

# Comparing different training methods to improve speed and ball skills in female soccer players

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<b>Registration date</b> 29/05/2025	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 27/05/2025	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Female soccer players need to be fast and skilful with the ball. We wanted to find out which training method works best to improve speed and ball control skills.

### Who can participate?

Female college soccer players aged 18-25 years with at least 5 years of soccer experience, who are healthy and currently playing for their university team.

### What does the study involve?

Players were divided into three groups. One group trained by pushing a weighted sled while sprinting. Another group did regular sprint training without weights. The third group played small soccer games. All groups trained twice a week for 6 weeks. We measured their speed and ball skills before and after training.

### What are the possible benefits and risks of participating?

Benefits include improved fitness and sports performance. Risks are minimal as these are normal training activities that soccer players regularly do.

### Where is the study run from?

Myongji University, Seoul, South Korea, in collaboration with a university in China where the training took place.

### When is the study starting and how long is it expected to run for?

October 2022 to December 2023

### Who is funding the study?

Investigator initiated and funded

### Who is the main contact?

Prof. Buong-O Chun, [tianbingwu@mju.ac.kr](mailto:tianbingwu@mju.ac.kr)

**Study website**

<https://www.mju.ac.kr>

## Contact information

**Type(s)**

Public, Scientific, Principal Investigator

**Contact name**

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## Additional identifiers

**EudraCT/CTIS number**

Nil known

**IRAS number****ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

IRB No. MJU-2022-10-001-02

## Study information

**Scientific Title**

Comparative effects of sled push-sprint, non-resistance sprint, and small-sided game training on speed, power, and dribbling performance in female college soccer players: a randomized controlled trial

**Acronym**

SPSSSG-RCT

**Study objectives**

Sled push-sprint training will be more effective than non-resistance sprint training and small-sided games in improving explosive power, sprint performance, and dribbling abilities in female college soccer players. Different training methods will have distinct effects on various performance parameters due to training specificity principles.

### **Ethics approval required**

Ethics approval required

### **Ethics approval(s)**

Approved 25/10/2022, Institutional Review Board of Myongji University (34, Geobukgol-ro, Seodaemun-gu, Seoul, 03674, Korea, South; +82 (0)2 300 1458; paper@mju.ac.kr), ref: MJU-2022-10-001-02

### **Study design**

Parallel-group randomized controlled trial

### **Primary study design**

Interventional

### **Secondary study design**

Randomised controlled trial

### **Study setting(s)**

Training facility/simulation, University/medical school/dental school

### **Study type(s)**

Treatment, Efficacy

### **Participant information sheet**

Not available in web format, please use the contact details to request a participant information sheet

### **Health condition(s) or problem(s) studied**

Athletic performance/physical fitness

### **Interventions**

This is a parallel-group randomized controlled trial with three arms comparing the effects of different training methods on performance parameters in female college soccer players. The study employed a pre-post intervention design with blinded outcome assessments over a 6-week training period. Computer-generated random number allocation was carried out using Microsoft Excel's random number generator function. Participants were randomly allocated to three training interventions over 6 weeks (twice weekly):

1. Sled Push-Sprint Training (SPS): Participants performed 20 m sprints while pushing a weighted sled (30% of body weight), 3 repetitions × 3 sets, with a 2-minute rest between repetitions and a 3-minute rest between sets.
2. Non-Resistance Sprint Training (NRS): Participants performed 20 m sprints without resistance, and the same volume and rest periods as the SPS group.
3. Small-Sided Games Training (SSG): Participants engaged in 4 v 4 soccer games on a 30 m × 20 m pitch, 4 games of 4 minutes each with 3-minute active recovery between games.

All groups maintained regular soccer training throughout the study period.

## **Intervention Type**

Behavioural

## **Primary outcome measure**

1. Sprint performance measured at 5, 10 and 20 m distances using timing photocells (Brower Timing Systems). Time frame: Pre-intervention (baseline) and post-intervention (after 6 weeks).
2. Explosive power measured using the standing long jump test. Distance recorded in meters from the heel reference point. Time frame: Pre-intervention (baseline) and post-intervention (after 6 weeks).

## **Secondary outcome measures**

1. T-test dribbling ability: Time to complete T-test course while dribbling a soccer ball. Time frame: Pre-intervention and post-intervention (6 weeks).
2. Directional dribbling ability: Time to complete the agility dribble test through 4 cones placed at 5 m intervals forming 100° angles. Time frame: Pre-intervention and post-intervention (6 weeks).

## **Overall study start date**

25/10/2022

## **Completion date**

31/12/2023

# **Eligibility**

## **Key inclusion criteria**

1. Female college soccer players with a minimum of 5 years of competitive soccer experience
2. Currently active members of the university soccer team
3. Participated in regular team training for at least the previous 6 months
4. Provided written informed consent for participation
5. No history of musculoskeletal injuries within the previous 6 months prior to the study
6. No medical condition that could affect ability to perform high-intensity sprint training
7. No regular participation in additional resistance training programs outside of team practice

## **Participant type(s)**

Healthy volunteer

## **Age group**

Adult

## **Lower age limit**

20 Years

## **Upper age limit**

25 Years

## **Sex**

Female

**Target number of participants**

33

**Total final enrolment**

29

**Key exclusion criteria**

1. History of musculoskeletal injuries within the previous 6 months prior to the study
2. Any medical condition that could affect ability to perform high-intensity sprint training
3. Regular participation in additional resistance training programs outside of team practice
4. Unable to provide written informed consent
5. Less than 5 years of competitive soccer experience
6. Not currently active members of the university soccer team
7. Did not participate in regular team training for at least the previous 6 months

**Date of first enrolment**

01/11/2022

**Date of final enrolment**

30/11/2022

**Locations****Countries of recruitment**

China

**Study participating centre****Changzhou Institute of Textile and Garment**

Changzhou Vocational Institute of Textile and Garment

No. 53 Gehu Road

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Changzhou

China

213164

**Sponsor information****Organisation**

Myongji University

**Sponsor details**

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**Sponsor type**

University/education

**Website**

<http://www.mju.ac.kr/mbs/mjuen/index.jsp>

**ROR**

<https://ror.org/00s9dpb54>

## **Funder(s)**

**Funder type**

Other

**Funder Name**

Investigator initiated and funded

## **Results and Publications**

**Publication and dissemination plan**

The study results will be published in a peer-reviewed scientific journal focusing on sports science, medicine, and rehabilitation. The findings will be presented at relevant academic conferences and shared with the sports science community. The research will contribute to evidence-based training recommendations for female soccer players and coaches. Results will be disseminated through academic publications and professional networks to ensure practical application in training programs.

**Intention to publish date**

30/06/2025

**Individual participant data (IPD) sharing plan**

Individual participant data will be made available to researchers upon reasonable request after publication of the main findings from Prof. Buong-O Chun (tianbingwu@mju.ac.kr). Data will be anonymized and provided in accordance with institutional policies and ethical guidelines. Requesters will need to provide a methodologically sound proposal and agree to data use terms that ensure participant privacy and confidentiality.

**IPD sharing plan summary**

Available on request