<H1>Appendix 1: Instructions to the Participants<H1>

<H2>Instructions to Experiment 1</H2>

Payment: In this experiment you will receive payment based either on your decisions in the first part or on your decisions in the second part (as will be determined randomly), and the decisions of another participant that will be randomly matched with you. Each point in the experiment is worth 20 Agorot, and in addition each participant will receive 5 NIS.

<H3>First Part<H3>

The participants are randomly matched in pairs. In each pair, one participant is in the role of Sender and the other participant in the role of *Receiver*. The *Sender* has exclusive access to information (as explained shortly), and is free to choose which of two messages to pass to the *Receiver* regarding that information, as explained below. Each participant knows what instructions the other participant received.

<H3>You Are in the Role of *Sender*</H3>

A computer randomly chooses, with equal probabilities, one of the following two urns: a *blue* urn, which contains two orange balls and three blue balls, or an *orange* urn, which contains three orange balls and two blue balls. (You will be informed of which urn was chosen next week, when you get paid).

Although **no participant will know for certain which urn was chosen** until next week, the *Sender* receives the following relevant information: s/he observes three balls drawn from the urn, as follows:

First, one blue ball and one orange balls are drawn. Additionally, one ball is randomly drawn of the three remaining balls. That is, if the computer chose the blue urn, there is 66.6% chance that the third ball drawn will be blue, and 33.3% that it will be orange, and vice versa for the orange urn.

<H4>Lies Condition</H4>

The task of the participants is:

The *Sender* observes the three drawn balls, and then chooses to send the *Receiver* one of these two messages:

1. Send to the *Receiver* the message: “I saw two blue balls and one orange ball”.

2. Send to the *Receiver* the message: “I saw two orange balls and one blue ball”.

The *Receiver* does not know which balls were drawn; the only information available to him/her is the message sent by the *Sender*. After receiving this message, the *Receiver* decides how many points to invest.

<H4>Falsely Implicating Condition</H4>

The task of the participants is:

The *Sender* observes the three drawn balls, and then chooses to send the *Receiver* one of these two messages:

1. Send to the *Receiver* the message: “I saw two blue”.

2. Send to the *Receiver* the message: “I saw two orange”.

The *Receiver* does not know which balls were drawn; the only information available to him/her is the message sent by the *Sender*. After receiving this message, the *Receiver* decides how many points to invest.

<H4>Nonverbal Deception Condition</H4>

The task of the participants is:

The *Sender* observes the three drawn balls, and then chooses on which of the two urns to bet.

If s/he bets on the correct color (the color of the chosen urn) s/he will earn a bonus of 5 points. In addition, this color will be revealed to the *Receiver*. That is, the *Sender* chooses between the following two options:

1. Bet that the chosen urn is blue, a bet that will earn the *Sender* a 5 points bonus if the chosen urn is indeed blue. In addition, the *Receiver* will learn that the *Sender* bet on blue.

2. Bet that the chosen urn is orange, a bet that will earn the *Sender* a 5 points bonus if the chosen urn is indeed orange. In addition, the *Receiver* will learn that the *Sender* bet on orange.

The *Receiver* does not know which balls were drawn; the only information available

to him/her is the bet placed by the *Sender*. After learning which color the *Sender* bet on, the *Receiver* decides how many points to invest.

The monetary payoff of the ***Sender*** is determined thus: The *Sender* will receive one point for each point that the *Receiver* will invest, regardless of the colour of the drawn ball.

The *Receiver* will win or lose in this investment according to the following:

The *Receiver* receives at the beginning of the experiment 100 points. After receiving the message that the *Sender* chose to send, s/he decides how many points out of the 100 to invest in a gamble, which will win or lose according to these rules:

• If the **blue** urn was chosen, (to be clear, the *Receiver* cannot gamble on the orange urn), the *Receiver* wins 2.5 points for each point invested, so that his/her payment is the sum of points s/he decided to invest times 2.5, in addition to the amount that s/he chose not to invest (100 minus the invested amount).

• If the **orange** urn was chosen, the Receiver wins 0 points for each point invested, so that his/her payment is 100 minus the amount that s/he chose to invest in the blue urn.

<H3>Questions to ascertain understanding of the instructions (please mark the correct answer):</H3>

1. The *Receiver* invested 100 points, and the chosen urn was blue. How many points would each participant receive?

(a) The *Receiver* receives 200 points and the *Sender* receives 100 points.

(b) The *Receiver* receives 200 points and the *Sender* receives 250 points.

(c) The *Receiver* receives 250 points and the *Sender* receives 100 points.

2. What is the correct order?

(a) The *Sender* observes three balls (one blue, one orange, and one randomly drawn), the *Sender* chooses a message, the *Receiver* bets on the number of points that would be multiplied by a factor of 2.5 if the chosen urn turns out to be **blue**.

(b) The *Sender* observes three balls (one blue, one orange, and one randomly drawn), the *Sender* chooses a message, the *Receiver* bets on the number of points that would be multiplied by a factor of 2.5 if the chosen urn turns out to be **orange**.

(c) The *Sender* chooses a message, the *Sender* observes three balls (one blue, one orange, and one randomly drawn), the *Receiver* bets on the number of points that would be multiplied by a factor of 2.5 if the chosen urn turns out to be **blue**.

<H3>The Decision:</H3>

<H4>Lies Condition</H4>

Indicate your decision if two blue balls and one orange ball are drawn:

⃝ Send the following message to the *Receiver*: “I saw **two blue balls and one orange ball**”.

⃝ Send the following message to the *Receiver*: “I saw **two orange balls and one blue ball**”.

Indicate your decision if one blue ball and two orange balls are drawn:

⃝ Send the following message to the *Receiver*: “I saw **two blue balls and one orange ball**”.

⃝ Send the following message to the *Receiver*: “I saw **two orange balls and one blue ball**”.

<H4>Falsely Implicating Condition</H4>

Indicate your decision if two blue balls and one orange ball are drawn:

⃝ Send the following message to the *Receiver*: “I saw **blue**”.

⃝ Send the following message to the *Receiver*: “I saw **orange**”.

Indicate your decision if one blue ball and two orange balls are drawn:

⃝ Send the following message to the *Receiver*: “I saw **blue**”.

⃝ Send the following message to the *Receiver*: “I saw **orange**”.

<H4>Nonverbal Deception Condition</H4>

Indicate your decision if two blue balls and one orange ball are drawn:

⃝ Bet on the **blue** urn, a bet that will earn you a 5 points bonus if it turns out that the chosen urn is blue, and will be revealed to the Receiver.

⃝ Bet on the **orange** urn, a bet that will earn you a 5 points bonus if it turns out that the chosen urn is orange, and will be revealed to the **Receiver**.

Indicate your decision if one blue ball and two orange balls are drawn:

⃝ Bet on the **blue** urn, a bet that will earn you a 5 points bonus if it turns out that the chosen urn is blue, and will be revealed to the *Receiver*.

⃝ Bet on the **orange** urn, a bet that will earn you a 5 points bonus if it turns out that the chosen urn is orange, and will be revealed to the *Receiver*.

<H2>Second Part [handed out after the decision forms for the first part were collected]</H2>

The instructions for this part are identical to the instructions in the previous part, with the exception that **you are in the role of *Receiver***.

You will choose how many points out of 100 you want to invest (recall that this amount will be invested in **blue**, and will be multiplied by a factor of 2.5 if the blue urn is chosen). You can condition your decision on the decision of the ***Sender***:

<H4>Lies Condition</H4>

1. How many points do you want to invest if the *Sender* chose for you to see the message “I saw **two blue balls and one orange ball**”? \_\_\_\_\_ points.

2. How many points do you want to invest if the *Sender* chose for you to see the message “I saw **two orange balls and one blue ball**”? \_\_\_\_\_ points.

<H4>Falsely implicating Condition</H4>

1. How many points do you want to invest if the *Sender* chose for you to see the message “I saw **blue**”? \_\_\_\_\_ points.

2. How many points do you want to invest if the Sender chose for you to see the message “I saw **orange**”? \_\_\_\_\_ points.

<H4>Nonverbal Deception Condition</H4>

1. How many points do you want to invest if the *Sender* bet that the **blue** urn was chosen? \_\_\_\_\_ points.

2. How many points do you want to invest if the *Sender* bet that the **orange** urn was chosen? \_\_\_\_\_ points.

**Personal details**: Sex: Male Female

Age: \_\_\_\_\_\_\_\_\_\_\_\_\_

Last five digits of your ID number: \_\_\_\_\_\_\_\_\_\_\_\_

<H2>Instructions to Experiment 2<H2>

Welcome to the experiment!

Please read the instructions carefully

The experiment includes **20** rounds. In each round you can earn money according to the following rules. Payment will be in points, which will be converted to money at the end of the experiment at a rate of 10 points = 1 NIS. At the end of the experiment, the computer will randomly draw 5 rounds. Your payoff in this part will be the sum of your earnings in **the five drawn rounds** in addition to a base payment of 15 NIS.

At the beginning of the experiment you will be allocated into roles. Half of the participants will be in the role of **Sender** and the other half will be in the role of **Responder**. These roles will remain fixed during the **first ten rounds**, and will switch **in the last ten round**s. In each round you will be matched in pairs of **Sender** and **Responder**. You will be rematched at the beginning of each round.

<H3>Instructions for the Round</H3>

<H3>Responders</H3>

In each round, the **Responder** receives 100 points and decides how many of them to invest in a lottery. If the lottery is successful, the **Responder** wins 2.5 points for each point invested, so that his or her payoff is **the sum of points invested times 2.5** plus **the sum of points not invested** (100 minus the amount invested). If the lottery fails, the **Responder** will lose the points he or she invested, so that his or her payoffs is **100 minus the amount invested**.

Regardless of the outcome of the lottery, the **Sender** will receive the amount of points that the **Responder** chose to invest.

<H3>Determining the Outcome of the Lottery</H3>

In each round, the computer chooses with equal probabilities one of the following two urns: a **green** urn, which contains three **green** balls and two **orange** balls, and an **orange** urn, which contains three **orange** balls and two **green** balls.

The lottery is successful if the **green** urn is chosen, and the lottery fails if the **orange** urn is chosen.

<H3>Senders</H3>

The **Sender** observes three balls drawn from the chosen urn as follows: First, the computer draws one green ball and one orange ball. In addition, the computer draws one ball randomly chosen out of the three remaining balls in the urn. That is, if the **green** urn was chosen, then there is a chance of **two thirds** that the third ball that the **Sender** observes is **green** and a **one third** chance that the third ball is **orange**, and vice versa for the orange urn.

Note that this means that if the **Sender** observes two **green** balls, it is possible to deduce that there is a chance of **two thirds** that the chosen urn is the **green** urn. If the **Sender** observes two **orange** balls, it is possible to deduce that there is a chance of **two thirds** that the chosen urn is the **orange** urn.

The computer will present the **Sender** with the three balls drawn from the urn. Then, the **Sender** will choose one of two options:

<H4>Lies Condition Only</H4>

• Send to the **Responder** the message: “I saw two **green** balls and one **orange** ball”.

• Send to the **Responder** the message: “I saw two **orange** balls and one **green** ball”.

<H4>Falsely Implicating Condition Only</H4>

• Send to the **Responder** the message: “I saw **green**”.

• Send to the **Responder** the message: “I saw **orang**e”.

<H4>Nonverbal Deception Condition Only</H4>

• bet that the **green** urn was chosen. This bet will earn the **Sender** 5 bonus

points if the **green** urn was chosen.

• bet that the **orange** urn was chosen. This bet will earn the **Sender** 5 bonus points if the **orange** urn was chosen.

<H4>Lies and Falsely Implicating Conditions Only</H4>

The **Responder** does not observe the balls drawn from the urn, but does see the message of the **Sender**. After receiving the message, the **Responder** decides how many points to invest in the lottery that wins if the **green** urn was chosen.

<H4>Nonverbal Deception Condition Only</H4>

The **Responder** does not observe the balls drawn from the urn, but does see the bet of the **Sender**. That is, the **Responder** knows which of the two urns the **Sender** bet on, and how this affects the bonus points of the **Sender**. After receiving the message, the **Responder** decides how many points to invest in the lottery that wins if the **green** urn was chosen.

<H3>End of the Round</H3>

At the end of the round, the computer will present to you the chosen urn, the **Sender**’schoice, the **Responder**’s investment, and the profits of the two participants in the round.

<H3>The End of the Experiment</H3>

After the end of the experiment you will be asked to fill in a short general questionnaire. This questionnaire, as well as your decisions during the experiment, is anonymous. Please wait in your seat until we call you to get paid.

**We will read out the instructions in a minute. If later you have remaining questions, please raise your hand and the experimenter will approach you and answer you in private.**

<H1>Appendix 2: Statistical Appendix</H1>

To confirm that the results do not support the hypotheses underlying the classical view, we conducted inferiority tests to test the null hypothesis that the effect size, as measured by Cohen’s d for the difference between *Lies* and the other two conditions, is larger than a minimal benchmark (Cohen, 1988).

To determine the minimal benchmark (which we also use to conduct our power analyses), we use the data collected by Schäfer and Schwarz (2019), who estimated the distributions of effect sizes in published psychology papers by subdisciplines. Following Schäfer and Schwarz (2019), we set our benchmark to be the lower median (that is, the median of the low third of observations, or the 16.65 percent quantile) of effect sizes found in experimental or quasi-experimental between-subjects studies in the relevant subdisciplines as defined by the Social Science Citation Index.[[1]](#footnote-1) We additionally report here results based on a more conservative benchmark calculated as half of the main benchmark. Our benchmarks are, accordingly, 0.434 and 0.217. We additionally report the statistical power of our design to detect the benchmark effect sizes in the hypothesized direction.

In Experiment 1, the inferiority test yields a highly significant result of p<.001 for the main benchmark and p=.008 for the conservative benchmark for consultants. Furthermore, we can similarly reject at a confidence level of 0.90 any effect size of 0.013 or higher. For investors, the inferiority test yields a significant result of p=.001 for the main benchmark and p=.031 for the conservative benchmark. The test is significant for any effect size of 0.112 or above.

In Experiment 2, the inferiority test yields a highly significant result of p<.002 for the main benchmark and p=.036 for the conservative benchmark for consultants. Furthermore, we can similarly reject at a confidence level of 0.90 any effect size of 0.123 or higher. For investors, the inferiority test yields a significant result of p=.001 for the main benchmark and p=.017 for the conservative benchmark. The test is significant for any effect size of 0.063 or above.

To calculate power in Experiment 2, we cluster standard errors on subjects and estimate the interclass correlations from the data. For consultants, the power to detect the benchmark effect sizes is 1-β=.962 for the main benchmark and 1-β=.527 for the conservative benchmark. For investors, the power to detect the benchmark effect sizes is 1-β=.993 for the main benchmark and 1-β=.656 for the conservative benchmark.

Finally, we calculate the joint power for the two experiments taken together—that is, the probability of obtaining a significant result in at least one experiment. The joint power using the main benchmark is 1-β=.992 for consultants and 1-β=.998 for investors. With the conservative benchmark, the power is 1-β=.684 for consultants and 1-β=.770 for investors.

1. The most relevant subdiscipline is Psychology: Multidisciplinary. Because the number of relevant studies in the data is small, we extend the sample to two other subdisciplines, Psychology: Experimental and Psychology: Social Psychology, which yield a very similar lower median as does taking just the Psychology: Multidisciplinary subdiscipline. [↑](#footnote-ref-1)