

Effectiveness of Yoga Training Combined with Healthy Lifestyle Education on Body Image Attitudes and Postural Improvement in Individuals with Postural Abnormalities and Sedentary Behaviors

Afagh. Saleh¹, Mojgan. Agahheris^{2*}, Ezzatolah. Kordmirza Nikoozadeh³, Amin. Rafiepoor⁴, Zahra. Karami Baghteyfouni⁵

¹ PhD student in Health Psychology, Department of Psychology, Payame Noor University, Tehran, Iran

² Associate Professor in Health Psychology, Department of Psychology, Payam Noor University, Tehran, Iran

³ Professor, Department of Psychology, Payame Noor University, Tehran, Iran

⁴ Associate Professor, Department of Psychology, Payame Noor University, Tehran, Iran

⁵ Assistant Professor, Faculty of Educational sciences and Psychology, Payame Noor University, Tehran, Iran

* Corresponding author email address: m_agah@pnu.ac.ir

E d i t o r	R e v i e w e r s
Gholamreza Rajabi ¹  Professor of Counseling Department, Shahid Chamran University, Ahvaz, Iran rajabireza@scu.ac.ir	Reviewer 1: Afsaneh Taheri ¹  Assistant Professor, Department of Psychology, Islamic Azad University, Roudehen Branch, Roudehen, Iran. Email: a2_taheri@yahoo.com Reviewer 2: Bahram Mirzaian ¹  Assistant Professor, Department of Psychology, Sari Branch, Islamic Azad University, Sari, Iran. Email: bahrammirzaian@gmail.com

1. Round 1

1.1. Reviewer 1

Reviewer:

The paragraph beginning with “The statistical population consisted of women and men with postural abnormalities and sedentary behaviors” does not provide operational definitions for either eligibility condition. The authors should specify how postural abnormality was identified, which postural deviations qualified an individual for inclusion, whether a minimum severity threshold was required, and whether diagnosis was made by a physician, physiotherapist, or software-based assessment. Similarly, sedentary behavior should be defined using a prespecified daily or weekly sitting-time threshold rather than being described only as a general behavioral characteristic.

The participant-selection paragraph states that “After the inclusion and exclusion criteria had been applied, 40 eligible individuals were enrolled,” but the actual criteria are not reported. The manuscript should provide explicit inclusion criteria, such as age range, minimum duration of sedentary behavior, presence and severity of postural deviation, ability to participate safely in yoga, and absence of concurrent corrective exercise. Exclusion criteria should address musculoskeletal injury, neurological disease, recent surgery, severe cardiopulmonary conditions, pregnancy where relevant, psychiatric instability, irregular attendance, and participation in other physical or psychological interventions.

The variable labeled “Forward head displacement” increased from 37.80 to 49.15 in the experimental group, while most other postural-deviation scores decreased. This pattern suggests that the measure may actually be the craniovertebral angle, for which a higher value often indicates improved head posture, rather than a displacement score. The authors must define the unit and direction of every postural measure and explain whether higher or lower scores indicate improvement. The current terminology creates a risk of interpreting a larger deviation as a favorable outcome.

The outcome termed “Scoliosis risk” should be defined more cautiously. Digital posture applications may identify asymmetry or generate screening indices, but they do not necessarily establish scoliosis or quantify clinical risk in the absence of radiographic assessment. The authors should explain the algorithm and units used by APECS, provide evidence for its validity against an accepted reference method, and consider replacing “scoliosis risk” with a more precise term such as “software-derived trunk asymmetry index” unless diagnostic validity has been established.

Authors revised and uploaded the document.

1.2. Reviewer 2

Reviewer:

The manuscript reports a total sample of 40 participants but provides no sample-size calculation. Because the study evaluates several outcomes across three measurement occasions and reports unusually large effect sizes, an a priori power analysis is essential. The authors should identify the software used, assumed effect size, alpha level, statistical power, number of groups, number of repeated measurements, expected correlation among measurements, and anticipated attrition. Without this information, it is not possible to determine whether the sample was adequately powered or whether the estimates may be unstable because of the small group sizes.

The sentence “Participants were recruited through purposive sampling based on their eligibility for participation in the study” should be expanded to describe recruitment in sufficient detail. The authors should report the number and type of healthcare, rehabilitation, or counseling centers involved, the recruitment period, the number of individuals assessed for eligibility, the number excluded and reasons for exclusion, and the number lost before posttest or follow-up. A participant-flow diagram would improve transparency and allow readers to evaluate potential selection and attrition biases.

The demographic paragraph reports equal numbers of men and women and similar mean ages across groups, but it does not provide evidence concerning baseline comparability for potentially influential clinical characteristics. The authors should report baseline body mass index, occupation, duration of daily sitting, physical activity level, duration and severity of postural problems, pain status, history of musculoskeletal treatment, medication use, and previous yoga experience. These variables could materially influence both body image and postural outcomes and should either be demonstrated to be comparable or considered as covariates.

In the description of the Multidimensional Body-Self Relations Questionnaire, the sentence “This self-report instrument contains 69 items and is designed to evaluate the cognitive, affective, evaluative, and behavioral components” is insufficient for replication and score interpretation. The authors should report the exact version used, response options, scoring range, reverse-scored items, calculation of subscale and total scores, and whether higher scores consistently indicate more favorable body image. The manuscript should also clarify why only appearance evaluation, body-area satisfaction, and weight-related attitudes were analyzed when the full 69-item instrument ordinarily assesses a broader range of dimensions.

The reported values for “Appearance evaluation” require careful verification against the scoring structure of the selected questionnaire version. A mean score of 98.80 at pretest and 113.35 at posttest appears unusually high for a conventional appearance-evaluation subscale and may instead represent a combined score or incorrectly labeled construct. The authors should verify the item composition and theoretical range of every subscale, state whether raw or transformed scores were used, and revise the variable labels accordingly. Providing possible minimum and maximum scores in the instrument description would allow readers to judge the clinical meaning of the observed changes.

The manuscript should report evidence for the validity and reliability of all measurement instruments in the target language and population. For the paragraph beginning “Body image attitudes were assessed using the Multidimensional Body-Self Relations Questionnaire,” the authors should identify the Persian validation study, describe the translation or cultural adaptation process if applicable, and report previous reliability coefficients. Internal consistency coefficients calculated from the current sample should also be presented separately for the total score and each analyzed subscale at baseline.

The description of digital photogrammetry states that “The APECS specialized software” was used to assess eight postural indicators, but the measurement protocol remains insufficiently standardized. The authors should report the camera model, camera-to-participant distance, lens height, calibration procedure, background, lighting, foot placement, clothing requirements, anatomical landmarks, image-resolution settings, and whether markers were physically attached to the body. The number of images and repeated measurements per participant should also be stated, together with the procedure used to calculate the final score when multiple images were obtained.

Authors revised and uploaded the document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.