

EyeDetect+ Demo Test - \$20 in Pocket

Overview

This demo test was originally designed for a lab study experiment. In lab studies, subjects are randomly assigned to one of two conditions: innocent or guilty. If assigned to the “guilty” condition, the subject is asked to participate in a simulated (mock) crime and then is instructed deny (lie about) their experience when taking the EyeDetect test. If assigned to the “innocent” condition, the subject is instructed to take a test and tell the truth about not participating in the mock crime.

For this lab study, we asked examinees to choose one of two options: (a) take \$20 from an envelope, hide it in their pocket and lie about it or (b) do not take the \$20 and tell the truth. Those who take the \$20 are considered *guilty* participants and the others are considered *innocent* participants. All participants are instructed to maintain innocence when questioned in the lie detection test if they took the \$20. This test was also run “blind” — the participant does not tell the test proctor if they did or did not take the \$20 until after the computer has scored their test.

It is important to note that lab study subjects are motivated differently than persons tested in the “real” world. In a lab study, the consequence for failing or passing the test is minimal. Researchers use monetary rewards to increase motivation.

In this lab study, guilty subjects are given \$20 if they can pass the test (lie about taking the money). Innocent subjects are given \$5 if they tell the truth and pass the test. In either case, if the subject does not pass the test, then they get nothing.

The “\$20 in Pocket” test uses a Hybrid Directed Lie Comparison (HDLC) test protocol. The HDLC combines traditional polygraph measures and ocular-motor measures to distinguish between truthful and deceptive people. In addition to the ocular-motor signals recorded by the eye tracker, the HDLC test uses electrodermal, cardiovascular, and respiration signals to detect deception.

The HDLC uses directed lie questions. The directed lie questions address minor transgressions that all examinees have committed. Examinees are directed to lie to those questions during the test. This is done to create a baseline reaction of when it is known the examinee is lying. That “guilty” reaction is compared to the reaction observed when the examinee answers questions relevant to the issue of taking the \$20. It is important that the examinee understands how to correctly respond to directed lie questions so the system can compare those reactions with the reactions to the relevant issue and, thus, obtain accurate results.

The HDLC test takes about 25 minutes and has a demonstrated accuracy rate of about 87%. It can be an efficient way of demonstrating or allowing someone to experience an actual EyeDetect+ automated polygraph test.

Setup and Instructions

Items Needed

- Opaque envelope
- \$20 Bill
- \$5 Bill

Instructions for examinee

Show the examinee the \$20 bill and place it in the envelope. Explain that in a moment, you will leave them alone in the room with the envelope for a few seconds. Instruct the examinee they have two options:

1. Take the \$20 out of the envelope and place it in their pocket, or
2. Leave the \$20 in the envelope

If the examinee decides to take the \$20 and place it in their pocket, they should deny taking the money when tested (lie about it) with the goal of obtaining a passing score of 50 or greater. If this “guilty” examinee can pass the test, the reward is \$20.

If the examinee chooses to NOT take the \$20 from the envelope, they should also deny taking the money when tested (tell the truth) with the goal of obtaining a passing score of 50 or greater. If this “innocent” examinee can pass the test, the reward is \$5.

Make sure the examinee understands they should not indicate whether they took the \$20—until after the test.

Since you will administer an HDLC test, please take time to explain the nature of directed lie questions and how to respond during the test. Encourage the examinee to think of a time they were guilty of the behavior they are being asked about in each directed lie question. In order to pass the test, their body must physiologically react as one who is lying to the directed lie questions. *Example: If the question is “In your entire life have you ever told a lie?” The examinee should respond “No” and think of a time when they did lie about something important or serious in nature.*

Remember, this is a lab study scenario. To create jeopardy, you must reiterate the importance of taking seriously the directed lie questions. Innocent participants can fail the test if they do not focus on the directed lie questions. It is difficult to pass the test if the examinee does not react as expected to those questions.

All tests should be taken in a quiet setting, free of distractions. The test should be administered by a trained test administrator. Please refer to your EyeDetect+ Quick Use Guide to ensure correct setup and use of the Physio Tracker.

Participants must fully cooperate while taking the test and following instructions. To ensure compliance, we recommend monitoring the examinee with a separate device running EyeDetect+ Manager.

The following are examples of non-cooperative behavior:

- Take the \$20 and not hide it in their pocket
- Intentionally answer questions incorrectly (confessing guilt on the \$20 questions or not lying on the directed lie)

- Answer at random or not answer at all
- Squint or blink excessively
- Make significant body movements other than breathing or clicking the mouse to answer questions (i.e., foot tapping, clenching muscles, wiggling fingers, slouching, etc.)

Questions

Questions are presented to be answered Yes or No. There are 22-second intervals between each question during which the examinee must remain still and look at the screen. Neutral questions will also be presented in the form of simple math equations.

Sample Question	Question type	Expected Response
Did you steal the \$20?	Relevant (R1)	No
In your entire life, have you always told the truth?	Directed lie	Yes
Does $2 + 2$ equal 5?	Neutral	No

Upon completion of the test, please save the test and sync the EyeDetect Station. Results can be viewed in the Converus Dashboard. Please contact Converus to be reimbursed with a free test license after administering the test.