| **Section A - Risk Assessment Checklist.** In completing this checklist you  are being asked to reflect on the common types of ethical issues than can increase risk levels in research. |  |
| --- | --- |
| A1. Will your study involve participants who are currently or potentially vulnerable or unable to give informed consent or in a dependent position (e.g. people under 18, people with learning difficulties, over-researched groups or people in care  facilities)? | No |
| A2. Will participants be required to take part in the study without their consent or knowledge at the time (e.g. covert observation of people in non-public places), and / or will deception of any sort be used?  Please refer to the British Psychological Society Code of Ethics and Conduct  (or similar guidelines) for further information. | No |
| A3 Unless specifically and clearly consented (e.g. a media release form), will it be possible, through a research output, to identify participants in any way? (This does not include taking email details for participant prize draws or identifying participants from signed consent forms or holding identity encryption spreadsheets that are stored securely separate from the research data). | No |
| A4. Might the study induce psychological stress or anxiety, or produce humiliation or cause harm or negative consequences beyond the risks likely to be encountered in the everyday life of the participants? | No |
| A5. Is there a risk that the research topic might lead to disclosures from the participant concerning their beliefs, involvement in illegal actions or any other activities that may represent a threat to themselves or others? | No |
| A.6 Will the study involve collecting any personal special category information\* in a form that could allow the participant/ participants to be identified?  [\* identifiers relating to race, ethnic origin, politics, religion, trade union membership, philosophical beliefs, genetics, biometrics, health, sex life or sexual orientation] | No? |
| A7. Will any drugs, placebos or other substances (such as food substances or vitamins) be administered as part of this study and will any invasive or potentially harmful procedures of any kind will be used? | No |
| A8. Will your project involve working with any substances and / or equipment which may be considered hazardous? | No |
| A.9 Will your study involve the taking and/or storage of human tissue that falls under the Human Tissue Act (HTA)? [http://www.sussex.ac.uk/staff/research/governance/erp\_overview/humantissu e](http://www.sussex.ac.uk/staff/research/governance/erp_overview/humantissue)[4](https://docs.google.com/document/d/1XT0K7UhgdkJ24h7dDe1HIKADP7sK4uYv/edit#heading=h.gjdgxs) | No |
| » Risk Assessment |  |



| A10. If you have answered 'Yes' to ANY of the above questions, your application may be considered as HIGH risk. If, however you wish to make a case that your application should be considered as LOW risk please enter the  reasons here. Researchers should note that SREOs or C-RECs may decide NOT to agree with  the case that you have made. B |
| --- |

| **Data Collection and Analysis (Please provide full details)** | | | |  |
| --- | --- | --- | --- | --- |
| B1. PARTICIPANTS: How many people do you envisage will participate, who they are, and how will they be selected? | | | | ? |
| B2. RECRUITMENT: How will participants be approached and recruited? | | | | Adult Russian speakers? |
| B3. METHOD: What research method(s) do you plan to use;  e.g. interview, questionnaire/self-completion questionnaire, field observation, audio/audio-visual recording? | | | | self-completion questionnaire, visual experiment |
| B4. LOCATION: Where will the research activity be carried out e.g. public place, in researcher's office, in private office at  organisation? | | | | Online |
| B5. PARTICIPANT WELLBEING: Will the study involve engaging participants in the discussion of potentially distressing or sensitive topics? (e.g. sexual activity, drug use, ethnicity, political behaviour, potentially illegal activities). If so, please set out how you will manage the well-being of participants. | | | | No |
|  | | | |  |
| B6. Will questionnaires be completed anonymously and returned indirectly? | | | | Yes |
| B7. Will research data only be identifiable by a unique identifier (e.g. code/pseudonym)? If Yes, please explain how this will be attributed in B11a. | | | | Yes? |
| B8. Will lists of identity numbers or pseudonyms linked to names and/or addresses be stored securely and separately  from the research data? If Yes, explain how this will occur in B11a below. | | | | ? |
| B9. Will all place names and institutions which could lead to the identification of individuals or organisations be changed unless this is consented to explicitly in the consent form? | | | | Yes |
| B10. Will all personal information gathered be treated in strict confidence and never disclosed to any third parties? | | | | Yes |
| B11. Can you confirm that your research records will be held in accordance with data protection regulations ? (<http://www.sussex.ac.uk/ogs/policies/information/dpa>) | | | | Yes? |
| B11a. Please explain how ANY identifiable personal and/or research data will be managed and securely stored ensuring that participants have given appropriate informed consent for | | | | The data from the experiment will be sent to the Open Science Framework (OSF) via DataPipe for secure storage and sharing. This process ensures that the research data is accessible, transparent, and compliant with OSF's data management standards. |
| B12. Do you intend to use the research data for any purpose other than that for which consent is explicitly given? If so, please explain below. | | | | No? |
| B12a. If you answered NO to any of the above in this section (or think more information could be useful to the reviewer) please explain here: | | | |  |

| **Informed Consent and Recruitment of Participants** | |
| --- | --- |
| B13. Will all respondents be given an Information Sheet and be given adequate time to read it before being asked to agree to participate? | ? |
| B14. Will all participants taking part in an interview, focus group, observation (or other activity which is not questionnaire based) be asked to sign a consent form? If you are obtaining  consent another way (such as verbally), please explain under B17 below. | Yes |
| B15. Will all participants self-completing a questionnaire be asked to show consent to participate by a specific and  identifiable action? (Give details in B17. below) | ? |
| B16. Will all participants be told that they can withdraw their participation at any time during the research and can ask for their data to be destroyed and/or removed from the project until it is no longer practical to do so? | ? |
| B17. If you answered NO to any of the above in this section  (or think more information will be useful to the reviewer) please explain here: |  |
| **Context** | |
| B18. Is DBS (Disclosure and Barring Service) clearance necessary for this project? If yes, please ensure you complete the next question. | No? |
| B19. Are any other ethical clearances or permissions (internal or external) required? Please see the help text (i) for further details. | No? |
| B19a. If yes, please give further details including the name and address of the organisation. If other ethical approval has already been received please attach evidence of approval, otherwise you will need to supply it when ready. (You do not need to provide evidence of a current DBS check at this  point). |  |
| B20. Does the research involve any fieldwork - Overseas or in the UK? | No |
| B20a. If yes, where will the fieldwork take place? If undertaken overseas you must attach an OTSSRA form.  In the event that the Foreign and Commonwealth Office has specific travel warnings in place for the country (ies) to be visited you will also need to provide a detailed risk assessment.  <https://www.gov.uk/foreign-travel-advice> |  |
| B21. Will any researchers be in a lone working situation? | No? |
| B21a. If yes, briefly describe the location, time of day and  duration of the lone working. What precautionary measures will be taken to ensure safety of the researcher(s)? |  |
| **Any further concerns** | |
| B22. Are there any other ethical considerations relating to  your project which have not been covered above? | No |
| B22a. If yes, please explain: |  |

**Brief background & aims of the project**

This study seeks to replicate and extend the findings of a previous study conducted by Dr. Dominique Makowski during postdoctoral research. The original study was reviewed and approved by the NTU IRB-2022-187 ethics committee and published in a Nature scientific journal [Makowski, D., Te, A.S., Kirk, S. et al. "A novel visual illusion paradigm provides evidence for a general factor of illusion sensitivity and personality correlates." Sci Rep 13, 6594 (2023)<https://doi.org/10.1038/s41598-023-33148-5>].

The current study will be conducted in the form of an online experiment, during which participants must make perceptual judgments as quickly and accurately as possible, such as identifying which circle is larger, while resisting different visual illusions.

The experiment will be promoted via social media, ensuring accessibility to a diverse audience. The goal of the research is to expand the audience, including reaching out to non-English speakers by adjusting the experiment to the respective countries of origin of the researchers involved in the project (e.g., France and Russia).

**Study Design**

**Research procedure:** Before the experiment begins, participants will see and be required to review a consent form and give their consent to participate in the study. Then, participants will be required to provide demographic information, such as age and gender, for a better characterization of the sample, and fill out three questionnaires. After that, they will familiarise themselves with the research instructions and undergo a brief practice session to become acquainted with task examples. Once prepared, participants will proceed to complete tasks from X blocks with illusions.

**Methodology and Methods**

The research will include the Russian adaptation of the Personality Inventory for DSM-5 Brief Form (PID-5-BF) made by G. V. Kustov, M. S. Zinchuk, et al. (2022), as well as translations of the Mini-IPIP6 questionnaire and the Short Suggestibility Scale (SSS), derived from the Multidimensional Iowa Suggestibility Scale (MISS), done by a clinical psychologist advanced in English.

The study will utilise illusions like Ebbinghaus, Vertical-Horizontal, and Müller-Lyer, which have been generated using Pyllision, a parametric framework implemented in Python. This software facilitates the creation of illusions by adjusting various parameters, including differences and illusion strength. The source code for Pyllision is accessible under the MIT licence on GitHub at <https://github.com/RealityBending/Pyllusion/>.

* Ebbinghaus Illusion Illusion Strength The size of the outer circle (distractor) relative to the inner circle (target) For instance, if illusion strength=1, it means that the outer circle will be 100% bigger, i.e., 2 times bigger than the inner circle.
* Muller-Lyer Illusion Illusion Strength The displacement of angle of the arrow shapes/fins (distractors) in biassing the perception of horizontal lines of unequal lengths (targets). Specifically, the angle of the fins in degrees. For instance, illusion\_strength = 20 represents a 20 degree tilt (away from vertical) of the fins.
* Vertical and Horizontal Illusion Illusion Strength The change in orientation of the tilted vertical line (distractor) in biassing the overestimation of its length relative to the horizontal line (target). Specifically, the displacement of orientation of the line in degrees, with 0 being vertical and values rotating anticlockwise if the left line is rotated and clockwise if the right line is rotated.

**Hypotheses:** The study aims to explore the impact of task difficulty, illusion strength, congruency, and the interplay between illusion strength and task difficulty on participants' ability to resist illusions. Additionally, it seeks to determine if there exists a positive correlation between illusion sensitivity and personality traits, including Agreeableness and Honesty-Humility, as well as negative associations with Psychoticism, Antagonism, Disinhibition, and Negative Affect among Russian speakers, similar to the findings observed among English speakers in the previous study.

**Variables**: The study manipulates three different visual illusions, varying illusion strength and objective difference for each. The primary measured variables include reaction time (in ms) and accuracy (errors vs. correct response).

**Blinding**: This study does not employ blinding procedures. Participants will provide informed consent, although they will not be explicitly informed about the independent variables or research hypotheses.

**Randomization**: The study will consist of an Х number of illusion-trial blocks, each containing an undisclosed number of trials presented in a randomized order. The types of visual illusions within each block will also be randomized. Following a brief intermission, the set of distinct blocks will be repeated in a new random order.

**Sampling Plan:** The research aims to recruit participants online via social media platforms, with a target audience comprising individuals over the age of 18 who are proficient in the Russian language.

**Sample Size:** The actual sample size is yet to be determined.

**Data Collection:** Data collection will maintain complete anonymity, as IP addresses will not be collected. The data from the experiment will be securely transmitted to the Open Science Framework (OSF) via DataPipe for storage. This process ensures accessibility, transparency, and compliance with OSF's data management standards in the research.

**Confidentiality:** Before the experiment, participants will be given the opportunity to review a consent form that includes an explanation of the study's objectives. The form will emphasise that their participation is completely voluntary, anonymous, and that they can opt out at any time without any repercussions.Participants will be able to choose whether to provide their consent on the form or close the research page. Participants will have the choice to either provide their consent to the form or close the experiment page.

**Analysis Plan**

**Statistical analysis** will utilise Bayesian mixed models to examine the relationship between the parametric properties of visual illusions (illusion strength and objective difference) and participants' behavioural responses, including response speed and accuracy. The core model formulas are as follows:

For Error Probability: Error\_Probability ~ Illusion\_Strength \* Objective\_Difference

For Reaction Time (RT): RT ~ Illusion\_Strength \* Objective\_Difference  
  
Other covariates (such as ISI, trial order, or demographic variables) might be included in the models if necessary.

**Transformations:** NA

**Inference criteria:** Standard guidelines for assessing the certainty, size and Bayesian significance of effects will be used (see Makowski et al., 2019).

**Data exclusion** with outlying scores (in regard to the population distributions) will be further examined and potentially excluded if there is reason to suspect that they did not pay attention to the task (e.g., the presence of a high number of errors in “easy” trials, as well as a very short total duration, might suggest that participants answered randomly to quickly finish the task).

**Missing data** is prevented through the implementation of a forced-choice reaction-time behavioural task, in which the trial does not proceed to the next display until participants make a response.

**Exploratory analysis:** NA