributing to athletes' dietary habits and physical fitness.

The research determines a Comparative Analysis of Dietary Habits and Physical Fitness in Chilean and Argentine Athletes. The research is divided into five specific chapters. The first portion describes the introduction and includes the objective of the study. The second section describes the literature review, and the third section describes research methods and presents the research tools for each variable. The fourth section describes the result and its descriptions. The last section summarises overall research and also defines some recommendations between them.

3. Literature Review

Researchers claim that CRF is related to the development of cardiovascular diseases in school children related to the ethnic minority. The fattening of the body in children is associated with low levels of CRF. Latin American school students belonging to ethnic groups show high levels of BP due to lower CRF levels (Álvarez et al., 2022). Studies suggest that for predicting the level of PA in school-going adolescents, the use of a global matrix 4.0 report is made. This report provides information about the students performing PA in schools by using the grading system (Aubert et al., 2022). Studies reveal that information regarding the athlete's body composition helps improve his game-performing abilities. An athlete's balanced body composition allows him to improve his game trajectory. Chilean sports talent development programs are used to assess the influence of sports training programs on athletes' body composition (Bahamondes-Avila et al., 2023). Studies reveal that the countries of Latin America, like Argentina and Chile, use special programs to assess the

sociocultural factors that affect the physical activities of athletes in these countries. these programs reveal that the physical growth of the people in these countries is based mainly on nutritional factors(Banik, 2023).Studies predict that the profession of women's cycling has tremendously gained popularity due to the large number of women participating in cycling sports the early-based training session provides to women asses the performance of cyclists using the monitoring system. The information obtained through this monitoring system reveals that female cyclists' training efficacy is reduced by the end of training seasons. Female cyclists face problems maintaining their performance throughout the year due to lack of nutrition intake(Barreto et al., 2021).studies explain that profitable investment is made in professional and well-trained players in countries like CHIL and Brazil to promote different players internationally. also, the profile of NFEMNEs is emerging in numerous countries in Latin America(Bezuidenhout et al., 2021).Studies highlight that during muscular-based exercises, various cardiovascular parameters are alerted. kike the increases in the strength of the diaphragm in athletes is correlated with a lower level of vascular elasticity .moreover, the lower atrial compliance is correlated with the high level of MIP as well as SMIP in adult players(Castillo-Aguilar et al., 2022).studies suggest that no clearable difference is observed in the body composition of international as well as non-international players, but when studies were made on the football players of Latin America that were playing in Europe, then the results showed differences in the body composition of these players the fat composition, height factor, and other features of these athletes belonging to the same country show differences.

Moreover, the difference in anthropometric factors related to the players of Latin America was due to the variation in sports training programs provided to players of the same state(Conde-Pipo et al., 2023).studies suggest that the trend of E-sports is increasing rapidly because of the evolution of technology in sports-related sectors .E-sports account for the improvement in the player's practice sessions. studies of scholars have revealed that ninety-two per cent of sports players have shown improvement because of esports(Giakoni-Ramírez et al., 2022).studies reveal that during the pandemic situation of COVID-19, 19the physical activity of players was badly affected. In Latin American countries, PA-provided schools faced a lot of consequences during the COVID-19 pandemic. during the pandemic, the students of Chile and Argentina were engaged in indoor PA to reduce the devastating impact of covid 19 on their PA-related activities(González, Achiardi, Valencia, & Cabello-Verrugio, 2023).Studies claim that dietary habits play a significant role in disturbing adolescents' health. During the COVID-19 pandemic, the dietary behaviours of children were disturbed, which influenced their overall health. the reduction in the PA was also observed during the coni 19 period. During the COVID 91 pandemic, the AFHC program assessed people's food purchases during this period. the information obtained from the AFHC reveals that most adults brought healthy food items during the pandemic of Covid 19 that positively influenced their health(Kołota & Głowska, 2021).studies reveal that most tennis

players travel internationally for sports-related competitions.

During their international stay, a lot of tennis players in Chile lose body mass due to poor eating habits. Furthermore, the tennis players' children's six-week stay internationally resulted in losing their body mass(Luna-Villouta et al., 2023) studies reveal that sports fan of Argentina and Chile soccer players gets into physical fights during certain sports competitions. Sports competition organisers make effective sports policies to develop a healthy sports competition (Moreira, Soto Lagos, & Vergara, 2023).studies claim that adolescence is when a person changes his health-related characteristics. By opting for a healthy lifestyle during adolescence, an individual can avoid the chance of developing chronic disease.by adding healthy eating habits and PA to their lifestyle, an adolescent attains a healthy lifestyle(Palenzuela-Luis, Duarte-Clímments, Gómez-Salgado, Rodríguez-Gómez, & Sánchez-Gómez, 2022).studies claim that in Argentina sports clubs, the sports fans become violent.in Argentina, rival fans are regarded as enemies, and such fans are considered as violence-spreading fans. Moreover, certain political and social factors influence these sports fans to be violent during sports competitions to disturb the peaceful sports competition held in Argentin (Paradiso, 2021).studies claim that to promote PA-based education during the covid 19 times, various policies were formulated by the government of Latin America(Paya Rico, 2022).studies claim that various biotherapeutics have been developed to improve the health of people living in the Latin American states. these biotherapeutics are provided along with a balanced diet to improve the efficiency of these biotherapeutics (Rathore & Bhargava, 2021) Studies predict that during the training session, the body composition of male soccer athletes is assessed by analyzing their body compotation(Sebastiá-Rico, Martínez-Sanz, González-Gálvez, & Soriano, 2023).

Also, for assessing the body composition of male soccer players, the medical technical staff are employed in the assessment procedure. the medical and technical team assessing the athlete's body composition predicts that certain factors like athlete dietary habits and physical activity relate to behaviours that greatly alert his body composition(Sebastiá-Rico, Soriano, González-Gálvez, & Martínez-Sanz, 2023).Studies highlight that developing strategies for healthy life maintenance can improve the ageing process. also, in Latin American countries, elderly people are advised to add little PA-based activities in their delayed life for the purpose of delaying the ageing process(Torres, Cruz-Castruita, Castro, Saucedo, & Gurrola, 2021).

4. Methods

The research represents the Comparative Analysis of Dietary Habits and Physical Fitness in Chilean and Argentine Athletes. The research based on primary data analysis to determine the research used specific questions, including open-ended and closed-ended questions. Dietary habits are the main independent variable, and physical fitness is the main dependent variable. for

measuring, the research used SPSS software and generated results, including descriptive statistics, correlation coefficients, model summaries, and chi-square values, which also explain the control chart of each variable.

4.1 Dietary Habits in Chile

The importance of dietary habits and physical fitness of Athletic in Chile is significant for their performance, recovery, and overall health. A balanced and nutritious diet can help athletes fulfil their energy needs, support muscular recovery, enhance tolerance, and reduce the risk of injury. Adding more to it, maintaining good physical fitness through proper training and routine is essential for athletes to perform at their best and stay competitive.

Chile has implemented school regulations to promote healthy eating habits and physical activities, focusing on taking care of healthy eating habits and warning of the harmful effects of diets high in fat, saturated fats, sugar, Sodium, and other nutrients that pose health risks. Different studies have shown that Chilean Paralympic athletes have poor eating habits and disturbance in their training routine. Improving the dietary habits and physical fitness of athletes in Chile potentially reduced the prevalence of obesity or fatness and overweight, which is higher in Chilli compared to Argentina.

The typical dietary habits of athletes in Chile often include a balanced intake of nutrients with a focus on obtaining protein from sources such as low-fat meats, fish, dairy products, and beans. Carbonates are commonly taken from whole grains, fruits, and vegetables, while healthy fats are derived from sources like avocados, nuts, and olive oil. Cultural and regional influence on the dietary choices of Chilean athletes may be derived from traditional food such as quinoa, seafood, and a variety of fruits and vegetables unique to the region. Additionally, supplements like quinoa-based products or natural energy bars may be popular among Chilean athletes. The specific dietary practices unique to Chilean athletes may also involve a preference for traditional Chilean dishes like cazuela (a stew), empanadas, and pastel de cholo (corn pie) which may provide a blend of nutrients suitable for athletes' dietary needs.

4.2 Dietary Habits in Argentina

A blend of culture, religion, and individual factors influences the dietary habits of athletes in Argentina. Athletes in Argentina often follow adjusted dietary patterns to support their training performance and recovery needs. Specific studies focusing uniquely on Argentinean athletes' macronutrient intake and food preferences are limited.

Argentinean athletes typically focus on balanced nutrition to support their physical demands. Usually, it includes enough intake of carbohydrates to get the energy needed, suitable protein for muscle repair and growth, and healthy fats for health and energy. Healthy fats from sources like avocado, nuts, and

olive oil are also incorporated to support overall health and provide continuing energy. The dietary preferences of Argentinian athletes may reflect the traditional cuisine of Argentina, which is known for its rich and diverse gourmet heritage. Due to the country's strong growing culture, Argentinian dishes often include a variety of meat, particularly beef.

Asado a popular Argentinian barbecue, is an important part of the government tradition and may be enjoyed by athletes as a source of high-quality protein. The incorporation of mate, a traditional South American caffeine-rich infused drink, is a cultural practice that athletes may accept for its refreshing properties and social significance.

4.3 Descriptive Statistics

Table 1

	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
DIETARY HABITS 1	50	1.00	3.00	1.3400	.55733
DIETARY HABITS 2	50	1.00	3.00	1.5200	.57994
DIETARY HABITS 3	50	1.00	2.00	1.4200	.49857
DIETARY HABITS 4	50	1.00	3.00	1.4400	.54060
PHYSICAL FITNESS 1	50	1.00	3.00	1.5400	.61312
PHYSICAL FITNESS 2	50	1.00	3.00	1.5800	.64175
PHYSICAL FITNESS 3	50	1.00	3.00	1.4400	.57711
VALID (LISTWISE)	N 50				

The above result represents that descriptive statistic results describe minimum values, maximum values, also that mean values and standard deviation. Dietary habits 1,2,3,4 show that mean values are 1.3400, 1.5200, 1.4200 and 1.4400. These show the positive average values of the mean.

The standard deviation rates of 55%, 57%, 49%, and 54% deviate from the mean. According to the result, the overall minimum value is 1.000, the maximum value is 3.000, and the observation rate is 50, respectively. Physical fitness 1,2 and 3 are all dependent variables. The mean values are 1.5400, 1.5800 and 1.4400. These show the positive average values of the mean. The standard deviation rate is 61%, 64%, and 57%, which deviates from the mean.

4.4 Model Summary

Table 2

MODEL	R	R SQUARE	ADJUSTED SQUARE	R STD. ERROR OF THE ESTIMATE
1	.464 ^A	.215	.146	.56669

A. PREDICTORS: (CONSTANT), DIETARY HABITS 4, DIETARY HABITS 1, DIETARY HABITS 3, DIETARY HABITS 2

The above result describes that the model summary result presents the R values, R square values, and adjusted R square value of the standard error of the estimated value of each model. The R-value is 46%, the R-square rate is 21%, the adjusted R-square rate is 14%, and the standard error of the estimated value is 56%, respectively.

4.5 Regression analysis

Table 3

COEFFICIENTS						
MODEL		UNSTANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS	T	SIG.
		B	STD. ERROR	BETA		
1	(Constant)	2.242	.442		5.069	.000
	Dietary Habits 1	-.430	.151	-.391	-2.847	.007
2	Dietary Habits 2	-.212	.160	-.201	-1.327	.191
	Dietary Habits 3	.013	.172	.011	.076	.940
4	Dietary Habits 4	.124	.173	.109	.717	.477

a. Dependent Variable: Physical Fitness 1

The result describes that regression analysis result describes that unstandardized coefficient analysis result presents that beta value and standard error value also that result describes standardized coefficient values of each model. The result also represents the t-statistic and significant values of each independent variable. Dietary Habits 1's beta value is -0.430, the standard error is 0.151, the t-statistic value is -2.847, and the significant value is 0.007, showing that it is negative but is 100% a significant link with physical fitness. Dietary habits 2 is another independent variable t statistic value is -1.327 the significant value is 0.191 sho, is that there is a 19% significant value between them. Dietary habits 3 and 4 show that the statistics show that 0.076 and 0.717 show positive rates, and their significant rates are 0.940 and 0.477, which show 94% and 47%, respectively. The beta values show that 0.011 and 0.109 show positive beta values between them.

4.6 Correlations

Table 4

		DIETARY HABITS 1	DIETARY HABITS 2	DIETARY HABITS 3	DIETARY HABITS 4	PHYSICAL FITNESS 1	PHYSICAL FITNESS 2	PHYSICAL FITNESS 3
DIETARY HABITS 1	Pearson correlation	1	.200	-.157	.035	-.429**	.236	.223
	Sig. (2-tailed)		.165	.276	.808	.002	.099	.119
	N	50	50	50	50	50	50	50
DIETARY HABITS 2	Pearson correlation	.200	1	.006	.427**	-.232	.379**	.034
	Sig. (2-tailed)	.165		.969	.002	.105	.007	.814
	N	50	50	50	50	50	50	50
DIETARY HABITS 3	Pearson correlation	-.157	.006	1	-.245	.044	-.139	.125
	Sig. (2-tailed)	.276	.969		.086	.761	.336	.388
	N	50	50	50	50	50	50	50
DIETARY HABITS 4	Pearson correlation	.035	.427**	-.245	1	.007	.073	-.175
	Sig. (2-tailed)	.808	.002	.086		.959	.615	.223
	N	50	50	50	50	50	50	50
PHYSICAL FITNESS 1	Pearson correlation	-.429**	-.232	.044	.007	1	-.242	-.166
	Sig. (2-tailed)	.002	.105	.761	.959		.091	.249
	N	50	50	50	50	50	50	50
PHYSICAL FITNESS 2	Pearson correlation	.236	.379**	-.139	.073	-.242	1	.123
	Sig. (2-tailed)	.099	.007	.336	.615	.091		.393
	N	50	50	50	50	50	50	50
PHYSICAL FITNESS 3	Pearson correlation	.223	.034	.125	-.175	-.166	.123	1
	Sig. (2-tailed)	.119	.814	.388	.223	.249	.393	
	N	50	50	50	50	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

The above result describes that correlation coefficient analysis result describes that Pearson correlation, significant values, and number of observations of each variable. The dietary habits1,2,3,4 shows that Pearson correlation represents 0.035, 0.427, 0.007, 0.073, and -0.175.

These show some positive and some negative correlation coefficient analyses between them. The significant values are 11%, 38%, 22%, and 7%, and there are also 100% significant values between them. Dietary habits or nutritional habits and physical fitness are important practices for athletes to show effectiveness and achieve efficiency in their performance. Athletes require a balanced diet that includes a wide range of food from all food groups to match their physical demands. This food group can include carbohydrates, protein, and healthy fats. Healthy carbohydrate food sources include fruits, vegetables, whole-grain cereal, bread, and pasta. Proper hydration is also an important factor in sports performance. An athlete's diet should be similar to that recommended for the entire population, with energy intake divided into carbohydrates protein and fat. Athletes may be required to eat less or more of certain foods depending on the type of sport, amount of training, and time spent in training. A strict diet plan can hurt an athlete's ability and be harmful to their health. Therefore, it is important to work with a registered dietitian to develop a diet that is right for the athlete's sports, age, and training. Comparing and analyzing the dietary habits and physical fitness of athletes from Chile and Argentina can provide a deep understanding of the impact of cultural, social, economic, and environmental factors on sports performance and overall health. The dietary habits and physical fitness of athletes in Argentina Are important. The impact of dietary habits and physical fitness on the performance of athletes is crucial for optimizing training procedures, recovery strategies, and overall Athletic achievements. In Argentina, proper nutrition and physical fitness play an essential role in injury prevention and the recovery process for athletes. Many pieces of research on dietary habits have shown that athletes can lead to the development of customized nutritional guidelines according to the needs of athletes, taking into account the demands of different sports and training methods. Discovering ways related to the dietary habits of athletes can be used to educate coaches, trainers, and athletes about the importance of proper nutrition in achieving peak performance and maintaining overall health.

4.7 Control Chart

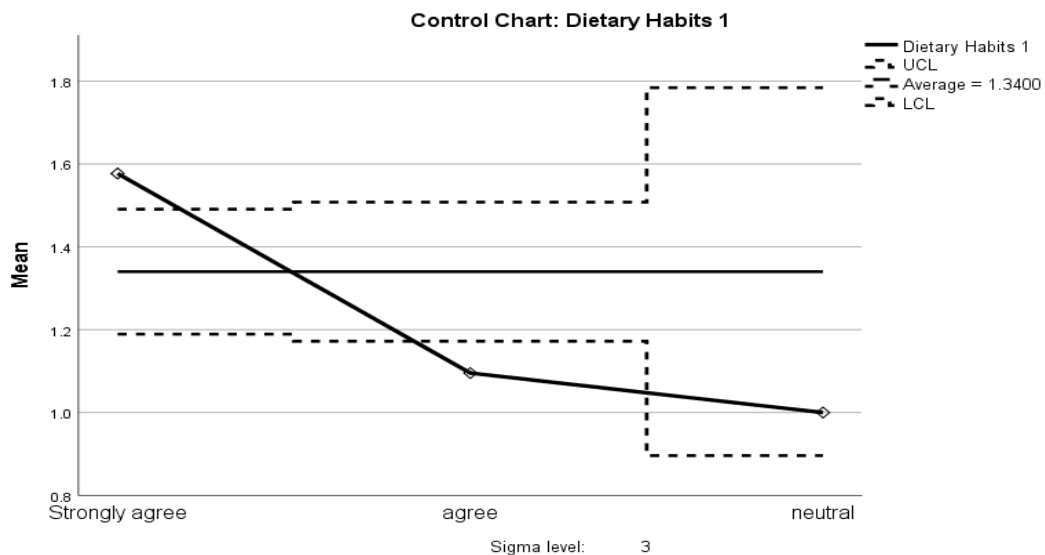


Figure 1

The above graph shows that the control chart shows an average value of 1.3400. The vertical side shows that the mean value is 0.0, and its end rate is 1.8. The horizontal side shows that strongly agree, agree, and neutral levels are related to the sigma level between them. The above chart shows the control chart between dependent and independent variables.

4.8 Test Statistics

Table 5

	DIETARY HABITS 1	DIETARY HABITS 2	DIETARY HABITS 3	DIETARY HABITS 4	PHYSICAL FITNESS 1	PHYSICAL FITNESS 2	PHYSICAL FITNESS 3
CHI-SQUARE	33.880 ^a	19.840 ^a	1.280 ^b	24.520 ^a	17.560 ^a	14.920 ^a	23.680 ^a
DF	2	2	1	2	2	2	2
ASYMP. SIG.	.000	.000	.258	.000	.000	.001	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.7.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

The above result describes that test statistical analysis result represents that chi-square values related to dietary habits 1,2,3 and 4 and physical fitness 1,2 and 3 are all factors present in the chi-square between them. The chi-square values are 33.880, 19.840, 1.280, and 24.520, which are positive chi-square rates. Similarly, physical fitness 1,2 and 3 show that chi-square values are 17.560, 14.920 and 23.680, respectively.

5. Conclusion

The dietary habits of athletes in Chile and Argentina indicate both similarities and differences. In Argentina, food consumption is identified by various dietary patterns, with some groups showing high consumption of animal fats, sugar, and meats or processed meats and low consumption of fruit and vegetables. On the other hand, Chile has a high level of consumption of canned food and beverages, which is associated with the country's low establishment. Cultural, geographical, and socio-economic factors may influence the observed differences in the dietary habits of both countries. Both Chile and Argentina have their dietary patterns and challenges among their athletes.

The impact of these dietary habits on athletes' physical fitness and performance highlights the importance of telling nutritional needs to support athletic training and competition. The cultural, geographical, and socioeconomic factors contribute to the observed differences in dietary habits between the two countries. In conclusion, comparing the eating patterns and physical fitness of athletes from

Argentina and Chile offers fascinating new perspectives on the relationship between food preferences, cultural influences, and sports training methods. Even if both nations love sports, there are clear differences in the food habits and sporting activities that each follows. Athletes from Chile have a varied diet that combines quinoa, fish, and lean meats with elements inspired by traditional customs. The overall research concluded that direct and significant analysis between them. The emphasis on a well-balanced diet corresponds with the different physical demands of sports like tennis and football. Their training regimens demonstrate a dedication to cultural relevance by including traditional activities like palín.

Conversely, Argentine athletes are influenced by a diet rich in dairy, steak, and pasta. Football is a major cultural fixture, and this is reflected in the demanding training schedules that place a strong emphasis on strength, speed, and technique. To sum up, this comparative study provides a basis for comprehending the intricate interactions between physical fitness, nutrition, and culture in the sports spheres of Chile and Argentina. Further study and collaboration with sports scientists and nutritionists will be necessary to refine our understanding of the best practices for athlete performance in these varied cultural contexts and remain current with emerging trends, which will further these insights.

Argentina's high-protein, high-carbohydrate diet meets its athletes' unique energy needs. The effect of these dietary variations on athletic performance may be a topic for future research. Analyzing athletes from both nations' performance measures, injury rates, and recovery durations may reveal important information about how well each nation's food and training regimens work. Furthermore, studying how athletes adjust to the various climates in each nation might provide insightful knowledge for improving diet and training plans.

References

- Álvarez, C., Cadore, E., Gaya, A. R., Mello, J. B., Reuter, C. P., Delgado-Floody, P., . . . Ramírez-Vélez, R. (2022). Associations of cardiorespiratory fitness and obesity parameters with blood pressure: fitness and fatness in youth Latin-American ethnic minority. *Ethnicity & Health*, 27(5), 1058-1074.
- Aubert, S., Barnes, J. D., Demchenko, I., Hawthorne, M., Abdeta, C., Abi Nader, P., . . . Bakalár, P. (2022). Global Matrix 4.0 Physical Activity Report Card grades for children and adolescents: Results and analyses from 57 countries. *Journal of Physical Activity and Health*, 19(11), 700-728.
- Bahamondes-Avila, C., Cárcamo-Oyarzún, J., Aedo-Muñoz, E., Hernandez-Mosqueira, C., Martínez-Salazar, C., Rosas-Mancilla, M., . . . Jerez-Mayorga, D. (2023). Body Composition and Somatotype of Athletes in the Chilean Sport Talent Development Program. *SALUD Y*, 113.
- Banik, S. D. (2023). *Human growth and nutrition in Latin American and Caribbean countries*: Springer Nature.
- Barreto, G., de Oliveira, L. F., Saito, T., Klosterhoff, R., Perim, P., Dolan, E., . . . Saunders, B. (2021). Reduced endurance capacity and suboptimal energy availability in top-level female cyclists. *International journal of sports physiology and performance*, 16(8), 1194-1203.

- Bezuidenhout, H., Mhonyera, G., Van Rensburg, J., Sheng, H. H., Carrera Jr, J. M., & Cui, X. (2021). Emerging market global players: the case of Brazil, China and South Africa. *Sustainability*, 13(21), 12234.
- Castillo-Aguilar, M., Retamal Matus, H. F., Santa Cruz, R., Tinoco Martins, Y. A., Niño Méndez, O. A., & Núñez-Espinosa, C. (2022). Relationship of cardiorespiratory control and vascular compliance in competitive young athletes. *Revista Andaluza de Medicina del Deporte*, 15(3).
- Conde-Pipo, J., Latorre, J. A., Gimenez-Blasi, N., Olea-Serrano, F., Requena, B., & Mariscal-Arcas, M. (2023). Comparative Analysis of Body Composition Profiles among Latin American Elite Football Players Competing in Europe. *Applied Sciences*, 13(11), 6778.
- Cusmano, L., Morrison, A., & Rabellotti, R. (2010). Catching up trajectories in the wine sector: A comparative study of Chile, Italy, and South Africa. *World development*, 38(11), 1588-1602.
- Emad, H. (2018). Stem Cell Therapy for Vascular Disorders. *Vascular & Endovascular Review*, 1.
- Finchelstein, D. (2017). The role of the State in the internationalization of Latin American firms. *Journal of World Business*, 52(4), 578-590.
- Gharib, M. R. (2020). Comparison of robust optimal QFT controller with TFC and MFC controller in a multi-input multi-output system. *Reports in Mechanical Engineering*, 1(1), 151-161.
- Giakoni-Ramírez, F., Merellano-Navarro, E., & Duclos-Bastías, D. (2022). Professional esports players: motivation and physical activity levels. *International journal of environmental research and public health*, 19(4), 2256.
- Giuliani, E., Morrison, A., & Rabellotti, R. (2011). *Innovation and technological catch-up: The changing geography of wine production*: Edward Elgar Publishing.
- González, A., Achiardi, O., Valencia, M., & Cabello-Verrugio, C. (2023). Physical Activity, Burnout, and Engagement in Latin American Students of Higher Education During the COVID-19 Pandemic. In *Advances in Molecular Pathology* (pp. 83-99): Springer.
- Grivetti, L. E., & Applegate, E. A. (1997). From Olympia to Atlanta: a cultural-historical perspective on diet and athletic training. *The Journal of nutrition*, 127(5), 860S-868S.
- Gutman, G. E., & Lavarello, P. (2012). Building capabilities to catch up with the biotechnological paradigm. Evidence from Argentina, Brazil and Chile agro-food systems. *International Journal of Learning and Intellectual Capital*, 9(4), 392-412.
- Kołota, A., & Głąbska, D. (2021). Analysis of food habits during pandemic in a polish population-based sample of primary school adolescents: Diet and activity of youth during covid-19 (day-19) study. *Nutrients*, 13(11), 3711.
- Luna-Villouta, P., Paredes-Arias, M., Flores-Rivera, C., Hernández-Mosqueira, C., Vásquez-Gómez, J., Matus-Castillo, C., . . . Villar-Cavieres, N. (2023). Effects of a six-week international tour on the physical performance and body composition of young Chilean tennis players. *International Journal of Environmental Research and Public Health*, 20(2), 1455.
- Manzetti, L. (2009). *Neoliberalism, accountability, and reform failures in emerging markets: Eastern Europe, Russia, Argentina, and Chile in comparative perspective*: Penn State Press.
- Moreira, V., Soto Lagos, R., & Vergara, C. (2023). A Duel of “Hinchadas”: Chile and Argentina, a Comparative Study. In *Football Fandom in Europe and Latin*

- America: Culture, Politics, and Violence in the 21st Century* (pp. 215-236): Springer.
- Palenzuela-Luis, N., Duarte-Clímets, G., Gómez-Salgado, J., Rodríguez-Gómez, J. Á., & Sánchez-Gómez, M. B. (2022). Questionnaires Assessing Adolescents' Self-Concept, Self-Perception, Physical Activity and Lifestyle: A Systematic Review. *Children*, 9(1), 91.
- Paradiso, E. (2021). The social, cultural, and political dimensions of violence in Argentinian football: An ethnographic account.
- Paya Rico, A. (2022). Inclusion and the Right to Education in Latin America and the Caribbean: Policies, Resources, and Good Practice in the COVID-19 Social and Educational Emergency. In *Inclusive Pedagogical Practices Amidst a Global Pandemic: Issues and Perspectives Around the Globe* (pp. 49-61): Springer.
- Ponce, P. (2010). *A comparative study of activity-related skeletal changes in 3rd-2nd millennium BC coastal fishers and 1st millenium AD inland agriculturists in Chile, South America*. Durham University,
- Rathore, A. S., & Bhargava, A. (2021). Regulatory considerations in biosimilars: Latin America region. *Preparative Biochemistry & Biotechnology*, 51(2), 201-206.
- Rossi, L., & Tirapegui, J. (2016). Exercise dependence and its relationship with supplementation at gyms in Brazil. *Nutrición Hospitalaria*, 33(2), 431-436.
- Sebastiá-Rico, J., Martínez-Sanz, J. M., González-Gálvez, N., & Soriano, J. M. (2023). Differences in Body Composition between Playing Positions in Men's Professional Soccer: A Systematic Review with Meta-Analysis. *Applied Sciences*, 13(8), 4782.
- Sebastiá-Rico, J., Soriano, J. M., González-Gálvez, N., & Martínez-Sanz, J. M. (2023). Body Composition of Male Professional Soccer Players Using Different Measurement Methods: A Systematic Review and Meta-Analysis. *Nutrients*, 15(5), 1160.
- Torres, M. S. C., Cruz-Castruita, R. M., Castro, N. A. B., Saucedo, N. C. B., & Gurrola, O. C. (2021). Biopsychosocial characteristics of elderly adults of Latin America: Strategies of physical activity for the functional health. *Sport psychology in sports, exercise and physical activity*, 111.
- Wilson, H. D. (1990). Quinoa and relatives (Chenopodium sect. Chenopodium subsect. Celluloid). *Economic Botany*, 44(Suppl 3), 92-110.