

Dec 06, 2024

The protocol used in this named article: Cognitive Traces of Life Kinetic Exercise in Puberty Sedentary Subjects

DOI

dx.doi.org/10.17504/protocols.io.36wgqd31ovk5/v1

Murat Sarikabak¹, Sezgin Hepsert¹, Ahmet Dönmez¹, Cengiz Baykara¹, Hasip Cana¹, mert ayranci¹,
Hatice Aslı Çelebioğlu¹

¹Hitit University



mert ayranci

Hitit University

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.36wgqd31ovk5/v1>

Protocol Citation: Murat Sarikabak, Sezgin Hepsert, Ahmet Dönmez, Cengiz Baykara, Hasip Cana, mert ayranci, Hatice Aslı Çelebioğlu 2024. The protocol used in this named article: Cognitive Traces of Life Kinetic Exercise in Puberty Sedentary Subjects. **protocols.io** <https://dx.doi.org/10.17504/protocols.io.36wgqd31ovk5/v1>

License: This is an open access protocol distributed under the terms of the **[Creative Commons Attribution License](#)**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: December 06, 2024

Last Modified: December 06, 2024

Protocol Integer ID: 114466

Keywords: Puberty, Life kinetics, Sport motivation, sports imagery, cognitive traces of life kinetic exercise, cognitive counting with ball activity, ball activity, life kinetic exercise, catching exercise, puberty sedentary subjects life kinetic exercise protocol summary, exercise protocol, motor coordination through structured activity, performing ball juggling task, ball juggling task, ball exchange during pass, motor coordination, diagonal ball catching, routine, target ball catching, brain activity, hand positions in subsequent throw, ball exchange, exercise, life kinetic, activity, stimulating activity, ball, targeted ball, structured activity, throw, throw with eye, colored ball, cognitive counting, subsequent throw, trajectory with eye, cognitive trace, participant, ball at the specified circle, cognitive challenge, small ball, memorization of routine, ground pass, indoor sports hall

Abstract

Life Kinetic Exercise Protocol Summary

The Life Kinetic (LK) exercise protocol applied in this study was designed to enhance cognitive and motor coordination through structured activities. The protocol was implemented over 8 weeks, with participants engaging in three sessions per week (Mondays, Wednesdays, and Fridays) between 15:00–17:00 in an indoor sports hall. The exercises included the following components:

1. **Diagonal Ball Catching:** Participants used two small balls, throwing them into the air parallelly and catching them with crossed hands, alternating hand positions in subsequent throws.
2. **Targeted Ball Throwing with Eyes Closed:** Participants aimed to throw a ball into a small box held by another participant from a 5-meter distance, first estimating the distance and trajectory with eyes open before executing the throw with eyes closed.
3. **Cognitive Counting with Ball Activities:** Participants simultaneously performed ball passing and catching exercises while solving a counting task involving addition and subtraction.
4. **Ball Exchange During Pass:** Participants exchanged balls in mid-air while performing a ground pass to a partner, requiring attention to both airborne and ground-level trajectories.
5. **Target Ball Catching:** Participants identified and caught a uniquely colored ball among several thrown into the air, enhancing reaction and focus.
6. **Color and Number Identification Exercise:** Participants moved between colored and numbered circles while performing ball juggling tasks, dropping the ball at the specified circle based on a directive.

These activities combined motor and cognitive challenges, adhering to the principle of maintaining a 60% success threshold to stimulate brain activity and prevent memorization of routines.

This protocol was designed to promote neuroplasticity, enhance motivation, and improve imagery capabilities through diverse, engaging, and cognitively stimulating activities.

Attachments



[Fig 6..tif](#)

170KB



[Fig 1..tif](#)

47KB



[Fig 2..tif](#)

146KB



[Fig 3..tif](#)

158KB



[Fig 4..tif](#)

128KB



[Fig 5..tif](#)

100KB



[Fig 6..tif](#)

170KB



[Fig 7..tif](#)

190KB

Materials

Life Kinetic Balls: Two small Life Kinetic balls used in hand movements and coordination exercises.

Box: A box, approximately 10×10 cm in size, used in target shooting exercises.

Circles: Colored and numbered (e.g. from 1 to 6) circles were used for participants to find the correct color and number.

Additional Balls: 3 pairs of different colored balls and one single colored ball were used in the target ball catching exercise.

Troubleshooting

1 Life Kinetic Exercises Applied to the Experimental Group

The life kinetic exercise protocol to be applied to the experimental group covers 8 weeks (3 days a week). To ensure standardisation in the study, the training sessions were performed on Mondays, Wednesdays and Fridays between 15.00–17.00 hours and in an indoor sports hall.

2 The applied training protocol:

1. Throwing balls in the hand straight up to the air and catching them diagonally: Each subject was given 2 small life kinetic balls. The subjects were asked to throw the balls into the air at equal distances parallel to each other and to catch the balls by crossing their hands while the balls were falling. At this time, the ball in the right hand passed to the left hand and the ball in the left hand passed to the right hand. After the balls were held with crossed hands, this time the balls were thrown into the air while keeping the crossed position of the hands intact, and the balls that fell were held again by bringing the hands back to their original position and making them as straight as possible.

2. Throwing a ball at a target with eyes closed: During this exercise, two subjects take opposite positions with a distance of 5 metres between them. One of the subjects holds a 10×10 cm box in his/her hand and the other subject tries to throw small life kinetic balls into the box. Before each throw, the subject opens his/her eyes, looks at the box and determines the required throw distance and route in his/her mind, then closes his/her eyes and performs the throw.

3. Counting exercise in the form of adding 5 to zero and subtracting 1 while making an in-foot pass and throwing and catching balls in the air: During the exercise, the subjects take a mutual position with a distance of 5 metres between them. At the same time, while making an in-foot pass, they throw the life kinetic balls in their hands straight into the air and catch them diagonally, and a cognitive exercise is added to this. While performing these two actions at the same time, the subjects count by adding 5 and subtracting 1. For example, the subject first says 0, then 5, then 4, then 9, then 8, and continues the exercise.

4. The exercise of changing the life kinetic balls in the hand during a mutual in-foot pass: Two subjects take a position 10 metres apart. During the in-foot pass, the subjects exchange the balls in their hands by throwing them to each other at the same time. The subjects have to focus on both the ball coming from the air and the ball coming from the ground.

5. Exercise to Catch the Target Ball: Two subjects are positioned 10 meters apart. One subject holds a total of 7 balls, consisting of 3 pairs of balls (each pair in a different color) and one single ball of a distinct color. The second subject stands 5 meters away with their back turned. Upon hearing the command to turn from the first subject, the second subject turns around. At that moment, the first subject throws all the balls into the air. The objective for the second subject is to catch the single colored ball.

6. Exercise to find the correct colour and numbered circle: The subject walks in two parallel lines between 4 different coloured and numbered circles (1 to 6) placed on the floor in a complex manner while throwing the life kinetic balls to the air and catching them diagonally. According to the given directive, the subject finds the correct circle and drops the balls on the circle. For example, orange pair 1 represents the yellow circle number 2, green pair 2 represents the yellow circle number 4, red pair 3 represents the red circle number 5, blue pair 4 represents the blue circle number 6.

3 **Data Collection Tools**

In addition to the personal information form, "Sport Motivation Scale II" and "Sports Imagery Questionnaire" were used as data collection tools in the study.

4 **Data Collection**

The research data were collected by the researcher in the spring term of 2023-2024 academic year. Firstly, pen and paper tests were applied to the participants to reveal the pre-tests, and then 8-week Life Kinetic exercises were applied. At the end of the application process, the pen and papertests applied at the beginning of the study were applied again and post-tests were taken and the study was completed.

Protocol references

1. Peker AT. Life kinetik antrenmanlarının koordinatif yetenekler üzerine etkisi. [Yüksek Lisans Tezi]. Selçuk Üniversitesi, Sağlık Bilimleri Enstitüsü, Konya; 2014.
2. Pelletier LG, Rocchi MA, Vallerand RJ, Deci EL, Ryan RM Validation of the revised Sport Motivation Scale (SMS-II). *Psychology of Sport and Exercise*, 2013; 14(3), 329-341.
3. Öcal K, Sakallı D. Turkish adaptation of the sport motivation scale II (SMS-II): Procedures of validity and reliability. *International Journal of Sport Exercise and Training Sciences-IJSETS*, 2018; 4(1), 39-48.
4. Hall CR, Mack DE, Paivio A, Hausenblas HA. Imagery use by athletes: development of the sport imagery questionnaire. *International Journal of Sport Psychology*. (1998).
5. Kızıldağ E, Tiryaki MŞ. Sporda imgeleme envanterinin Türk sporcular için uyarlanması. *Spor Bilimleri Dergisi*, 2012; 23(1), 13-23.