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Retraction

Retracted: Influence of Embedded Microprocessor Wireless Communication in the Ankle Joint Proprioception Training on the Prevention of Football Sports Injuries

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] S. Li, "Influence of Embedded Microprocessor Wireless Communication in the Ankle Joint Proprioception Training on the Prevention of Football Sports Injuries," *Mobile Information Systems*, vol. 2022, Article ID 8996453, 13 pages, 2022.

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Research Article

Influence of Embedded Microprocessor Wireless Communication in the Ankle Joint Proprioception Training on the Prevention of Football Sports Injuries

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This study synthesizes the relevant publications on the therapy of horizontal joint destabilization of the functional ankle and investigates the effect of anterior motion ankle drills on the inability to cause ankle injuries in soccer teams. We chose university soccer teams as the study population and divided them into five men's and five women's squads and five control groups. Embedded microcontrollers are also called microcontrollers. Generally, we focus on a specific type of microprocessor center, integrating ROM/EPROM, RAM, Bus Logic, Timer/Counter, Watchdog, I/O, Serial Port, Pulse Width Modulation Output, A/D, D/A, and more. *Functions and Devices*. Representative embedded microcontrollers include PSIXA, 8051, MCS-251, MCS96/196/296, and C166/167. With the continuous improvement of the processor's computing power and chip integration, the differences between embedded microprocessors and embedded microprocessors have further increased. *Blurred*. The test subjects experienced force testing and the trial subjects involved in ankle native sensory drilling. The experimental results show that the average direction has a statistically significant effect on the front, back, left, and right running ability, which increases significantly after 0.017, 0.032, and 0.043 P, respectively, providing a more scientific basis for preventing football injuries.

1. Introduction

A severe ankle sprain is considered an ankle ligament injury and usually presents with pain and swelling at the site of the sprain, followed by skin bruising and, in severe cases, immobilization of the affected foot due to pain and swelling. According to the local characteristics and symptoms of pathological ankle instability, it will have a profound negative impact on the athlete's body, life, study, and work.

The resistance of football is very strong, especially of the ankle joints [1, 2]. This study uses pre-ankle training to prevent possible ankle injury in footballers, to monitor their clinical implications, and to study possible mechanisms for ankle training for functional ankle instability [3, 4]. It is difficult right now for 8 and 8 bit microprocessor technology to achieve excellent performance. It will be replaced by 32-bit technology in the near future. Given the enormous market potential of mid-range and low-end microprocessors in the internal electronic database [5], in order to adapt to the development trend of microprocessor technology, design and develop high-cost-effective middle and low-end embedded microprocessors. From demand analysis to design implementation, the design of a 32-bit embedded RISC microprocessor was completed, and a software test platform was established to verify the rationality of the design theory. At the same time, I hope that the ideas and methods in the project design can provide ideas and experience for those who are interested in researching and learning microprocessor design [6, 7].

Erdel Hansi explored the effect of a peculiar concentration training program for varus ankle and dorsiflexors on ankle proprioceptive dysfunction. He studied a total of 13 male athletes and leisure athletes, all of whom had unilateral functional ankle instability. The unaffected bilateral ankle joints acted as restraints. The dysfunctional ankle joints of the subjects were subjected to ankle valgus and isoflexor isokinetic training, in a peculiar concentration combination, 3 days per week for 6 weeks. Prior to and after the isokinetic training program, the ankle joints were evaluated for active and passive position, kinetics, and isokinetic intensity [8–11]. After 6 weeks of intervention in the unstable ankle joint, the general active and inactive sensitivity error scores were reversed ($P < 0.01 - 0.001$) and the plant flexion is $P < 0.05 - 0.001$. Direction and motor sensitivity scores were reversed ($P < 0.001$) and plant flexibility ($P < 0.01$) was significantly reduced. In addition, the peculiar maximum torque of the ankle curve and posterior arch was significantly increased compared to the normal ankle ($P < 0.001$). The results of his research indicate that it is possible to improve the sensitivity of the ankle proprioception after 6 weeks of peculiar and concentrated isokinetic training in the unstable ankle joint. Ha studied the effects of intense ankle joint exercises on adult patients with ankle instability acting on proprioception and unstable support surfaces [12, 13]. A digital dual inclinometer is used to prevent ankle sprain [14]. The test results showed significant differences in the perception and efficiency of the static dynamic equilibrium before and after introduction in the test group ($P < 0.05$). Heel fitting exercises on unstable wires are a great way to increase ankle performance. Race: Zhi Long studied the effects of CT and AT on ankle block at a full weight functional level. It selected 24 healthy students to participate in the research [15, 16]. He used the Active Distance Detector (AMEDA) to measure proprioception. His test results, video footage of the feet and ankles, may have enhanced emotional input to enhance the proprioceptive impression of bad performers, but this would create input congestion and harm those who initially performed better without video footage. Ankle proprioceptive screening can determine which patients may benefit from proprioceptive and tape treatment [17–19].

This article studies the selection of a college football team and randomly divides the players into two groups [20, 21]. Compare the differences of human balance ability before and after training and different trainings, analyze the effects of proprioceptive training and muscle strength training on human posture stability and stability limit test, and track the entire college football championship [22], a total of eight games; statistics of post-match injury was compared with the previous analysis. In the current research field, there are few studies on the effect of incorporating embedded microprocessor wireless communication into ankle proprioceptive training on the prevention of football injuries. This study aims to prevent and reduce the ankle injury of football players, lay a solid foundation for future scientific research, and provide scientific training basis for professional football players and amateur football enthusiasts [10, 11].

2. Influence of Embedded Microprocessor Wireless Communication in Ankle Proprioceptive Training on Preventing Football Injuries

2.1. Overview

2.1.1. Overview of Ontogeny. Proprioception is the sensation produced by the motor organs themselves, such as muscles, tendons, and joints, in different states, which we usually classify into three different levels.

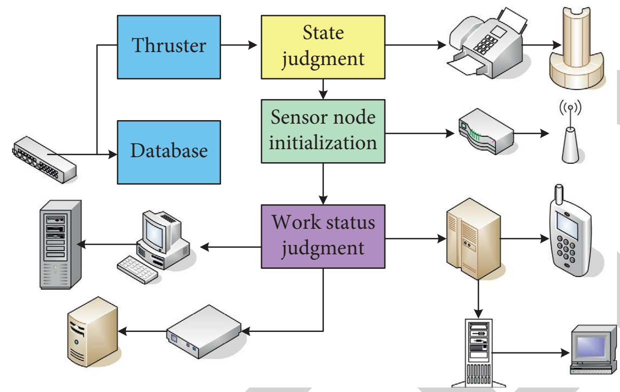

FIGURE 1: Operation mode of the embedded microprocessor.

The operation mode of the embedded microprocessor is shown as in Figure 1.

2.1.2. Proprioceptive Receptors. The ankle joint is more prone to damage R_{ij} to the lateral ankle ligament caused by excessive varus during exercise:

$$R_{ij} = \left\| W_i - \mathfrak{R}_j \right\|_2^2,$$
$$\mu\phi = \frac{1}{\left| M_j \right|} \sum_{x \in c_j} Y. \tag{1}$$

For the ankle joint balance training device, it needs to bear the weight of the human body and needs to maintain a lighter mass. The purpose of this is to reduce inertia during training:

$$\kappa = \frac{\sum_{i=1}^{n} \varphi r_i, K(l_i))}{N},$$

$$G(S, S_1) = \sum_{c_i \in C, c_j' \in C'} M \log \frac{K(J_i, J_j)}{K(M_i) K(M_j)},$$

$$F(E_1, E_2) = \frac{Q(E_1, E_2)}{\max(M(E_1), M(E_2))}, \tag{2}$$

$$N = \frac{\operatorname{cov}(M, N)}{\sqrt{F(G)} + \sqrt{F(y)}}.$$

2.1.3. Overview of the Ulnar System. The wireless communication of embedded microprocessor in the ankle joint proprioception training is shown in Figure 2.

The functional positioning of the ankle joint trainer and daily training, while providing users with functions and structures that match the ankle joint training method, is

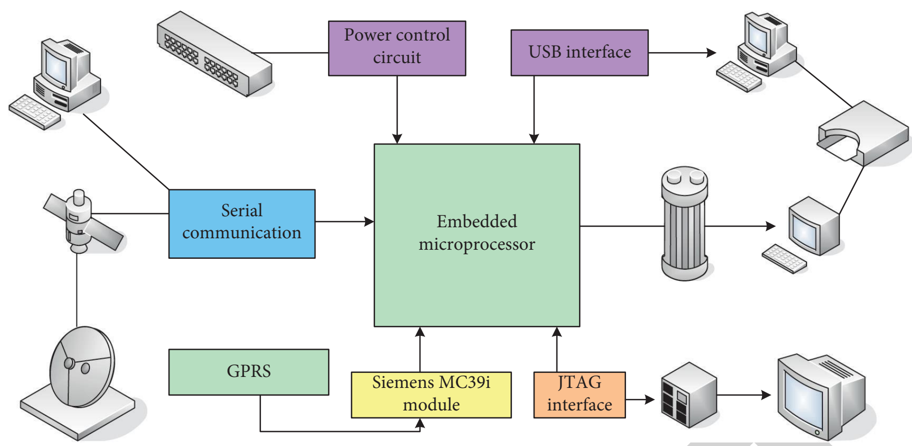

Figure 2: The wireless communication of embedded microprocessor in the ankle joint proprioception training.

$$F = \frac{1}{D}\sum_{i=1}^{D} T_{\{S(x_i)\geq\gamma\}}\frac{f(Y,O)}{f(x,O)},$$
$$N^* = \arg\max_{v} F_u E_{\{S(X)\geq\gamma\}} \ln F(B;G),$$
$$M(X,Y) = \sum_{x,y} w(X,Y)\left[H(X+u,Y+v) - H(X,Y)\right]^2,$$
$$K = \sum_{x,y} F(M,N)\begin{bmatrix} G_x^2 & G_xG_y \\ G_xG_y & G_y^2 \end{bmatrix},$$
$$G(C_1,C_2) = \frac{1}{2\pi F^2}e^{-(B^2+V^2/2F^2)}. \tag{3}$$

2.1.4. Interaction Impact. Interaction: reduced property, increased arthritic bone damage, and arthritic bone damage leading to preventive intervention. Heel instability can occur in many ways, for example, during intense training or under prolonged standing, delayed response time to ligament muscle group (PRD) in people with orthostatic trauma, decreased joint position, decreased joint strength and range of motion, decreased reflex nerve velocity, and ankle injuries.

Through the analysis of the plan and the preliminary experience comparison of the production, it was decided to integrate the two plans with each other:

$$S_x(M,N) = \frac{1}{2}\left(I(M,N+1) - I(M,N) - I(M+1,G)\right),$$
$$\varpi_y(M,N) = \frac{1}{\beta}\left(T(M,N) - I(M+1,N+1)\right),$$
$$G(i,j) = \sqrt{G_x^2(i,j) + G_y^2(i,j)},$$
$$T(I,K) = \sum\left(\frac{G_x(i,j)}{G_y(i,j)}\right),$$
$$S_D = S(T|D) = \frac{S}{(P+Q)}. \tag{4}$$

For the ankle joint balance training device C, because it needs to bear the weight of the human body and needs to maintain a lighter mass to reduce the inertia K_1 generated during the training process,

$$C = \sqrt{\frac{DT}{(M+Q)}},$$
$$K_1 = U(T|Y) = \frac{PU}{(RT-Y)},$$
$$M_1 = \sqrt{\frac{M(1-M)}{(U-H)}}, \tag{5}$$
$$G = E[\log Y(Y)] + A[\log(1 - Y(Y))].$$

Ankle training methods are roughly divided into four categories: single-leg standing training $P_p(x)$, unstable plane training χ_1, progressive jumping stability balance training $\xi_t(I,J)$, and comprehensive balance training R_{G1} integrated with other equipment:

$$P_p(x) = \lambda\frac{\prod_{m=1}^{l} Y_{pm}(G)}{\sum_{p=1}^{r}\prod_{m=1}^{l} Y_{pm}(G)},$$
$$\chi_1 = K[\|G - T\|],$$
$$\xi_t(I,J) = P(i_t = J, J_{t+1} = j|Q,\lambda), \tag{6}$$
$$R_{G1} = R\left[|R - R_G|_{K1}\right],$$
$$\varphi = \sum_{i=1}\left(H_\phi^1(x_i) + H_\phi^{-1}(x_i) - 1\right)^\phi.$$

During this process, the fork muscle group responds quickly. The heel is heavier and the ankle joint function is less. Some people use one-foot tests to test athletes with ankle injuries and find that lower locomotor skills and sensitivity were observed in people with anchor damage. It has been shown that heel drop and the degree of injury are closely related.

2.2. Ankle Joint. The primary function of the ankle was to lift the balance of the body. It is the main part of the body and the point of connection to the earth. It is involved in important functions of the physical body. Instability due to ankle sprains is divided into lateral instability and medial instability. The incidence of lateral instability combined with articular cartilage injury is 55%. The main damage is to the cartilage of the talus, mostly located on the medial articular surface of the talus.

Fibula muscle: the Fibula is divided into long muscle. The long muscles of the fork extend upwards to the outer side of the fork and are held in the middle distance and at the base of the first metatarsus. The short peroneal muscle is located closer to the outside of the fibula from the bottom to the base of the fifth metatarsal bone. The main task of these two is to make the ankle joint and valve flexible. The long forearm muscle has the function of maintaining the middle and lateral length of the leg and the transverse arches. The short fork can maintain the lateral length of the foot. The long peroneal muscle plays an important role in preventing the development of acne.

3. Experiments

3.1. Research Object. A total of 10 2015 football students were randomly selected from a specific sports college, all of whom were men to explain and prepare for the exams. To pass the stability test, individuals must meet the following two conditions: (1) do not train vigorously for the past 24 hours and (2) physical health, neurological or muscular disorders, visual impairment, and vestibular system under examination. The data of the participating experiments are shown in Table 1.

Table 1: Overview of experimental subjects.

	Length of time	Altitude (cm)	Power (kg)
Item	23	174	72.1

3.2. Related Investigation Steps

(1) Test site: exercise medicine laboratory

(2) Dataset: leg strength test

(1) Before testing, ensure the consistency of the lower nodes, familiarize with the test mode and test environment, and do the test

(2) The object is exposed at the center of gravity of the test path to ensure natural sagging

(3) Record the results 3.3 Data Statistics and Processing

4. Embedded Microprocessor Wireless Communication in Ankle Proprioceptive Training for Soccer Injury Prevention

4.1. Variation in Consistency. The data obtained during the experiment were evaluated, as shown in Table 2 and Figure 3, and according to the database obtained, it is clear that there is a significant difference ($P < 0.05$) in the data of each indicator, which indicates that the data are valid.

Table 2: Analysis of test findings.

	Frequency (HZ)	Correlation value (%)	Indicators of accuracy (%)
1	2.2	45	79
2	2.3	54	77
3	−4.7	−3.9	5
4	0.003	0.04	0.03

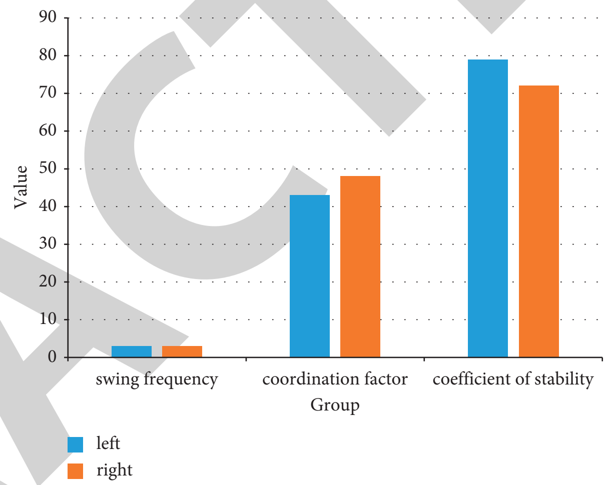

Figure 3: Analysis of test results of trace.

The specific training program is shown in Table 3.

The two groups of research subjects were evenly distributed in terms of age, height, weight, BMI, and CAIT. The two groups of experimental subjects are shown in Table 4.

By paired-sample t-test analysis, the difference in VAS scores in the control group before and after the intervention was statistically significant ($P < 0.01$). The detailed results are shown in Table 5.

The difference in CAIT scores in the control group before and after intervention is statistically significant. The comparison of CAIT scores is shown in Table 6.

The relative peak moments of plantar flexion in the experimental group before and after the intervention were (0.63 ± 0.15) and (1.06 ± 0.14), and the relative peak moments of back extension were (0.29 ± 0.04) and (0.39 ± 0.05), respectively. The comparison of speed muscle strength is shown in Table 7.

There were statistically significant differences in the standing time on one foot and the swing area of the center of gravity. The comparison of balance ability is shown in Figure 4.

Through the analysis of paired-sample t-test, the differences in single foot support time, stride length, stride length, stride speed, and step width in the control group before and after the intervention were statistically significant. The comparison of gait parameters is shown in Figure 5.

The analysis of the difference between the medial to lateral pressure ratio before and after intervention training is shown in Figure 6.

From the comparison of absolute impulse and relative impulse, it can be seen that the absolute impulse and relative

Table 3: The specific training program.

Link	Training content	Time	Advanced strength
Strength training	Foot towel	1 minute/group, 3 groups	Stay the same for 1–6 weeks
	Hook foot	1 minute/group, 3 groups	1–3 weeks, training intensity is 1 minute/group, 3 groups
	Tiptoe	1 minute/group, 3 groups	4–6 weeks, training intensity is 2 minutes/group, 3 groups
	Turn inward	1 minute/group, 3 groups	

Table 4: The two groups of experimental subjects.

Grouping	Test group	Control group
Number of cases (n)	19	18
Gender (male and female)	13/6	11/7
Age	26.42 ± 6.69	28.11 ± 8.86
Height (cm)	169.53 ± 7.80	169.00 ± 7.04
Weight (kg)	62.95 ± 6.88	64.56 ± 8.12
BMI (kg/m)	21.84 ± 0.94	22.21 ± 1.37

Table 5: The detailed results.

Grouping	n	Before intervention	After the intervention
Test group	19	4.58 ± 1.00	1.82 ± 0.58
Control group	18	4.31 ± 0.94	2.36 ± 0.51

Table 6: The comparison of CAIT scores.

Grouping	n	Before the intervention	After the intervention
Test group	19	17.32 ± 1.95	25.68 ± 1.06
Control group	18	17.89 ± 1.78	22.39 ± 1.09

Table 7: The comparison of speed muscle strength.

Grouping	Test group	
	Before intervention	After the intervention
Relative peak moment of plantar flexion	0.63 ± 0.15	1.06 ± 0.14
Relative peak moment of back extension	0.29 ± 0.04	0.39 ± 0.05
Relative peak moment of varus	0.20 ± 0.03	0.35 ± 0.04
Relative peak moment of valgus	0.17 ± 0.03	0.34 ± 0.04

impulse of the big toe and the first metatarsal increased after training, while the absolute impulse and relative impulse of the second to fifth metatarsals decreased after training. Except for the difference in the absolute impulse of the fourth metatarsal, the above data have significant differences. Figure 7 shows the difference analysis of absolute impulse and relative impulse before and after intervention training.

The data of 8 subjects were collected and sorted out, and the average value of the reset error angle was calculated. The average value was compared and analyzed before and after training. The average value of reset error after training was not significantly smaller than the average value before reset. It is statistically significant that the ankle balance training device has limited proprioception training in a short period of time. The specific data and analysis results are shown in Figure 8.

Analyzing and comparing the results, it is found that the distance that the subjects can stretch after training is

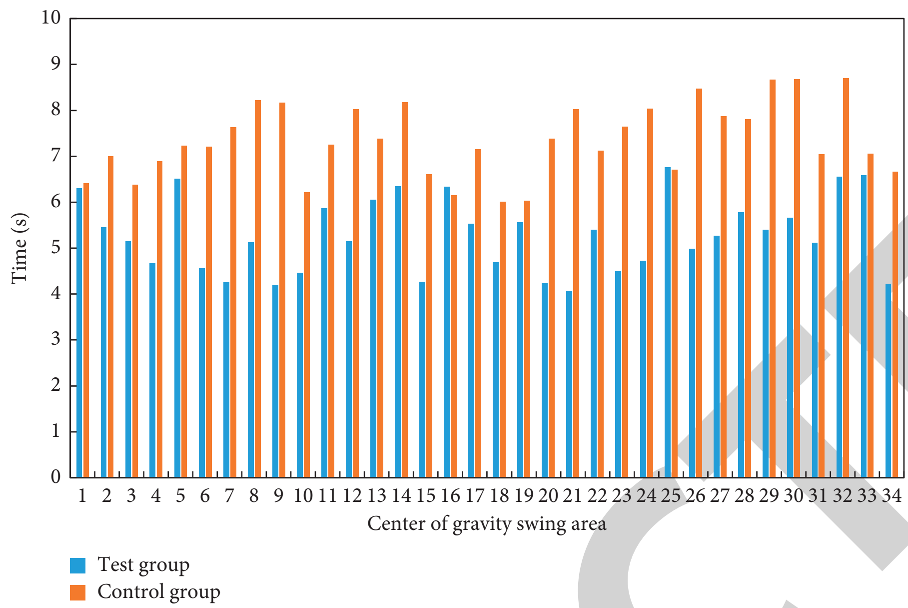

Figure 4: The comparison of balance ability.

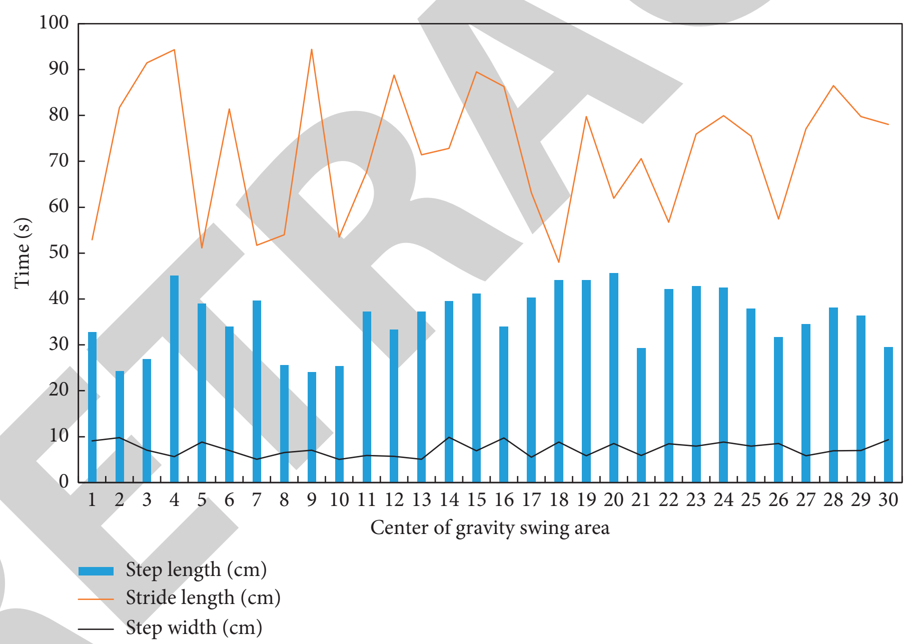

Figure 5: The comparison of gait parameters.

significantly longer than the distance before training, and the difference is statistically significant. The average stellar stretch distance of the subjects before and after training is shown in Figure 9.

4.2. Analysis of Stress Tolerance. According to the data in Table 8 and Figure 10, it can be seen that the data of each index are markedly varied ($P < 0.05$) and the experimental data are relatively stable.

Each module of RISC microprocessor sfmi_cpu performs logic synthesis using the interface of Synplify pro. The synthesis result is shown in Table 9.

After sfmi_cpu is placed and routed, the frequency can reach 64.86 MHz, and the clock cycle is 15.418 ns, achieving the expected goal. The timing analysis results are shown in Table 10.

When participating in this experiment, there was no pain in the ankle joint, and he was able to bear full weight without lameness. The general conditions of the experimental subjects are shown in Table 11.

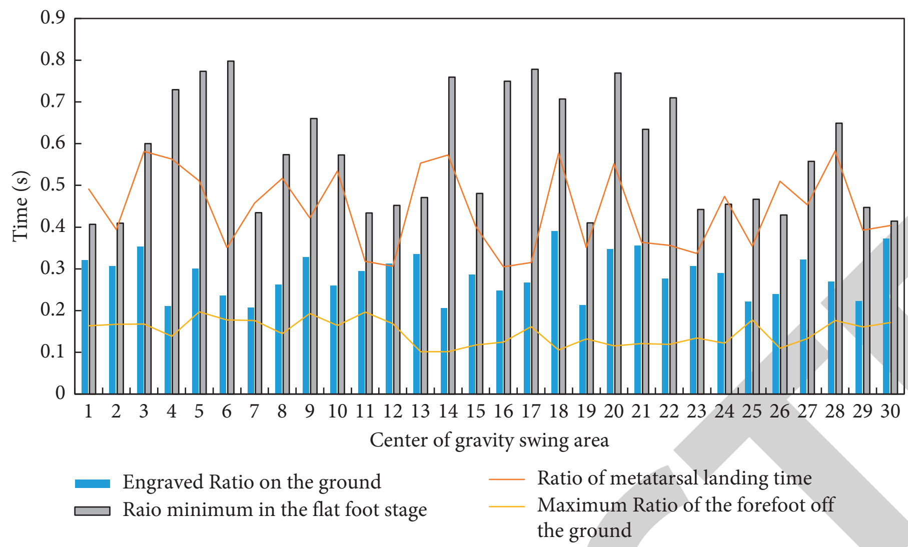

Figure 6: The analysis of the difference between the medial to lateral pressure ratio before and after intervention training.

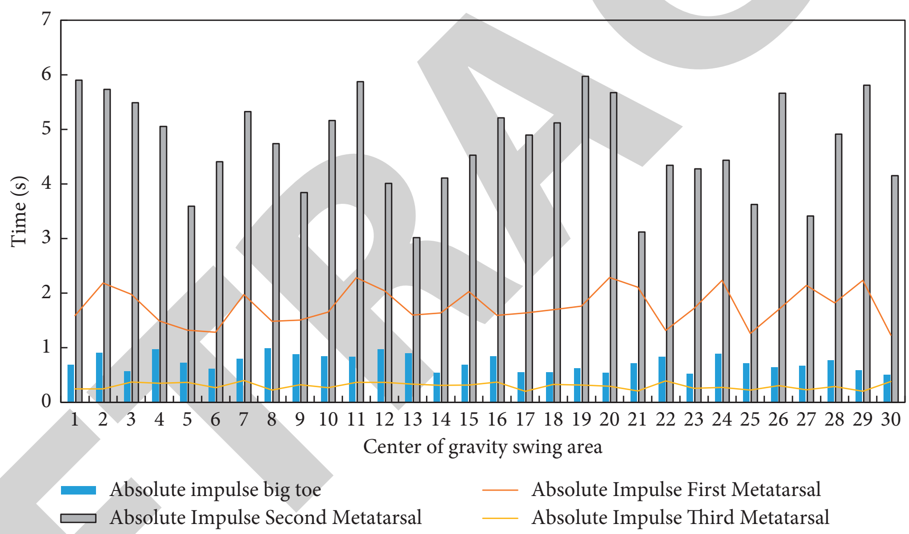

Figure 7: Difference analysis of absolute impulse and relative impulse before and after intervention training.

Compared with pre-exercise, the "ankle exercise" training group reduced the mean value of active and passive reduction of injured ankle joint, and the difference was significant $P < 0.01$. Active and passive reduction defects of the unresolved ankle joints also reduce the mean value of the angles, but do not differ significantly. Figure 11 shows the mean change in the active and passive angle of zero joint defects in the study group before and after the test.

There was a decrease in the mean values of the positive and negative reversion errors of the control arm of the injected ankle compared to the pre-school age, which was a remarkable departure. The average values of the error angles of primary and secondary reductions in the unprotected ankle also decreased. However, there is no significant difference. The final comparison between the two groups is shown in Figure 12.

4.3. Comparison of Muscle Strength between Affected and Healthy Sides of Functional Ankle Instability in Sports Students. As shown in Figure 13, test the strength of the affected ankle muscle and the healthy side of the functional instability of the footballer's ankle.

The physical strength of sports students with functional ankle instability is significantly different from that of the ankle dorsiflexion, plantar flexion, varus, and valgus on the contralateral ankle. The muscle strength on the side is significantly smaller than that on the healthy side. Ankle motion control is random and often has stomps, etc., and even severe ankle pain, etc. These symptoms indicate functional ankle loss of muscle strength in the unstable side of patients with joint instability. The loss of ankle muscle strength and proprioceptive disorder are important factors that cause functional ankle instability, which also reflects the loss of muscle strength in the unstable side of patients.

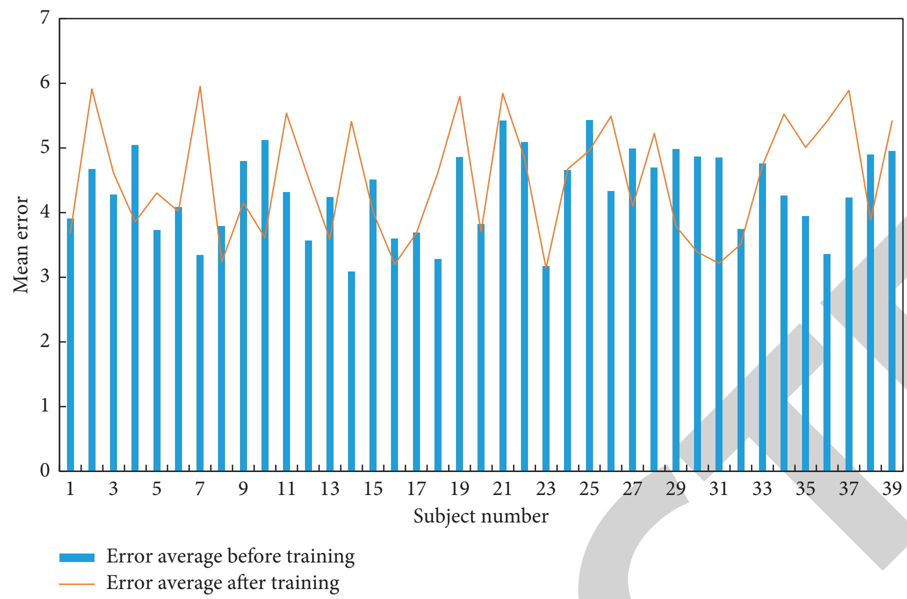

FIGURE 8: The specific data and analysis results.

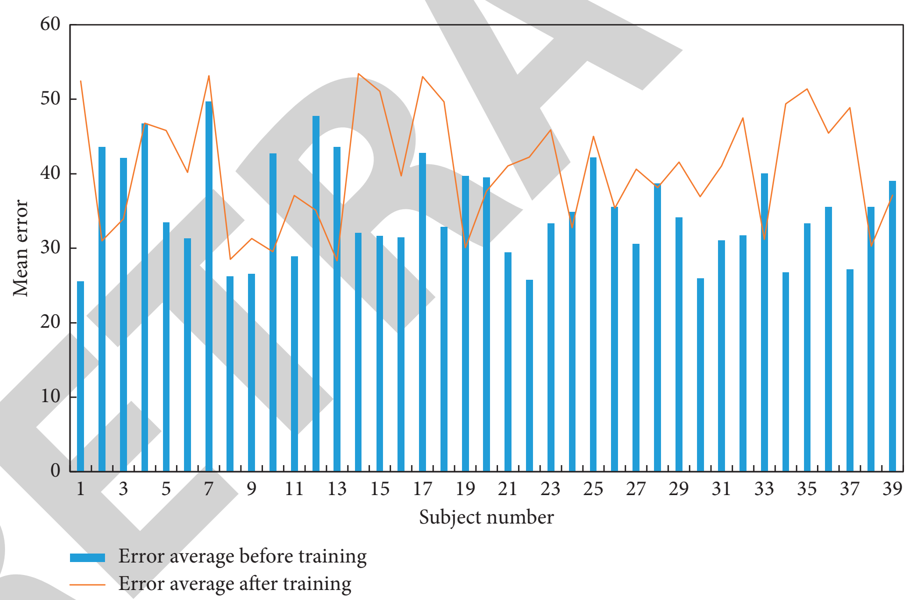

FIGURE 9: The average stellar stretch distance of the subjects before and after training.

TABLE 8: Test analysis of train tracks.

	Frequency (HZ)	Correlation value (%)	Indicators of accuracy (%)
1	2.7	209	19
2	2.6	122	49
3	9	39	−30
4	0.0001	0.0001	0.0001

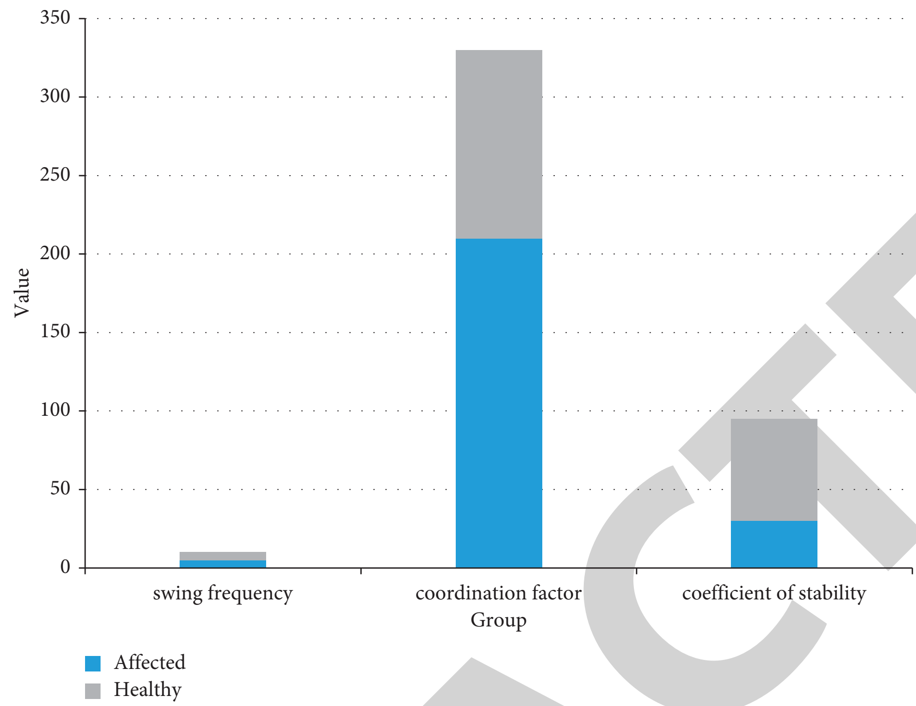

FIGURE 10: Test analysis of the trail.

TABLE 9: The synthesis result.

Module name	Equivalent gate number	Percentage
ALU	569	6.6
Mult	2104	24.2
Shifter	496	5.7
Bus_ mux	687	7.9
PC	375	4.3

TABLE 10: The timing analysis results.

Type	Required time	Slack	Actual time (ns)
Worst-case tsu	None	N/A	8
Worst-case tco	None	NA	10.554
Worst-case lpd	None	NA	20.226
Worst-case th	None	NA	7.761
Clock set-up: "ck"	None	NA	0.362

TABLE 11: The general conditions of the experimental subjects.

Parameter	Proprioception training exercise training group	Control group
Age	21.8 ± 0.2	21.6 ± 0.2
Height (m)	1.76 ± 0.1	1.75 ± 0.2
Weight (kg)	76.7 ± 1.9	75.6 ± 2.2
Injury time (month)	4 ± 0.6	4.2 ± 0.7

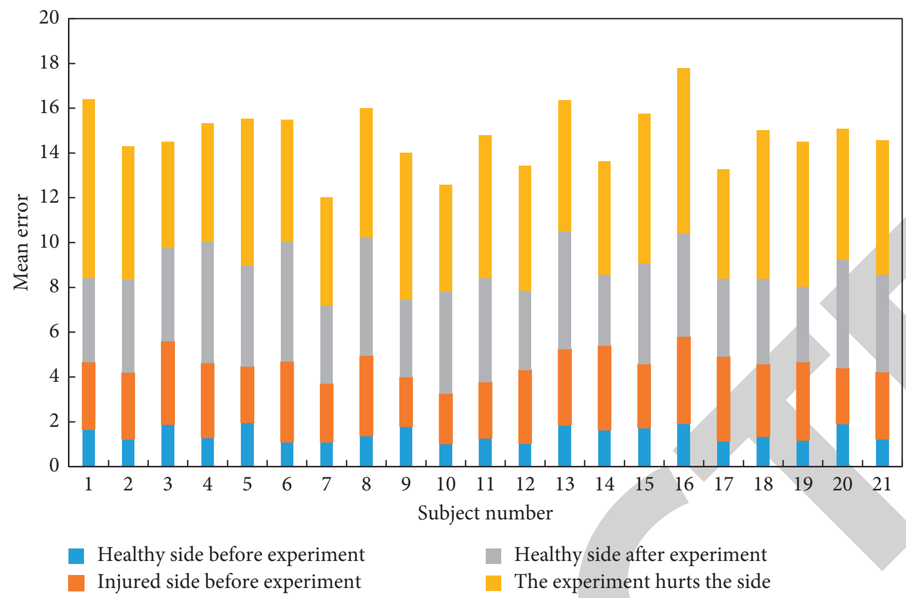

Figure 11: Average change in error angle.

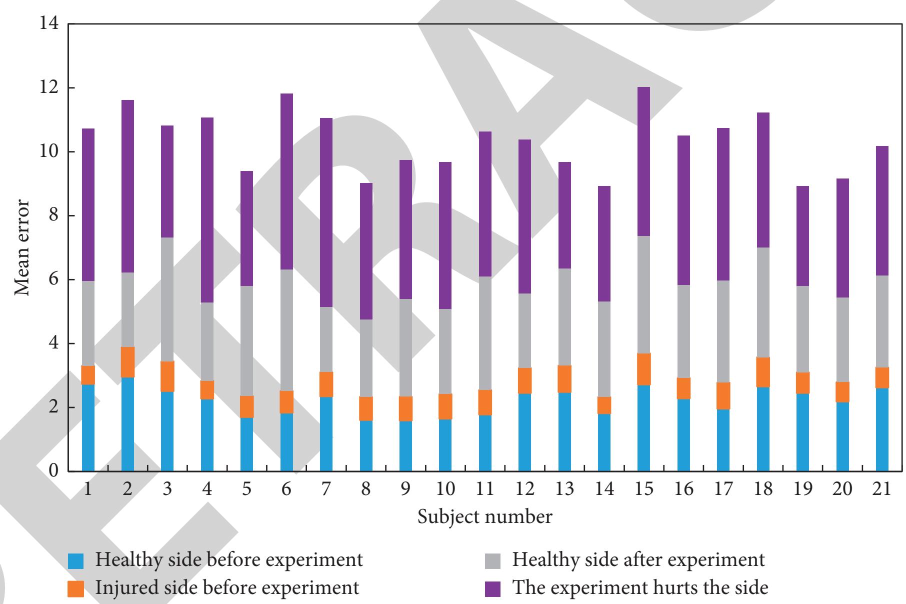

Figure 12: The final comparison between the two groups.

Analyze the difference in muscle strength between the unstable and healthy sides of patients with functional ankle instability from the subjective feedback information of the subjects. Most of the subjects reported that the instability side did not dare to exert force during ordinary sports, especially speed and strength.

4.4. Stability Limit Test Analysis. As shown in Figures 14 and 15, before and after class, average direction had a statistically significant influence on the capacity to travel front and back to the left, and the value increases significantly after 0.017, 0.032, and 0.043P, respectively.

In terms of mean orientation and back/left ability, the test group and the control group had statistically significant differences after training. The test group was significantly larger than the control group, i.e., the test group, before receiving additional property training. Medium steering ability and rear/left steering ability are further improved. One-way difference analysis was used to analyze the control capacity in different directions, and the P value was 0.010. Recent analysis by the LSD method, the front/right direction control ability is the best, which is significantly greater than the left, front/left, rear/right, and rear/left direction control capabilities.

When the human body is standing on both feet normally, in order to keep the body balanced, it is customary to

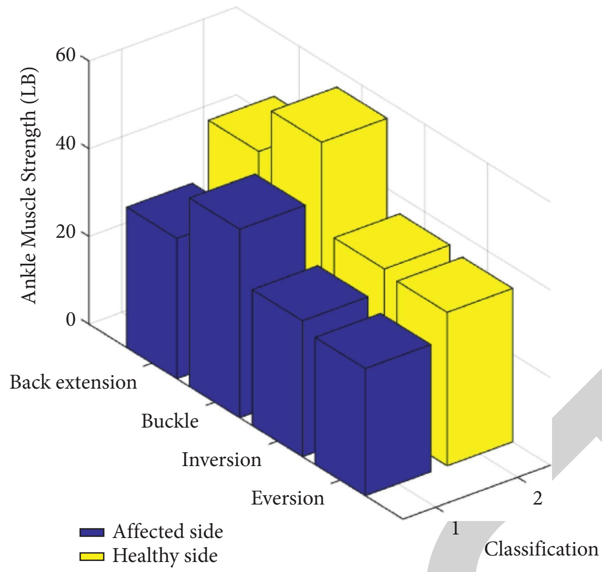

Figure 13: Direction of ankle motion.

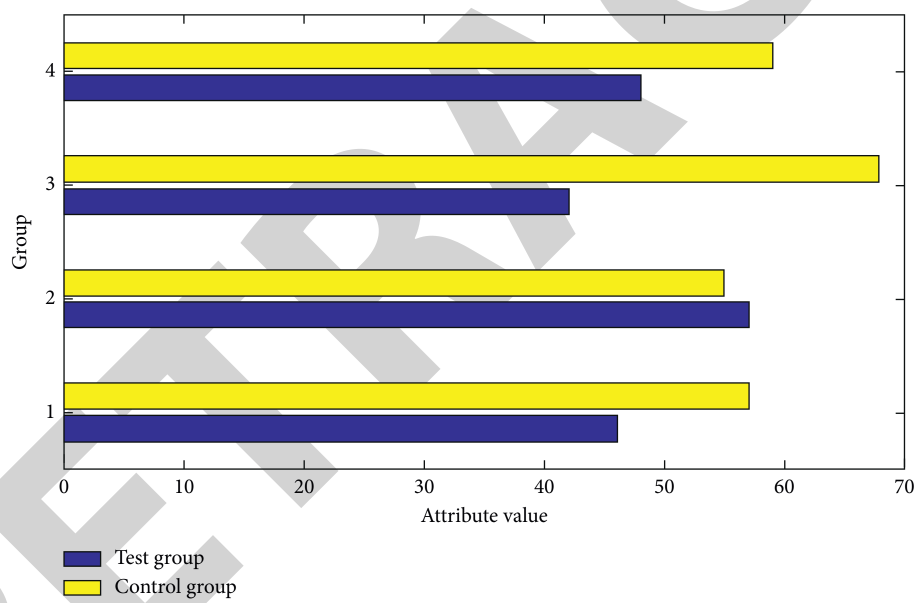

Figure 14: Average direction control ability before and after training.

control the center of gravity between the feet. At this time, the person's center of gravity changes. The subject is required to control the center of gravity on the supporting feet. In order to keep the body in a balanced state, the support legs rely on the ankle joint, knee joint, hip joint, and trunk muscles to coordinate their efforts and mobilize the balance organs throughout the body. Visually collect the surrounding information. The proprioceptors sense space, position, and force. The vestibule collects information and sends it to the central nervous system. The system is to ensure that the body is in a balanced and stable state. The star-shaped offset balance test is a dynamic balance test. In order to extend the unsupported legs as far as possible and maintain body balance, the supporting legs rely on the muscles of the ankle, knee, hip, and trunk to coordinate their efforts. It can be known that the two methods of balancing ability test have high requirements on the lower limb movement ability of the subject, and the lower limb movement ability is an important guarantee for the human body to control the posture balance. Muscle strength + balance training can improve the muscle strength of ankle joints in dorsiflexion, plantar flexion, varus, and eversion and improve the posture control ability of sports students, but the effect of improving the dynamic balance ability of sports students is not obvious. The one-legged standing ball training through continuous control of its own balance may be in increased ankle muscle strength to a certain extent. Balance training can improve the proprioceptive dysfunction of the ankle joint and improve its stability. Therefore, the one-foot stand-to-throw ball

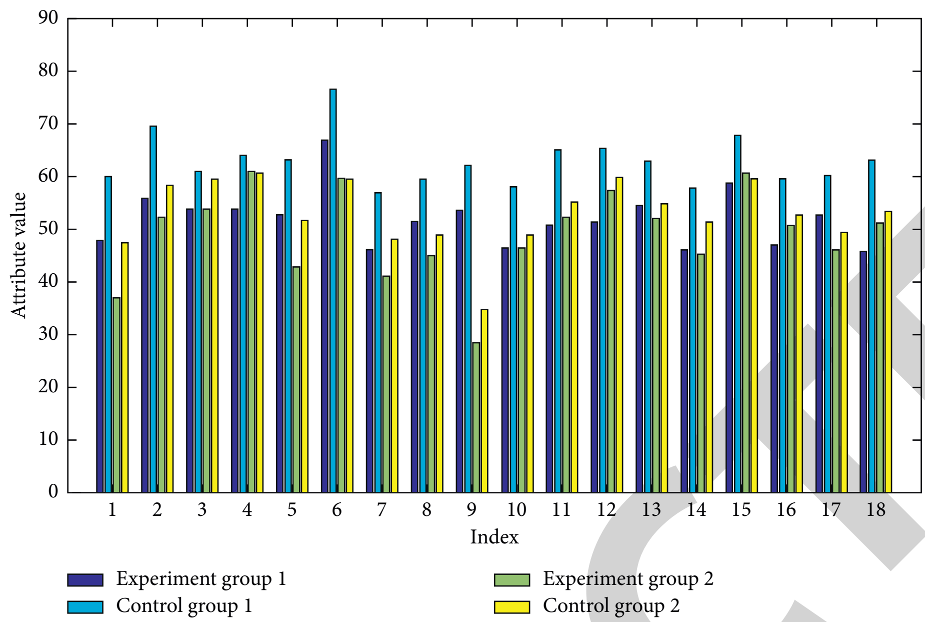

Figure 15: Directional control ability in different directions before and after training.

training can improve the stability of ankle joints of sports students and then improve their balance ability. The ankle joint proprioceptive training is aimed at the overall ability of the lower limbs. The combination of exercises will improve the stability of not only the ankle joint but also the knee, ankle, and trunk.

5. Conclusions

The possible reason and explanation is that the technical movement requirements of men's and women's football are basically similar, and the size of the football field for men's and women's football matches is basically the same difference.

Of course, the choice of coding format is not fixed, and the coding format should be determined according to the design requirements in specific implementation. The number of flip flops used to store the state vector in binary encoding or gray code is less, but the encoding and decoding of the state requires additional logic; while the one-hot code is the opposite. Because CPLD provides more combinatorial logic resources, binary codes or gray codes are often used; while FPGAs provide more trigger resources and more use one-hot code encoding. When the area of the circuit is the main factor, binary coding or gray coding should be used; if the area of the circuit is not a limiting factor, one-hot codes should be used to improve the implementation efficiency.

Athletes' tests in the stability limit are mostly that the ability to control the front/right direction is significantly better than other directions. This may be similar to the fact that these tested athletes have the right foot as the main force and move more to the right and forward, which may suggest that athletes should be trained in other directions on proprioception, so as to balance the development of proprioception and prevent injuries. The prevention of ankle injury should be grasped early to enhance joint strength while cooperating with proprioceptive training. The method adopted in this study is simple, easy, and time-consuming and will not affect the normal class schedule and training time. It is suitable for popularization among school football and amateurs and football players. It is necessary to raise awareness of injury prevention before it happens.

Although this study has carried out a profound study on the prevention of football injuries by using embedded microprocessor wireless communication, there are still many deficiencies. Propose appropriate research methods and means from more perspectives based on the existing technology and level, and continuously improve the quality of research work.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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