Instructions and Checklist for Correct Administration of FishFinder (Mahiyab)

FishFinder (Mahiyab) is a serious game. Serious games have become very common worldwide in recent years. Alongside entertainment, they have specific educational or clinical objectives and are widely used in fields such as health, rehabilitation, and psychological assessment. FishFinder was also developed for a specific scientific and clinical purpose, rather than solely for entertainment. The game is particularly suitable for children because the game environment reduces stress and increases motivation, allowing a child to demonstrate more authentic performance than in a conventional test.

The game was designed and developed by an interdisciplinary team of faculty members and specialists in psychology and artificial intelligence at the University of Tehran, and has been standardized for children aged 5 to 12 years. Naturally, as a child approaches age 12, the game may be less appealing to some children; however, its scientific framework remains valid. The results of studies supporting this game have been published in several reputable national and international articles.

Scientifically, this game is a type of sustained attention test that takes approximately 20 minutes. Inspired by standard international sustained attention tests, it has deliberately been designed to be long and somewhat tiring so that differences in children with symptoms of attention-deficit/hyperactivity disorder (ADHD) can become fully apparent. A child's fatigue during this game is completely normal and forms part of the necessary scientific standard for tests of this kind.

FishFinder currently runs only on Android phones. To examine the presence or absence of hyperactivity in a child, the game uses the phone's motion sensors: the accelerometer and gyroscope. In simple terms, these sensors detect how much the phone moves and the direction in which it rotates. These motion sensors have no connection to the phone's camera or microphone, and the child's privacy is fully protected. They also have no connection to location services or GPS, and the child's location is never recorded or transmitted.

This game is a screening tool, not a definitive diagnostic test. A definitive ADHD diagnosis can be made only by a clinical specialist (a psychiatrist or psychologist), based on a clinical interview and a comprehensive assessment. Under professional standards, no test is permitted to claim a definitive diagnosis. Accordingly, the FishFinder team also makes no diagnostic claim. Nevertheless, by using artificial intelligence and analyzing children's movement and performance data, we have achieved very high screening accuracy, equal to or higher than that of comparable, established international tests.

The test result is valid only if all standard administration conditions are met. These conditions are explained carefully and in detail below. If the stated standard conditions are not followed, responsibility for the invalidity of the result rests with the test administrator, not the FishFinder team.

For your convenience, a visual guide and a two-minute checklist are also provided at the end of this document. After reading all the material carefully, review and check the entire checklist once. If all conditions are not fully in place, postpone the test until another time.

Translation/editorial note (not in the Persian source). English translation of the supplied Persian instructions. Clinical validation statements belong to the source document; see mahiyab.ir/en/science for the website's evidence status.

1. Checking the Child's Readiness

Check these conditions before making any other preparations. If any one of them is not met, reschedule the test for another time.

1. The child must be in a suitable state of alertness and emotional well-being. A time when the child is tired or sleepy is not suitable for the test, for example late at night, close to a daytime nap, or after returning home from school or a long party. It is also not a suitable time if, before the test, the child has been crying, has had an argument, is upset about something, or has experienced stress or tension.
2. The child must not be hungry or thirsty. Do not administer the test immediately before a main meal or when the child says they are hungry.
3. The child must not have engaged in strenuous physical activity, such as vigorous running, highly active games, or exercise, for at least 30 minutes before the test.
4. If the child has previously been diagnosed with ADHD (attention-deficit/hyperactivity disorder) and takes ADHD medication, such as methylphenidate, atomoxetine, or other related medication, arrange the test for the longest interval after the most recent dose. This means administering the test immediately before the next scheduled dose so that the child's performance is not under the direct influence of the medication.

> **Editorial medication note (not in the Persian source)**
> Do not change the prescribed medication schedule to carry out this guide; confirm assessment timing with the prescribing clinician.

2. Preparing the Device

1. Use an Android phone with an accelerometer and a gyroscope. Newer Android phones generally have both sensors, unless the phone is very old.
2. Turn on the device's internet connection and make sure that a stable connection will be maintained throughout the test's 20-minute duration.

2. Preparing the Device

3 To keep the phone performing properly and prevent it from slowing down or freezing, close all open pages and apps except the game before you begin. If a VPN is on, be sure to turn it off before starting the game.

4 Choose a phone that does not receive frequent calls, or choose a time when you are not expecting a call. Also enable the phone's Do Not Disturb mode so that the phone does not ring during the test and interrupt it.

How to enable Do Not Disturb mode
https://technosun.ir/mag/what-is-the-do-not-disturb-feature/

5 Enable Screen Pinning so that the child cannot leave the game during the test.

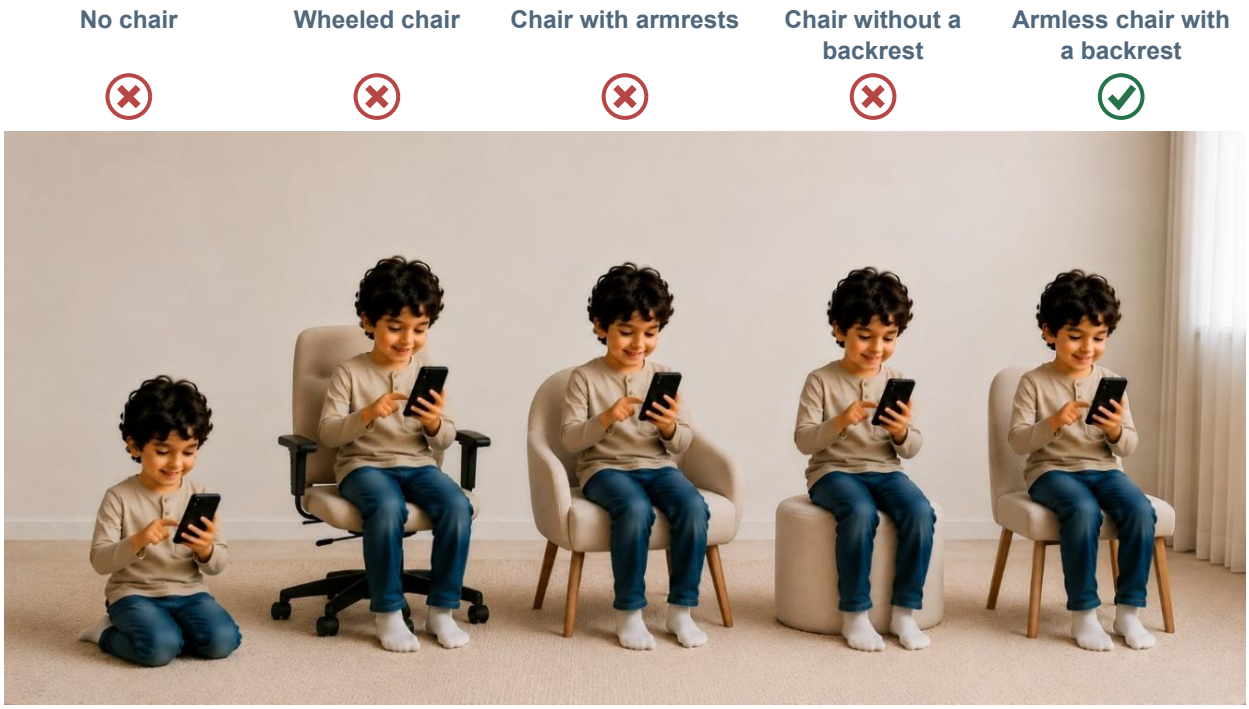
How to use Screen Pinning
https://www.zoomit.ir/howto/376147-how-to-lock-apps-to-the-screen-on-android/

3. Preparing the Environment

1 Provide an armless chair with a backrest for the child. The chair must not be backless, wheeled, or fitted with armrests. The game uses the phone's accelerometer and gyroscope to examine the child's movement when assessing hyperactivity. Choosing a suitable chair is important so that hyperactivity can be examined under standard conditions.

The illustration below shows suitable and unsuitable chairs and seating arrangements for administering the test.

The armless chair with a backrest may be made from any material, such as fabric, wood, or plastic. What matters is that sitting on it for 20 minutes, the duration of the test, must not be difficult or uncomfortable for the child.



3. Preparing the Environment

2 Check the test setting to minimize distracting auditory and visual stimuli.

• Auditory distractions: As far as possible, the chosen place should be free of street noise, such as unusual construction noise or frequent honking, television sounds, people coming and going, and other people's conversations. If these conditions cannot be met, change the time or location of the test.

• Visual distractions: Choose a setting that is as simple as possible. If a place without busy decor and distracting objects is unavailable, choose the simplest, least cluttered space available, with as few appealing objects as possible. Then position the child's chair so that pictures, toys, and any other distractions are out of the child's view.

3 Make sure the room temperature is appropriate. Excessive cold or heat can make the child uncomfortable and affect their performance.

4 Arrange for no one to enter the setting during the game without prior coordination. Whether a child or an adult enters makes no difference: anyone entering can distract the child. You can do this in the following ways:

• Choose a time when you and the child are alone in the setting.

• Inform family members or other people in the building in advance.

• Put a note on the door saying, "Do not enter without prior coordination."

4. Communicating with the Child

1 Avoid using the words "exam," "test," or "assessment" in front of the child. Instead, say: "This is a game especially for children your age. We'd like you to play it and tell us what you think."

2 Before starting, explain the two main conditions during the game to the child in a friendly, clear manner:

a. The child must hold the phone throughout the game and must not put it on a chair or table. This is necessary for standard assessment of hyperactivity using the phone's accelerometer and gyroscope.

b. The child must not talk during the game. If they have a question, they can ask it before the game begins or after it ends. All instructions are provided within the game, so there is no need to ask you questions.

4. Communicating with the Child

3 If the test administrator is a parent (the mother or father), the parent acts as the test administrator. The only condition is that, throughout the game, the parent must give the child no feedback, whether positive, such as "Well done" or "You're doing well," or negative, such as "Pay attention" or "Why aren't you getting it right?" The parent must appear occupied with another activity, such as reading a book or checking a different phone. Any activity is suitable if it does not distract the child and also reassures the child that you are not assessing them while they play.

4 If the test administrator is not a parent, for example a coach, teacher, or psychologist, the administrator must first establish a friendly rapport with the child, through conversation or a small gift, to help the child feel at ease before the game begins. In this situation, it is preferable for the parents not to be in the room. However, if the child does not feel comfortable without a parent present, ask the child directly about this. In that case, only one parent sits in a corner of the room as a passive observer, with no verbal or nonverbal interaction with the child. Before starting the test, the parent must be told not to speak during administration and not even to make gestures or give unnecessary looks. It is preferable to seat the parent in a position that reassures the child while remaining outside the child's direct line of sight, so that the child is not distracted.

5. During the Game

1 **No feedback or conversation during the test**

If the child talks, calmly remind them that, as agreed, they should not talk during the game. If they insist, give a brief response without details. The standard answer to "When will the game end?" is: "When the oxygen tank at the bottom of the screen runs out." Throughout the game, give the child no positive or negative feedback, such as "Well done," "Pay attention," or "No, that's not how to do it."

2 **If the child puts the phone on the chair**

Without further explanation, tell the child: "Please hold the phone again." This is important because, if the child is not holding the phone, their movement, which is the basis for measuring hyperactivity, will not be recorded correctly.

5. During the Game

3 **If the child becomes tired**

Encourage the child to continue with motivating, non-evaluative language. For example: "The fish need your help. When the game ends, you'll get a lovely medal. Let's keep going and see what happens at the end."

4 **If the child gets up from the chair**

If the child is holding the phone and continues playing, do not correct them. If they stop playing, ask them to sit down and continue the game. You may use encouraging statements similar to those in the section on fatigue. For example: "The fish need your help. When the game ends, you'll get a lovely medal. Let's keep going and see what happens at the end."

6. After the Game

1 After the game ends, thank the child for their cooperation and for the time they spent taking part in the test.

2 Ask the child what they thought of the game. For example, say: "Did you enjoy the game?" "Which part of the game did you like most?" or "Was the game hard or easy for you?" You may send the child's comments to the FishFinder team.

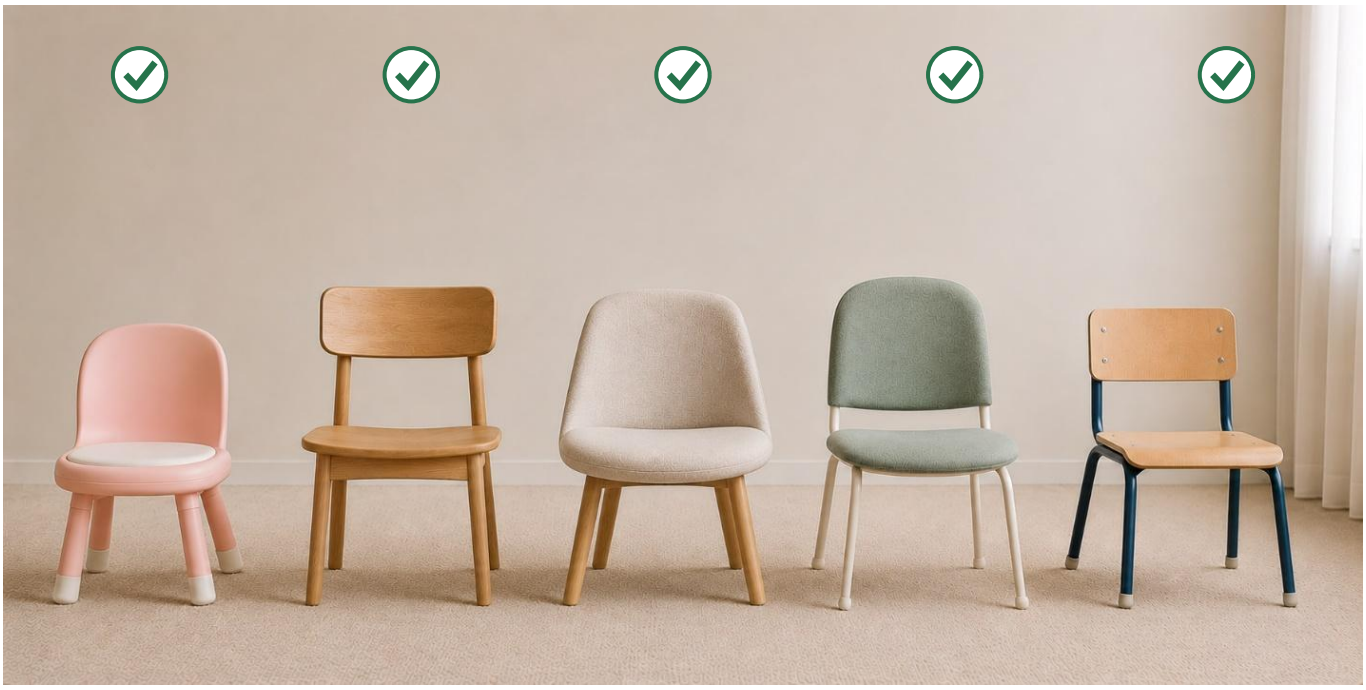
3 Check whether all the test administration conditions described in this checklist were followed correctly. If the conditions were not fully met, the result will not be valid, and you must administer the test again after an interval of two weeks to one month.

4 Do not draw any conclusions or analyze the child's performance. Wait until the detailed results are sent to you by the FishFinder team.

Correct & Incorrect Conditions

Visual guide to correct and incorrect administration conditions

Examples of armless chairs with backrests that are suitable for administering the test:



Position the child's chair in the best location in the room. If a simple room is unavailable, place the chair where the child will see the least cluttered and simplest part of the setting.



Chair facing the room's decor and toys

Chair facing a plain wall with no decor

Chair facing a window with a view outside

Two-Minute Checklist

Be sure to check this entire checklist before and after the game.

1. Checking the Child's Readiness

- ☐ **1.** The child is alert and calm, not tired, sleepy, upset, or irritable.
- ☐ **2.** The child is not hungry or thirsty.
- ☐ **3.** At least 30 minutes have passed since strenuous physical activity.
- ☐ **4.** If the child takes ADHD medication, the test is close to the next scheduled dose.

2. Preparing the Phone

- ☐ **1.** The phone is an Android device with an accelerometer and a gyroscope.
- ☐ **2.** The internet connection is on and stable.
- ☐ **3.** All open pages and apps except the game are closed.
- ☐ **4.** The VPN is off.
- ☐ **5.** Do Not Disturb mode is enabled.
- ☐ **6.** Screen Pinning is enabled.

3. Preparing the Environment

- ☐ **1.** The chair has a backrest, with no armrests or wheels.
- ☐ **2.** The setting is quiet, with no distracting decor or objects.
- ☐ **3.** The room temperature is suitable, neither cold nor hot.
- ☐ **4.** No one will enter without prior coordination.

4. Communicating with the Child

- ☐ **1.** Instead of "test," say: "A game especially for children your age."
- ☐ **2.** Be sure to explain both conditions before the game: hold the phone at all times, and do not talk during the game.
- ☐ **3.** If you are the parent, appear occupied with another activity.
- ☐ **4.** If you are not the parent, establish a friendly rapport with the child. The parent should be outside the room; if present, explain before the game that they must show no reaction. Appear occupied with another activity yourself.

5. During the Game

- ☐ **1.** Do not talk or give any feedback, either positive or negative. Answer "When will it end?" with: "When the oxygen tank at the bottom of the screen runs out."
- ☐ **2.** If the child puts the phone down, say: "Please hold the phone again."
- ☐ **3.** If the child becomes tired, encourage them: "The fish need your help. You'll get a medal after the game. Let's keep going."
- ☐ **4.** If the child gets up from the chair while still holding the phone and continuing the game, do not correct them. If the game stops, ask the child to sit down and continue, using encouragement similar to the fatigue item.

6. After the Game

- ☐ **1.** Thank the child for their cooperation.
- ☐ **2.** Ask the child what they thought of the game.
- ☐ **3.** Check whether the test administration conditions were followed. If they were not, the result is invalid; administer the test again two weeks to one month later.
- ☐ **4.** Do not draw conclusions or analyze the performance. Wait for the detailed results from the FishFinder team.