

REFLECTIONS

Resources on Escolà-Gascón et al.'s (2023) remote viewing research per the original CIA experiments

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ABSTRACT

This report describes and presents the raw data from Escolà-Gascón et al.'s¹ remote viewing study, which extended similar experiments initiated by the American Central Intelligence Agency (CIA). Remote viewing is a research technique that allows scientists to examine the degree to which individuals might access “distant (or nonlocal) information” without using known logical-perceptual channels. Many parapsychologists regard such effects as evidence of psychic (or psi) ability, whereas other researchers more cautiously designate beyond-chance results as “anomalous cognition.” The original research commissioned by the CIA provided favorable (though highly controversial) results, and several subsequent replications have shown positive and non-significant results. This has fostered heated scientific debate about the nature or meaning of these anomalous cognitions from theoretical, methodological, and statistical viewpoints. This report contextualizes the data obtained from our investigation that conceptually replicated the results of prior remote viewing experiments. Specifically, the authors found a positive association between emotional intelligence (EI) and positive performance (or “hits”) in remote viewing cognitive experiments, employing statistical controls based on structural equation modeling (SEM). We thus clarify certain methodological issues about our data to ensure transparency with their future use. We focus on three essential points: (1) more detailed explanation of our EI measures; (2) justification of our effect size calculation and why we obtained underestimated standard deviations per the population parameter; and (3) further consideration of the nuances with interpreting the statistical anomalies (or hits) in the remote viewing tests.

Introduction

Contextual background

Remote viewing is a research technique that seeks to test whether a person can access distant information about people, places or events, without using the conventional perceptual channels accepted by science. To this supposed possibility was attributed the denomination of ‘anomalous cognition’ for considering it hypothetically as a psychic ability of the human being¹. Its application became effective when in

1972 the American *Central Intelligence Agency* (CIA) hired two scientists (i.e., Jessica Utts and Ray Hyman) from the *Stanford Research Institute* (SRI), which is attached to *Stanford University* in California, USA.

In both reports the researchers reached different (though not opposite) conclusions: for Utts the statistical evidence was sufficient to determine that the phenomenon of nonlocal perception using the remote viewing method was scientifically established.² In contrast, Hyman opted for an empiricist, process-based approach to explain how putative anomalous cognitions might be produced.³ Because of the lack of empirical evidence and the failure of U.S. government-funded studies to

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explain and identify which mechanisms accounted for the likely occurrence of anomalous cognitions, Hyman concluded that the evidence was insufficient to accept these cognitions as a valid scientific phenomenon. This disagreement has continued to the present day. The scientific community is polarized into scientists who are proponents of anomalous cognitions (who assume that they are real cognitions) and scientists who radically deny that psi-type abilities of this type have been proven to exist. This circumstance hinders research advancements because it prioritizes the defense of ideologies over the scope of evidence obtained in peer-reviewed, published research. There were independent investigations that attempted to replicate the findings obtained by CIA-commissioned research, although with mixed results: some replications achieved favorable effect sizes^{4–6} and others failed to replicate significant effects.^{7–9} Advocates and detractors of anomalous cognitions conveniently use this research to cite evidence that supports only their own ideology, excluding essential factual information from the literature. This makes the situation tense and radicalized.

The Escolà-Gascon et al.'s¹ research

Escolà-Gascón et al.'s¹ research design was developed independently of any type of ideology and had two objectives: (1) to conceptually replicate the original findings on remote viewing, and (2) to test associations between perceptual-personality variables that could facilitate the proposal of a new scientific and inclusive theoretical model informed by modern psychological principles. Considering multiple previous evidences,^{5,10–12} Escolà-Gascon et al. decided to use the construct of “emotional intelligence/ EI” as a possible modulating variable of remote viewing test scores. They hypothesized that part of the management of emotions and bodily sensations corresponds to a type of intuitive processing of information and, consequently, experiential. The scientific study of intuition is not conclusive and has the same drawbacks as the anomalous cognitions themselves: the evidence fails to comprehensively explain why some people score high on cognitive tests of intuition and others do not.¹³ Because one of the fundamentals related to intuition is sensations and emotions, the authors argued that, if anomalous cognitions were the product of a sensory source of information, then people's intuition and emotional intelligence should accordingly play an important role. This view would predict positive associations between emotions and the successes of remote viewing experiments.

Previous evidence also considered by Escolà-Gascón et al. was the statistical “sheep-goat effect”.^{14,15} This denotes the general finding that believers in psychic abilities tend to score higher on experimental tests of extrasensory perception than skeptical participants. The authors assessed this attitude toward psychic abilities using a scale from 0 to 10 and divided the sample into two main groups: participants who had favorable attitudes toward psychic functioning ($N = 347$) and those who did not ($N = 287$). If these previous findings were stable, the hits of believing participants should be higher than the hits of unbelievers. Along these lines, other previous evidence indicated that remote viewing hits were higher when targets were based on images (and not just coordinates). The hypothesis put forward by the original CIA physicists is that the participant was not accessing the information physically located at each target location; instead, they were more readily accessing the graphical content of each photograph or image. If these statistical observations were consistent, in a possible replication, targets that were photographs would be more easily hit than those based on geographic coordinate locations. In their study, Escolà-Gascón et al. included this distinction in the remote viewing test stimuli.

In order to maximize hits, the authors linked image-based divination targets to the group of believers and coordinate-based targets to the group of non-believers. Strategically, organizing the groups in this way and with the respective associated targets should favor remote viewing hits or, at least, should enhance discrimination between those who have psychic abilities and those who do not. On the one hand, this had the advantage of increasing hits and, thus, the probabilities of obtaining

larger effect sizes would also increase (we insist that according to previous evidence). On the other hand, there was also the disadvantage that, by linking the organization of the groups like this, it was not possible to discriminate whether the increase in remote viewing hits was related to the prior beliefs of each participant or whether it was related to the type of target they had to discern. However, the authors clarified in the original report that it was not the aim of the research to make such a discrimination, but rather to replicate the original findings and facilitate the development of new hypotheses.

The results of the research revealed that the group of believers using photo-based targets obtained higher remote viewing accuracy than the group of non-believers using coordinates (believers hits $>8 = 77\%$, $>10 = 42\%$, and $>12 = 8\%$; non-believers hits $>8 = 48\%$, $>10 = 10\%$, and $>12 = 0\%$). Similarly, experiential EI (i.e., that which is related to intuitive information processing) did have a positive correlation with remote viewing hits (which was somewhat small in magnitude, showing standardized values between 0.30 and 0.40). This correlation remained significant in both individuals with high EI and in those participants who obtained lower levels of EI. Unexpectedly, the authors found that, in the groups of individuals with high EI scores, the hits on the remote viewing tests exceeded the average hit threshold explained by statistical chance. The obtained effect sizes ranged from 0.457 to 0.853, which is consistent with the ontological reality of psi (or nonlocal perception). However, statistical evidence suggestive of anomalous cognitions does not verify the validity of psi-related mechanisms. Also, our quasi-experimental design further limits any firm conclusions about the source or nature of the positive outcomes obtained in our study.

The authors stated in their original report that they strived to maintain a neutral stance during the development of the research and so employed a “falsificationist” hypothesis-contrasting model. This approach has several implications that could easily be misunderstood. Due to the sensitivity, controversy, and potential importance of our results, Escolà-Gascón et al. shared their raw data in an open access repository. They further invited an independent university professor with expertise in statistics and methodology to statistically scrutinize and cross-check these raw data, with the intention to explore for possible statistical artifacts. This researcher was Patrizio Tressoldi, Ph.D., who reported directly to Prof. Escolà-Gascón that he detected no aberrant patterns in the data. Tressoldi did confirm that some distributions had moderate skewness, although this did not affect the reported results.

Objective

With the publication of the raw data in *Harvard Dataverse* (owned by *Harvard University*), it is necessary to clarify three points that could be confusing if other scientists wish to replicate our findings: (1) it should be clarified what the EI measures represent and the kind of information that they provide; (2) the authors used an atypical equation to calculate effect size, which used the standard deviation expected by statistical chance instead of using the equation originally proposed by Cohen.¹⁶ This decision was not arbitrary and has statistical justification from the raw data. And (3) in relation to the raw data, it should also be reiterated that beyond-chance (or statistical) findings do not necessarily validate “psi” as the explanation for putative anomalous cognitions. We address these points below via a description and instruction on how to use this data matrix transparently and preventively.

Methodology

Description of the raw data

The data matrix contains 634 cases (which are rows) and 18 measured variables (which are columns). No missing values are present and the personal information of the participants was anonymized. The database file is in “.sav” format, which means that the value labels, values and variable names are recorded. The file can be opened free of

charge with Jamovi® or with JASP® (both softwares are based on the R programming language). Due to this feature, the matrix can be transformed and exported to other computer file formats. The database specifications are described in Table 1.

Table 1

Specifications and descriptive summary of the raw data from the research by Escolà-Gascón et al.¹

Subject	<i>Social and Personality Psychology</i> , according to DIB categories, from Elsevier.
Specific subject area	Raw data on anomalous cognitions experiments, remote viewing and emotional intelligence measurements.
Type of data	Table-type (see subsection <i>Data format</i> of this table for more information).
How the data were acquired	Data collected from human individuals, from the face-to-face execution of a remote viewing quasi-experiment, digital sociodemographic surveys and face-to-face applied cognitive assessment tests (see subsection <i>Description of data collection</i> of this table for more information).
Data format	The raw data are configured in a matrix of <i>i</i> cases (rows) and <i>j</i> variables (columns) that is in ".sav" file format. The cases recorded were from the general population with no clinical history and no declared psychiatric psychopathology. The variables included measured sociodemographic information, the successes of the remote viewing experiment, the degree of attitude towards the real existence of psychic phenomena, the dimensions and total scores transformed from intelligence quotients of emotional intelligence and discrete division of the cases according to the groups of the quasi-experiment conditions. We also classified the whole sample into subsamples using a statistical criteria referred to the IQ median of emotions and criteria according to theoretical thresholds of the previous evidence provided by the <i>Mayer-Salovey-Caruso Emotional Intelligence Test</i> (MSCEIT) score rating.
Description of data collection	Data were collected from three types of applications: firstly, for the remote viewing experiments the participants were called in person at the facilities rented for the execution of the trials. Each response was recorded manually and, subsequently, the calculation of the total number of correct answers was made; this score was the one recorded in the database. Secondly, for the recording of sociodemographic information and the measurement of the degree of favorable attitude towards psychic phenomena, digital devices based on surveys were used. Thirdly, the measurement and application of the MSCEIT was individual. In total, the data collection lasted more than one year (having elapsed approximately one year and three months).
Data source location	Institution: these data belong to the authors of the manuscript and not to a specific institution. For more information on institutions, see academic affiliations. City/Town/Region: Barcelona, Catalonia Country: Spain Latitude and longitude (and GPS coordinates, if possible) for collected samples/data: 41.40563, 2.16860.
Data accessibility	Repository name: <i>Harvard Dataverse</i> Data identification number: https://doi.org/10.7910/DVN/GXOCDQ Direct URL to data: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/GXOCDQ Instructions for accessing these data: any user may download this dataset by providing their identification information (first and last name), academic affiliation, and email address. This procedure will be done by registering on the <i>Harvard Dataverse</i> platform. The applicant must follow all the steps listed and will have access once he/she provides all the requested information.
Related research article	¹ À. Escolà-Gascón, J. Houran, N. Dagnall, K. Drinkwater, A. Denovan, Follow-up on the U.S. Central Intelligence Agency's (CIA) remote viewing experiments. <i>Brain. Behav.</i> e3026 (2023). https://doi.org/10.1002/brb3.3026

Sample collection

The logistics that allowed data collection were based on three resources: 1) funding from private institutions; 2) participation of collaborator-scholars who executed the experiments; 3) simultaneous applications of the remote vision experiment tests and the MSCEIT test applications, as well as the complementary questions on sociodemographic data.

The sample collection duration was 20 months, starting in November 2020 and ending in June 2022. COVID-19 restrictions essentially affected the first three months of sample collection. During the year 2021 the trial applications were performed with a mask; there were some exceptions in the applications at the request of the participants in which, individually the experimenter and the participant removed the sanitary mask by mutual agreement and under their own responsibility. Mask use began to be phased out in 2022 as government regulations and legislation permitted. In total, the work team consisted of 21 collaborators who acted as applicators and executors of the experiments. Some of them were students and others were fellows. The collaborators who executed the experiment were previously instructed about the conditions of the experiments, they did not know the correct answers for each of the tests and their participation was, in most cases, voluntary.

The collaborators wrote down on paper the answers of the participants who performed the experiment. These notes were given to an intern who was in charge of calculating the total scores and computed these scores-counts in a data matrix. The same happened for the application of the MSCEIT and the data related to the sociodemographic variables. The raw data shared and available in *Harvard Dataverse* brings all this information together.

Results

The hit measurements of the remote viewing tests are raw counts ranging from 0 (minimum value) to 32 (which are the maximum possible hits). Emotional intelligence scores are IQ scale measurements. The IQs were obtained from the Spanish scales of the *Mayer-Salovey-Caruso Emotional Intelligence Test* (MSCEIT).^{17,18} Likewise, qualitative variables were included in the matrix to segregate the total sample into new subsamples. These indicators and their rationale are explained in the original report by Escolà-Gascón et al.¹ Fig. 1 groups the distributions and densities of the variables for the group of participants who performed the remote viewing tasks with coordinate-based targets. Fig. 2 gives the distributions and densities for the participants who performed the remote viewing tasks with target-based targets.

The distributions in Figs. 1 and 2 one support what Prof. Tressoldi already cautioned in his analysis: for the remote vision hits some skewness prevails in the data, however, the skewness is moderate and keeping the normalized pattern in the rest of the variables does not represent a reason for bias in the analyses. Fig. 3 shows the distributions of the hits, dividing the sample into three groups according to the level of emotional intelligence. Likewise, Fig. 4 shows the distributions of the hits divided into two groups according to the median obtained in emotional intelligence: high emotional intelligence scores and low scores.

Discussion

We provide several comments on essential questions about the interpretation of Escolà-Gascón et al.'s¹ measurements and results. These issues are methodological, but they are a fundamental part of the potential use of this data matrix.

The EI measurements

First of all, our measurements of EI, although cognitive, do not represent a measure of a type of "intelligence" per se. Nor do we enter

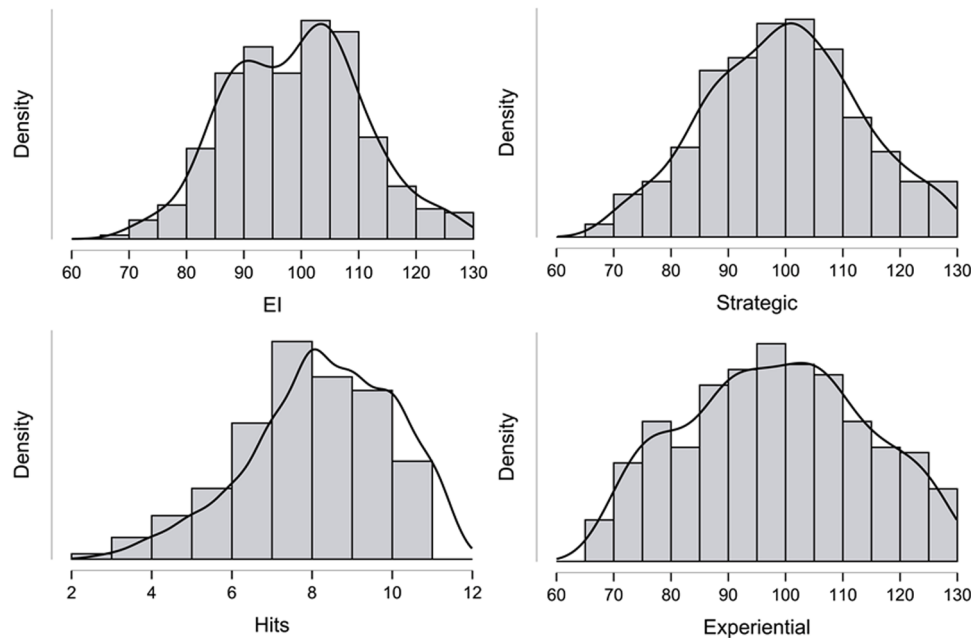


Fig. 1. Distributions and density functions of the main variables when the targets in the guesses were coordinates. EI= Emotional intelligence.

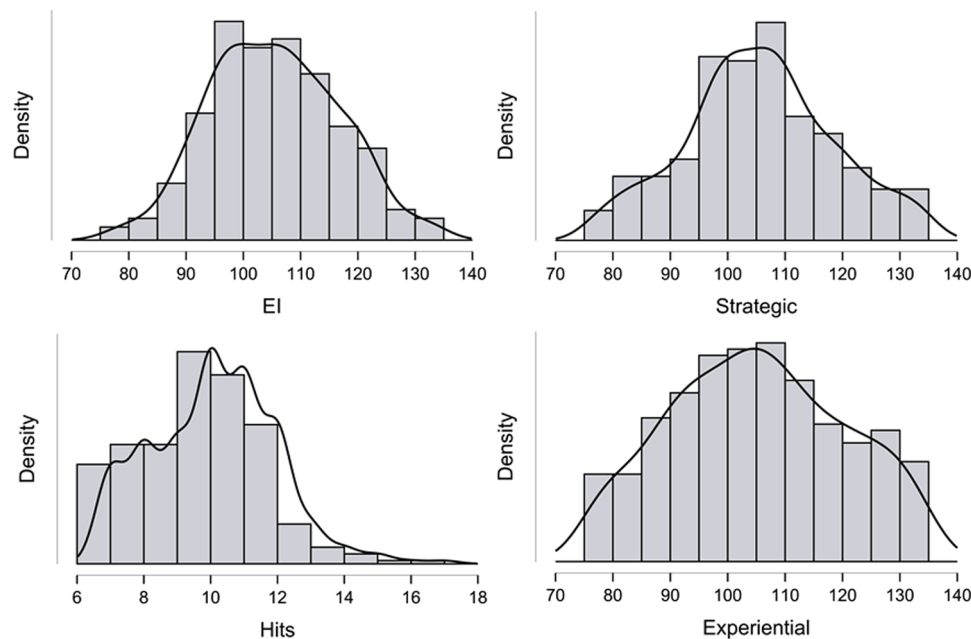


Fig. 2. Distributions and density functions of the main variables when the targets in the guesses were images. EI= Emotional intelligence.

here into any type of discussion that goes beyond the main objective of our study. In order to be operational and focus on what is important, we will say that this measure evaluates a learned- or cultural- ability to identify, express, and understand emotions and which is further used in the regulation of behavior. This is the most conservative definition of Salovey and Mayer [20], which we endorse here. The more effective that this learning about emotions is, the higher the score a person will obtain on the MSCEIT cognitive instrument. The expression “emotional intelligence/ EI” should not generate confusion; it is a name that was used by consensus. There should be no difficulty (and this would not change the value of the results) if the expression was changed to a less grandiloquent category. One issue to highlight is that our discussion in the original report did not address the following issue: if EI is a construct

culture-bound to each region or country, then it is important to examine whether cultural differences contributed to Escolà-Gascón et al.’s significant effects. If this were the scenario and the cross-cultural invariance analyses did not hold true, then there would be reason to conclude that EI was not a key variable influencing remote viewing hits. Cross-cultural analyses of this type could reveal some potential bias(es) in the MSCEIT measures that might account for the significant positive correlations reported. This approach should be pursued by future research which aims to replicate or extend our original study.¹

Effect size calculations

Second, in the original report the authors obtained observed stan-

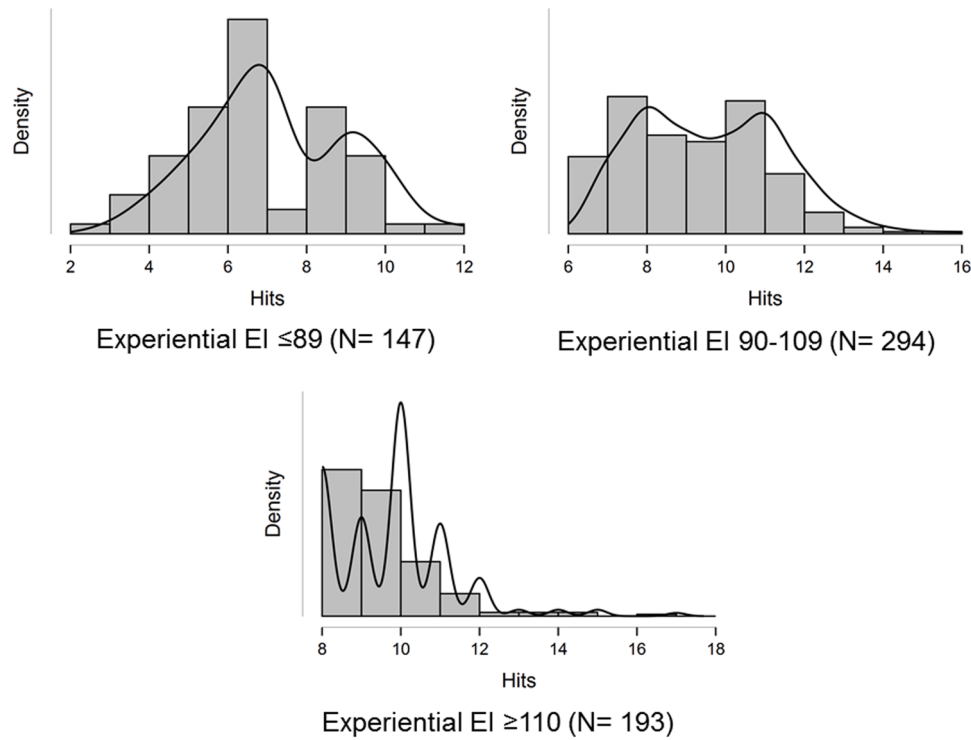


Fig. 3. Distributions and densities of remote viewing hits for the three groups according to intelligence levels following the criteria of Mayer et al. EI= Emotional intelligence.

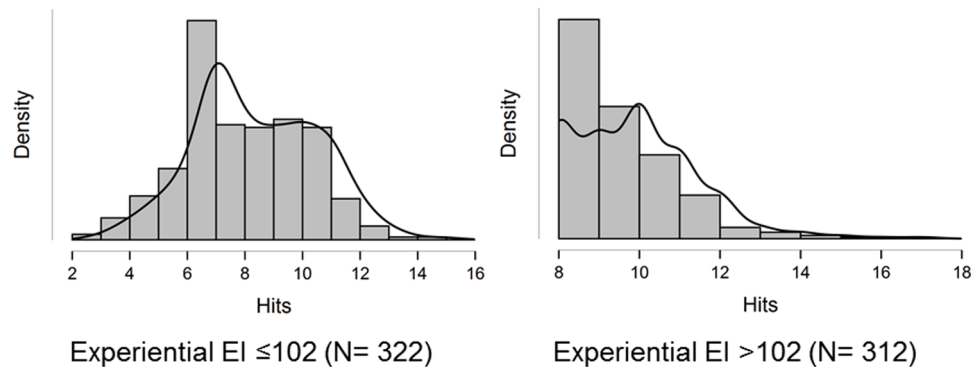


Fig. 4. Distributions and densities of remote viewing hits for two groups divided according to the experiential EI median. EI= Emotional intelligence.

dard deviations in the study groups that were lower than would be expected by chance. The estimated deviation attributable to chance should be 2.45, which would be calculated by applying the following equation (Eq. (1)):

$$\sigma \sim \hat{\sigma} = \sqrt{32 \times \frac{1}{4} \times \frac{3}{4}} = \sqrt{6} = 2.45 \quad (1)$$

Escolà-Gascón made a test based on the null hypothesis that the discrepancies between the observed and expected deviations were not significant (the observed standard deviation of the image-based believer-target group was 1.889, that of the other group 1.768). However, from the Snedecor and Cochran test that analyzes the differences between the variance of one sample and another theoretical sample (in this case the expected variance according to chance) we found that there were significant differences with a critical level of less than 0.01 ($p < 0.001$). This datapoint is crucial, although it was not included in the original report for practical reasons.¹ When calculating an effect size following Cohen's rule (which is still the standardized difference between two means), the observed standard deviations are usually used.¹⁶

If we had followed Cohen's rule we would have obtained effect sizes that were completely inflated in favor of the alternative hypothesis that the hits exceed chance-expectations. In fact, if we applied the conventional rule with the psychic-believers group, we would obtain an effect size of 1.106, whose difference with the actual effect size obtained in the original investigation (which was 0.853) could be explained by the fact that we obtained such small (underestimated) standard deviations.

To avoid this statistical error, the original authors¹ replaced the observed standard deviations by the one that would be expected according to chance, i.e., the value equal to 2.45. This criterion was intended to convert the results obtained into more robust (and realistic) values, avoiding statistical biases that were previously committed in other investigations by advocates of parapsychology. Therefore, the fact of having obtained very small standard deviations (i.e., they would be underestimated) was prevented by this methodological decision. The reason why we obtained small deviations is not known and could involve multiple hypotheses. For example, it could simply be a statistical artifact. But this idea implies that it should be possible to identify and correct the source such that the deviations would increase to amounts

equal to 2.45. The problem is that this hypothesis is not testable (it is an assumption that, at best, we could try to simulate, but it would be neither testable nor applicable to this study). Let us remember that simulations are not synonymous with real applications. Therefore, it would arguably be a non-scientific hypothesis because it could not be falsified via empirical scrutiny.

Another hypothesis relates to the central limit theorem, i.e., the sampling distribution of the mean will always be normally distributed, as long as the sample size is large enough, regardless of whether the population has a normal, Poisson, binomial, or any other distribution. Our study did not analyze the direct counts of each participant, but rather only considered the total averages of several samples. This means that we are analyzing average values that have a margin of dispersion that should have a smaller amplitude as we add more cases to each of the samples. This is one of the bases of the central limit theorem, the more the size of a sample increases, the more kurtosis is generated, thus reducing the amplitude and, consequently, the standard deviations. This is not an exact law, but a mathematically-demonstrable trend that defines the essence of all theorems. We point this out, as we acknowledge that our observed distributions—which were divided into sub-samples—do not comply with the normality rule. If we were to group all cases into a single sample, we can prove that a normal pattern in the data is observable (see Fig. 5). Likewise, we put this forward as a hypothesis, but again, outside the framework of formal logic or simulation, it is not an accessible hypothesis using the data here.

How to interpret statistical anomalies

The third and last point is related to the statistical interpretation of the average values obtained in the remote viewing hits. Looking for the reality of a certain phenomenon from statistical markers alone may be a valid source of information, since not all phenomena are directly observable. However, as a statistic, it is a representation that should facilitate our understanding of *why*, *how*, and *when* the phenomenon occurs. The problem with obtaining statistical anomalies is that they do not allow us to be sure that we have captured the phenomenon intended to be measured. We know that we have obtained “unusual” outcomes, but we do not know exactly the mechanism(s) responsible for those outcomes (see Escolà-Gascón’s handbook of statistics).¹⁹ It is also true that if an anomaly does not represent any solution in itself, it is a replication that seems to be in line with prior evidence. Thus, we underscore Escolà-Gascón et al.’s¹ original conclusion and position statement that research on the provocative topic of putative psi or nonlocal perception should certainly continue as part of other approaches in consciousness studies. Yet the academic community should neither presume the validity of anomalous cognitions at this point, nor should it consider them to be impossible. Both dogmatic positions conflict with scientific theory and practice—the former by assuming the existence of an anomalous process of information transfer without specifying its mechanisms (or Type I errors), and the latter by limiting scientific knowledge to ideological imperatives that cannot be contrasted through method (or Type II errors). The only known limitations were established from epistemology, and it is known that any form of epistemology does not cease to be a frame of reference established by convention. Consequently, if a convention is a formal agreement, then we could also come to disagree with it when convenient. In this sense, epistemology is an excessively weak criterion for reflection when one intends to judge scientifically the validity of a phenomenon.

In part, this is how science advances; it is essential to know how to discern when to claim the defense of the orthodox knowledge of science and when to accept the mutation and creation of new knowledge. This judgment has no concrete demarcation, and this would be another problem that we should begin to address in those objects of study that are borderline to science (such as anomalous cognitions). Therefore, whatever the reader’s position, whether for or against “psi” as the explanation for putative anomalous cognitions, one thing is clear: the

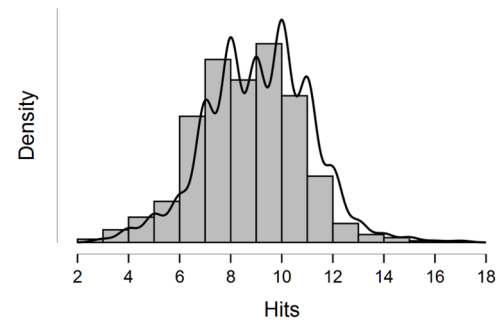


Fig. 5. Distribution of remote viewing test hits for all cases (no segregations).

significant and beyond-chance results mandate that we scientists must continue to research the nature and limits of consciousness and not limit potential advancements by stubbornly defending certain types of ideological narratives that are ultimately rooted in personal preferences.

Notes on the contextual information

To avoid any kind of confusion, we wish to emphasize that the term CIA used in the title of the original report and in this article is a contextual designation for what was the initial and final framework for the development of remote viewing research programs. We are well aware that multiple organizations were involved in the management, development and funding of the remote viewing programs. The interested reader is referred to the following historical references:¹⁰ and ¹¹. Likewise, our acknowledgement to Edwin May as the director of the remote viewing science program refers specifically to the scientific direction of that program (as lead researcher) and not to the administrative direction of the CIA. At no time and in any of our reports we mention that Edwin May is employed by the CIA nor the director of such, which is why there should be no cause for any kind of confusion in this regard.

Data availability statement

The raw data associated to this report is available in Harvard Data-verse: <https://doi.org/10.7910/DVN/GXOCDQ>.

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