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State, Trait, and Target Parameters Associated with Accuracy in Two Online Tests of Precognitive Remote Viewing[1]

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Abstract: *Objective*. To better characterize the relations between accuracy on precognitive remote viewing (PRV) tasks and potentially relevant trait, state, and target parameters, we gathered PRV data in two online experiments and examined accuracy relative to: sex-at-birth, gender, age, anxiety, unconditional love, and target interestingness. *Method*. In experiment 1 we used a forced-choice, uncontrolled-time, self-judged PRV task for which 682 unpaid participants contributed a total of 5,432 trials. Experiment 2 used a free-response, controlled-time, independently judged PRV task for which 307 paid participants each contributed a single trial. In neither case were the participants pre-screened for precognition ability. *Results*. In experiment 1 (forced-choice PRV task), there was no significant target precognition and no effect of age on PRV performance, but we found a complex effect of sex-at-birth. We also found that targets most likely to be correctly predicted were also more likely to be judged as interesting compared to targets most likely to be incorrectly predicted; a pre-registered analysis confirmed this effect. In experiment 2 (free-response PRV task) we found significant target precognition, no effect of age on performance, and a weak and indirect effect of gender. Feelings of unconditional love and anxiety were both correlated with higher accuracy in experiment 2. Again, target interestingness was positively related to accuracy. *Conclusion*. These results suggest that accuracy on PRV tasks is related to the emotional state of participants and target interestingness, and that task char-

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acteristics mitigate overall performance. We provide recommendations for future research based on these observations.

Keywords: precognition, remote viewing, anomalous cognition, parapsychology, gender differences, sex differences, love

Highlights

- To better understand precognition, we examined how age, sex-at-birth, gender, two different mood states, and target interestingness related to accuracy on two PRV tasks.
- A forced-choice PRV task revealed no target precognition, but a free-response PRV task revealed target precognition at a rate higher than chance.
- Target interestingness was significantly related to greater accuracy in both tasks.
- Greater feelings of unconditional love were significantly related to greater accuracy in the free-response PRV task.

Precognition, the scientific name for cases in which an individual knows, senses, or acts upon accurate information about a seemingly unpredictable future event without using ordinary inference or sensory cues, is one of the most robust psi phenomena (for recent reviews see Mossbridge, 2023; Mossbridge & Radin, 2018a, b). Evidence for precognition has been provided by controlled laboratory experiments, in which participants must implicitly or explicitly predict the future outcome of a truly random process (e.g., Bem, 2011; Bem et al., 2015; Mossbridge et al., 2012; Watt et al., 2020). Rigorous laboratory examinations of precognition have indicated it is statistically reliable, as per a report released as part of a U.S. government intelligence program (Mumford et al., 1995) and related work (e.g., May, 2014).

Decades later, only a small portion of the scientific community concurs that precognition has been verified, though scientists have continued to find evidence supporting precognition. Controlled experiments examining behavioral precognition use one of two task types: 1) implicit tasks, in which participants are not asked to directly or consciously predict the future but instead are asked to act in ways that are later associated with future events (e. g., button presses), and 2) explicit tasks such as precognitive remote viewing (PRV), in which participants are asked to consciously make a

prediction about an unknown future event (for reviews: Mossbridge, 2023; Mossbridge & Radin, 2018a,b; rebuttals: Houran et al., 2018; Schwarzkopf, 2018; response to rebuttals: Mossbridge & Radin, 2018b). In hopes of better understanding precognition, and initiating more nuanced methods of investigation into precognitive remote viewing in particular, in this paper we examine several participant and target parameters that may affect performance on PRV tasks.

Briefly, during a PRV task participants are asked to describe a target that will be randomly selected and presented to them only after they have completed their description, which is called a *transcript*. There are two general types of PRV task: forced-choice and free-response. In a forced-choice PRV task, the participant themselves will select which of two or more potential targets best matches their transcript before the target is selected. In a free-response PRV task, the participant will submit their transcript itself to the experimenter before the target is selected. Once a PRV experiment is complete, the experimenter determines the relation (if any) between the transcript and the target by asking independent judges to compare the transcript with the actual target as well as one or more non-target stimuli, with the judges unaware of which stimulus was the real target (Nelson et al., 1996; Targ, 2019; Utts, 1995).

PRV has been employed in several non-experimental applications, including predicting the outcomes of sporting events and fluctuations in stock prices (Katz et al., 2019, 2021; Kolodziejzyk, 2013; Smith et al., 2014; Tait, 2019) and answering important research questions about the future of humanity and the planet (Mossbridge & Vivanco, 2022; Schwartz, 2021). Looking towards future PRV applications, artificially intelligent systems could be used to better select participants, transcripts, and targets with the aim of creating a four-dimensional map of the future that would better inform decisions in the present based on additional information about surprising or concerning effects in the future (Mossbridge, 2023b). Thus, PRV may eventually have a large impact on humanity, but we do not currently have a good understanding of the parameters that influence performance on PRV tasks or the mechanisms governing precognition (Evrard & Ventola, 2018). This slow progress may be caused by taboos against scientific investigation of apparently nonphysical phenomena, resulting in the reticence of public science organizations to fund precognition research and of mainstream psychology and neuroscience researchers to become involved (Cardeña, 2014, 2018; Wargo, 2015). Progress has also been slow because existing research has revealed that participant and target parameters are related to precognitive accuracy in complex ways, making the most basic questions about precognition difficult to address simply.

What is known about the parameters affecting PRV performance? Thus far it is clear that two personality traits, openness to experience and extraversion, are often associated with performance on individually-tested extrasensory perception or *psi* skills such as telepathy, clairvoyance and precognition (Hitchman et al., 2012; Honorton et al., 1998; Palmer & Carpenter, 1998), but the direction of this relation may depend on the particular task performed to assess a given skill (Mossbridge, 2023; Mossbridge & Radin, 2021). Some gender effects on performance in forced-choice precognition tasks have been reported (Bierman & Scholte, 2002; Radin & Lobach, 2007; Zdrenka & Wilson, 2017), but they have not been rigorously examined in free-response tasks, and age effects have been under-examined. This may be because several of the early Star Gate program remote viewers were women who provided data on par with sessions from talented men (notably Hella Hammid and Charlene Cavanaugh Shufelt; Smith, 2005), lending no anecdotal support for a gender difference in free-response PRV tasks. Here in each of two experiments, we examine the potential relations between age, gender, sex-at-birth, or reproductive hormone status and performance on forced-choice and free-response PRV tasks.

Feelings related to self-transcendence may also support PRV accuracy. This hypothesis arises from several lines of evidence. First, the non-anxious state of *mindfulness* – a state of awareness of oneself and one's own surroundings while being filled with compassion – seems to be related to improved performance on forced-choice precognition tasks (Roney-Dougal et al., 2008; Roney-Dougal & Solfvin, 2011; Varvoglis et al., 2019). Meanwhile, ganzfeld stimulation, which can be considered to induce many of the aspects of mindfulness, compared favorably to non-stimulated sessions in a crossover design in terms of performance on a free-response PRV task (Roe et al., 2020). The experience of being in a positive or expansive mood has also been correlated with better accuracy in a largely precognitive ESP study conducted with ganzfeld stimulation (Carpenter, 2005), and was seen to promote stronger relations between state and trait parameters and precognitive scoring (Carpenter et al., 2021). Relatedly, one of our previous examinations of free-response PRV indicated that participants experiencing the self-transcendent state of unconditional love performed better at PRV in one condition (Mossbridge et al., 2021b). Taken together, these results motivated our examinations of the relations between free-response PRV accuracy, anxiety, and unconditional love in the second experiment reported here.

The final parameter we examined was target interestingness. Anecdotal reports suggest that interesting targets may improve remote viewers' motivation to perform the relatively laborious and attention-requiring free-response PRV process even though viewers do not know what the target is ahead of time. Relatedly, two studies

have provided evidence that targets rated as more intriguing or awe-inspiring ("numinous" targets) are more likely to be correctly identified in free-response remote viewing (RV) and free-response PRV tasks (Krippner et al., 2019; Schwartz, 2007). However, to our knowledge there have been no peer-reviewed studies examining whether target interestingness is related to performance on forced-choice PRV tasks.

It is important to note that this report follows our discovery process from exploration to confirmation/disconfirmation. As described by the "SEARCH" strategy used in a previous examination of performance on online psi tasks (Mossbridge & Radin, 2021), we took an exploratory approach in analyzing the first portion of the data from experiment 1, then pre-registered a confirmatory analysis for the only effect we felt was robust enough to warrant further study (the effect of target interestingness). Before conducting experiment 2, we made four formal predictions, one a confirmatory prediction, and reported them to a granting agency. A fifth confirmatory prediction was added after the analysis of experiment 1 was complete. We thus made no attempts to correct for multiple comparisons during the exploratory phases or to make ourselves appear prescient in retrospect during the confirmation/replication phases.

Methods: Experiment 1

Data Separation by Date

Data from the experimental website at http://ThePremonitionCode.com/tester were obtained in two downloaded batches. The first consisted of data recorded from the launch date of the website (October 1, 2018) to midnight GMT on April 30, 2019, the second consisted of data recorded from 12:01 am GMT on May 1, 2019 to midnight GMT on April 30, 2020. These cutoff times were used because they corresponded relatively well to the data download times used in a related experiment published previously (Mossbridge & Radin, 2021).

Procedure

Visitors to the website were asked whether they would like to be part of an experiment. If so, they were shown an online consent form. People could use the website for precognitive remote viewing (PRV) practice without signing the consent form. After signing the consent form, participants could continue to use the practice and test features on the website.

Researcher Information

JM interacted with participants by responding to questions via email and sending out a newsletter to anyone who used the website (regardless of consent status). Her belief that the experiment would produce positive results was at the strongest level (5 on an integer scale from 1 [very little belief] to 5 [highest belief]). MB interacted with participants indirectly via periodic database queries as requested by JM or participants and his belief in a positive outcome of the experiment was also 5 on the same scale.

Participants

All procedures and protocols for human subjects' research were approved before use by the Institutional Review Board of The Windbridge Institute (WIIRB# 2018-MI-0930). We included as participants those who signed the electronic informed consent form and performed at least one trial on the site during the periods included within the two data batches, reported that they were 18 or over, and were not among the authors of this paper. Participants could optionally self-identify age, gender, and sex via a text field; not all participants provided this information.

We recorded data from a total of 470 participants in the first batch (age M = 43.9 years, SD = 13.2 years). Of those who reported sex: 190 were females (178 females were cis-gendered, 8 did not report a gender, 1 was gender fluid, 2 were non-binary, and 1 female was mostly female but at times male). With respect to males (n = 109), 100 males were cis-gendered and 9 did not report a gender.

We recorded data from 212 total participants in the second batch, 37 of whom had contributed data to the first batch. Of those 175 participants who registered only during the time frame of the second batch (age M = 42.5, SD = 11.6), 147 reported their sex: 98 were female and 49 were male. Of the females, 94 were cis-gendered, 1 did not report a gender, 1 was male gendered, 1 was fluid, and 1 was bigendered. Of the self-reported males, 41 were cis-gendered, 4 did not report gender, 1 was female gendered, 1 was nonbinary, 1 was gender fluid, and 1 was androgynous.

For the sake of the statistical analyses, we assumed all of the participants were unique individuals, but it was possible that different userIDs may have originated from the same person creating two different userIDs. However, each registered userID was verified with an email verification process, so we assume that using multiple IDs, if present at all, was rare.

Forced-choice Precognitive Remote Viewing (PRV) Task

The website task was designed to measure conscious precognition performance via a forced-choice precognitive remote-viewing (PRV) task (Figure 1). Users could choose to participate in the "practice" or "testing" versions of the task at any time and as often as they liked. The only differences between the practice and testing versions were the names of the tasks displayed to the users and the fact that participating in "testing" meant a user could compete for a position in the website's "Hall of Fame." Data from both tasks were combined except when noted in *Results.*

Participants were asked to perform the six steps of "controlled precognition" (i. e., precognitive remote viewing [PRV] with a forced-choice response), as outlined on the website as well as in an accompanying book (Cheung & Mossbridge, 2018). These steps were designed to help individuals feel that they could sense information about a visual target to be presented in the future. We had no way of determining whether users actually performed the steps before step 5. In step 5, they were presented with two categorical graphs (Figure 1, top) and asked to determine which of them represented the contents of the upcoming visual target. The software forced the users to choose between the two graphs at that point to continue.

Each graph showed the presence or absence of eight potential descriptor elements in the upcoming image (e. g., water or fluid, landform, human-made structure, animal or human, vegetation or food, space or sky, energy, words/symbols/ideas). We designed the graphs to represent a randomly selected but pre-paired set of 500 to 589 images (during the time period of the first batch, the original 500 targets were updated with 92 additional targets [Feb. 6, 2019], creating image pairing issues that resulted in the removal of 3 targets [April 1, 2019], resulting in 589 target images for the remainder of the time period of the first batch and during the entire time period of the second batch). The target images, called Profile A (described in the left or top graph) and Profile B (described in the right or bottom graph) were chosen to be mutually exclusive in their contents. For example, if the graph representing Profile A indicated that one possible target contained animals or humans, the graph representing Profile B would indicate a paired possible target that did not contain these same elements (Figure 1, top).

After the user had selected one of the graphs, the software would randomly choose one of the two images represented by the graphs to display to the participant (Figure 1, bottom). This was the target image that the users would have been intending to describe if they had been following the steps of controlled precognition. After view-

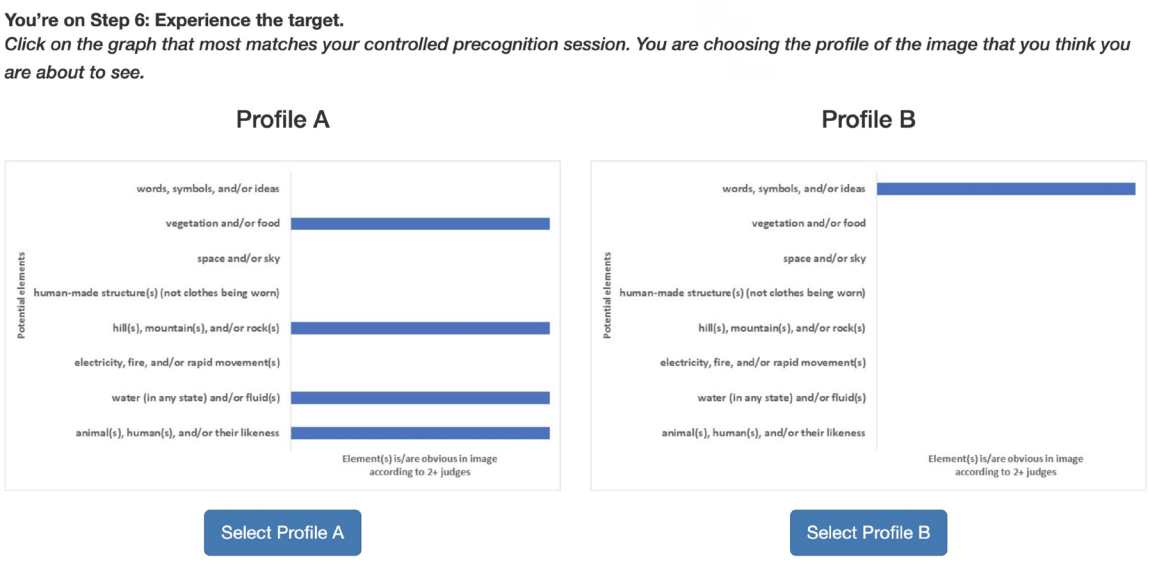

Figure 1

Screenshots showing the last two steps of the forced-choice PRV task (experiment 1). (Top) Participants chose between two graphs representing elements in each of two potential targets. (Bottom) After the graph was selected a final target was randomly selected and displayed.

ing the target image, users were invited to see their performance statistics. By design, there was no quick way to launch another trial except by going back to the starting screen. This enforced a relatively long (seconds-to-minutes) delay between trials in an attempt to emphasize the importance of a single trial and make participants more likely to take their time when they performed the forced-choice PRV task.

Random Number Generation

The website used a random number generator that drew from a truly random source. The tester portion of the site was developed using PHP 7.1, MySQL, HTML, javascript, and Bootstrap and was hosted by Tiger Technologies (Berkeley, CA). Random numbers used by the application for target selection were generated using calls to the PHP random_int() function, which returns cryptographically secure random numbers through the use of the Linux getrandom(2) system call. The server hosting the site files uses /dev/urandom which "gathers environmental noise from device drivers and other sources into an entropy pool" (https://linux.die.net/man/4/urandom; Tiger Technologies, personal communication, 2019) and passes all National Institute of Standards and Technology (NIST) tests of randomness (Cieslarová, 2018).

Data Analysis

Overall Approach. Forced-choice PRV data were analyzed in Microsoft Excel and Matlab 2018b. The threshold for statistical significance was set at $p = .05$, two-tailed. *Raw data are available upon request.*

Our analyses of the forced-choice PRV data comprised two parts. First, we treated participants who contributed to both batches (17% of the participants) as independent individuals contributing to the separate batches. Thus, we first analyzed the batches independently to examine overall accuracy, the relation between targets that were more likely to be correct vs. incorrect, performance over time, and the relation between the targets' level of "interestingness" and accuracy. After examining these factors, we combined scores across batches such that each user with a unique login had one accuracy score averaged across all trials they had performed within the data download periods. Within this larger combined dataset, which we believe was more appropriate for an individual differences analysis, we examined whether age or sex-at-birth influenced accuracy.

Interestingness Analysis. To determine whether the "interestingness" of targets was related to their likelihood of being correctly selected in the forced-choice PRV

task, we examined only targets presented to the participants in the second position on their device's screen. This is because in the first batch we found a strong bias toward choosing targets presented in the first position (see *Results*), and we wanted our analysis to primarily include targets that were selected for reasons other than screen position bias.

The first step in this analysis was to find targets that were consistently correctly selected – or incorrectly ignored (i. e., they were the correct target, but the other target was consistently selected). For each of the two data batches, we first calculated the ratio of incorrect to correct trials for each target presented in the second screen position. Then we identified the *n* targets that had a ratio of incorrect to correct trials of 0.4 or less (i. e., top-*n*-correct targets, *n* = 8 for the first batch, *n* = 5 for the second batch). Most-likely incorrect targets had to have an incorrect-to-correct ratio of 2.2 or greater; this more stringent standard was selected because targets presented in the second position were more often incorrect than correct due to bias towards selecting targets in the first position. We chose the *n* targets with the highest incorrect-to-correct ratios and called these the top-*n*-incorrect targets (Figures A-D for top-*n*-correct/-incorrect target sets for both batches; their features can be retrieved from https://tinyurl.com/MossbridgeEtAl2024Appendix). Once we identified these two sets of targets, we created *n* unique *interestingness questionnaires* designed to assess the "interestingness" of the targets. Across all *n* questionnaires, each top-*n*-correct target was presented alongside each of top-*n*-incorrect target in every possible pair combination (e.g., the first most incorrect target was presented with the first most correct target in one questionnaire, and presented with the second most correct target in another questionnaire, etc.).

To determine the interestingness of the targets, interestingness questionnaires were presented one at a time to different groups of paid workers on the Amazon Mechanical Turk website, with each group consisting of 10 paid workers. Their task was to look at each of the pairings of the images in the questionnaire they were viewing and ask themselves which of the two images was most interesting/intriguing, or whether they could not determine the answer. Workers were not told about the context of the original experiment or that it had anything to do with precognition, and each worker only saw one questionnaire. Each target was given *n* independent "interestingness" scores based on the data from each of the *n* questionnaires. Interestingness scores were calculated according to the proportion of workers who completed a given questionnaire who chose a target as most interesting (e.g., 1 = all workers thought it was the most interesting target; 0 = none of them thought it was most interesting; 0.5 = half thought it was most interesting).

We compared interestingness scores derived from the Amazon Mechanical Turk workers' rankings between the top-*n*-correct and top-*n*-incorrect target sets using *t*-tests. We compared these rankings in two ways: 1) across sets of responses derived from *n***n* questionnaires per each of the two target sets (the "across-responses" method), and 2) between averages of responses from the *n* questionnaires representing each target (the "averages" method). These analyses were pre-registered prior to downloading data in the second batch (as in Mossbridge & Radin, 2021), so both methods of analysis are reported here. Following pre-registration we noticed a large variation in rankings for each target depending on which other target they were paired with in the questionnaires, so we believe the across-responses method is probably most appropriate in that it captures the larger-than-expected intra-worker variability. Regardless, we report both analyses. Finally, we note that the pre-registration was completed prior to discovering that in the original analysis of the first batch we had failed to remove data from the website developer and the experimenter, so the numerical results presented here do not match the pre-registration document approved prior to discovering this oversight.

Results: Experiment 1

Overall Accuracy

Performance on the forced-choice precognitive remote-viewing (PRV) task for the 3,003 trials in the first data batch was at chance for both practice and test trials, with participants performing slightly but not significantly better on practice than test trials (practice trials: proportion correct 0.522, binomial test $p < .10$; test trials: proportion correct 0.50, binomial test $p > .99$; $\chi^2_{(1, N = 3003)} = .43$, $p > .51$). For the 2,429 total trials in the second batch, performance was significantly worse than chance for test trials, while performance on practice trials was no different from chance, following the same trend as in the first batch (practice trials: proportion correct 0.49, binomial test $p > .79$; test trials: proportion correct 0.45, binomial test $p < .01$). This difference between trial types was significant in the second batch ($\chi^2_{(1, N = 2429)} = 3.9$; $p < .05$; practice trials more accurate than test trials). The worse-than-chance performance on test trials, while small, indicated an expectation-opposing effect. In all further analyses, practice and test trials were not differentiated.

Data from the first batch revealed that participants exhibited a massive bias toward selecting Profile A (proportion of Profile A trials: 0.58, binomial test $p < 3x10^{-}$

[16]), a bias larger than any precognition effect we would expect to see. This bias was much reduced in the second batch (proportion of Profile A trials: 0.51, binomial test $p > .17$). This bias reduction could have resulted from a change in behavior resulting from a newsletter sent out by the first author after analyzing the first batch, in which subscribers to the website were informed about the overall bias we were seeing (see *Discussion*).

Target Interestingness

In the first batch, there were 8 targets presented as Profile B that were most likely to be correctly chosen as the target (also called top-8-correct), and in the second there were 5 (also called top-5-correct; see *Methods*: *Experiment 1;* and https://tinyurl.com/MossbridgeEtAl2024Appendix). In both batches, independent Amazon mTurk judges who were not informed about the purpose of the experiment rated the likely-correct images as more interesting when compared to the likely-incorrect images (first batch: $t_{12\ 6} = 3.49$, $p < .0007$ for across-responses, $t_{14} = 1.90$, $p < .08$ for averages, Figure 2a; second batch: $t_{48} = 5.03$, $p < .000008$ for across-responses, $t_{8} = 3.59$, $p < .008$ for averages, Figure 2b). Note that for the second batch, these analyses were pre-registered and thus the original interestingness effects were replicated with confirmatory analyses. Supporting these results, linear regression of the ratio of incorrect-to-correct trials for each target in the top-*n*-correct and top-*n*-incorrect data sets on interestingness ratings revealed significant or near-significant negative correlations (first batch: $r_{14} = -0.45$, $p < .08$; second batch: $r_{8} = -0.70$, $p < .03$), again indicating greater accuracy with increasing interestingness.

Further scrutiny of this effect seemed warranted because the images in the top-*n*-correct data sets contained different elements from those in the top-*n*-incorrect data sets. The design of the task allowed participants to see the elements of each potential target via the categorical graphs presented before the presentation of the actual target (Figure 1). Thus, it seems possible that these elements themselves were considered differentially interesting – causing participants to avoid selecting uninteresting targets, potentially producing the interestingness effect. To determine whether this kind of explicit foreknowledge explained the relation between interestingness and accuracy, we examined the interestingness scores of the five top-*n*-correct/-incorrect targets in both batches again, this time matched for content. First, we removed all targets containing text only and then performed the interestingness analyses again.

The results revealed a dominance of more interesting targets in the top-*n*-correct data sets, a significant difference for the second batch (first batch: $t_{102} = 1.51$, $p > .113$

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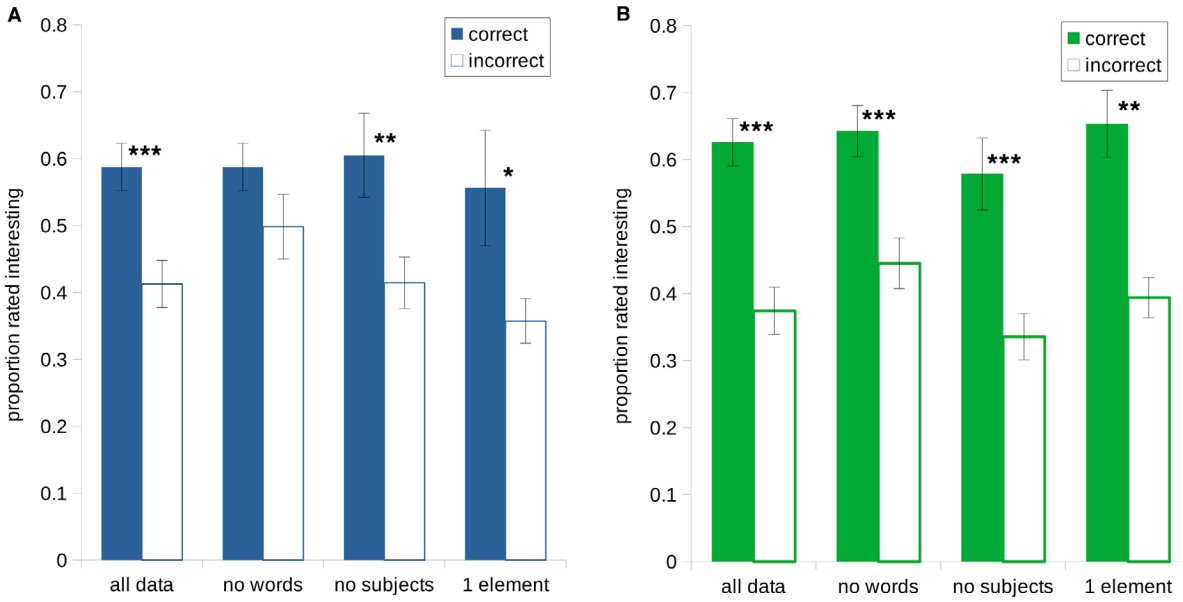

Figure 2

*Average interestingness scores across across all questionnaires for first (A) and second (B) data batches for the forced-choice PRV tass (experiment 1). Error bars indicate +/- 1 SEM between rankings. * p < .05, ** p < .01, *** p < .001*

for across-responses, $t_{11} = .85$, $p > .41$ for averages; second batch: $t_{33} = 3.62$, $p < .001$ for across-responses, $t_5 = 3.26$, $p < .03$ for averages). Next, we examined only targets excluding human or animal subjects and performed the analyses again. Again, the results overall revealed the same difference in interestingness between the top-*n*-correct and -incorrect targets (first batch: $t_{78} = 2.65$, $p < .01$ for across-responses, $t_8 = 1.32$, $p > .22$ for averages; second batch: $t_{33} = 3.99$, $p < .0004$ for across-responses, $t_5 = 3.16$, $p < .03$ for averages). Perhaps most importantly, we realized it was also possible that the number of elements in an image might explain the differences in interestingness scores between the top-*n*-correct and -incorrect targets, but comparing across targets that had only 1 element in the target revealed the same significant effect (first batch: $t_{70} = 2.57$, $p < .01$ for across-responses, $t_7 = 1.34$, $p > .22$ for averages; second batch: $t_{18} = 4.34$, $p < .004$ for across-responses, the averages method could not be calculated as only one target in the second batch had a single element). Noting that this last analysis was especially underpowered, we could not entirely put to rest the possibility that a number-of-elements bias caused the interestingness effect.

Performance Across Trials

To examine how performance might vary across trials among participants who performed multiple trials, we first calculated the average proportion of correct trials for those who performed at least five trials. For the first batch, mean proportion correct over the first five trials was significantly greater than chance as was performance on trials 3 and 4 (Figure 3; trial 3: $p < .002$, trial 4: $p < .05$ [binomial tests]; overall t-test on average first-batch performance versus chance: $t_{122} = 3.95$, $p < .0002$). However, there were no significant effects in the second batch for those who performed at least five trials (overall t-test on average second-batch performance versus chance: $p > .52$).

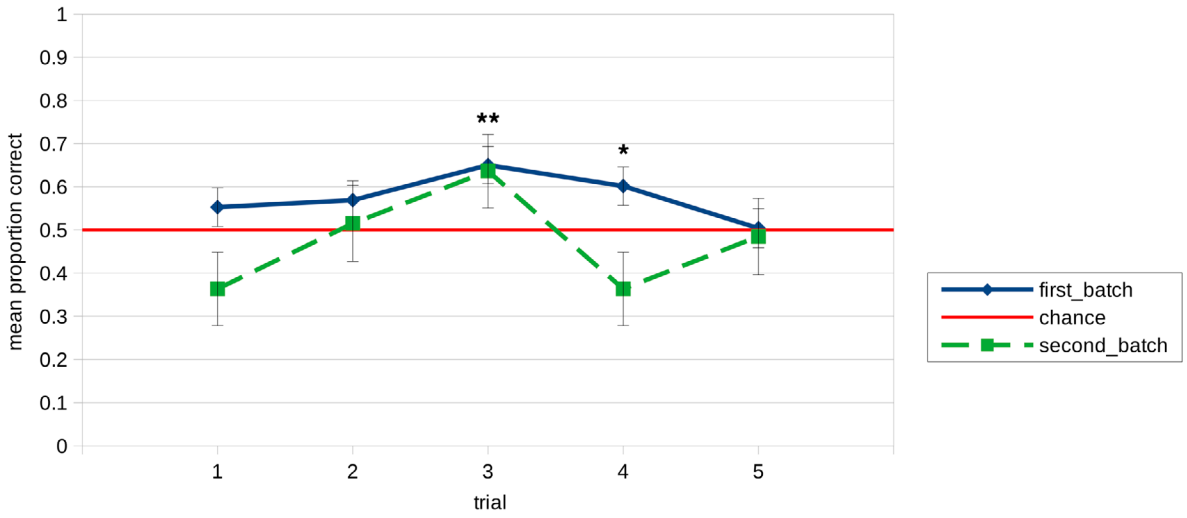

Figure 3

*Mean proportion correct for the forced-choice PRV task (experiment 1) versus trial number (solid blue line = first batch; dashed green line = second batch). Red line indicates chance performance. Error bars show +/- 1 SEM. * p < .05, ** p < .01.*

Influence of Age and Sex at Birth

To determine whether performance on the task was affected by age or sex at birth, we calculated the mean proportion of trials that were correct for those participants who reported either their age or sex at birth (unique users who reported sex: $n = 446$; reported age: $n = 445$, users who reported sex but not age = 2; users who reported age but not sex = 1). A linear regression between age and mean proportion correct revealed no significant relation, $r_{443} = -.003$, $p > .95$, so we examined any potential relation between sex at birth and mean proportion correct. We ignored reported gender in these analyses and instead focused on sex-at-birth, as only 33 individuals

did not report their sex-at-birth as being the same as their gender, and these individuals were split across multiple categories, providing too small a data set to perform individual difference analyses. We found that those who reported female as their sex-at-birth had mean proportion correct scores worse than chance (Figure 4a; $t_{287} = 2.68$, $p < .008$), while mean proportion correct scores from males at birth were no different from chance, $t_{156} = 0.63$, $p = .53$. These data show a significant difference favoring men (Figure 4a, first column; $t_{444} = 2.10$, $p < .04$).

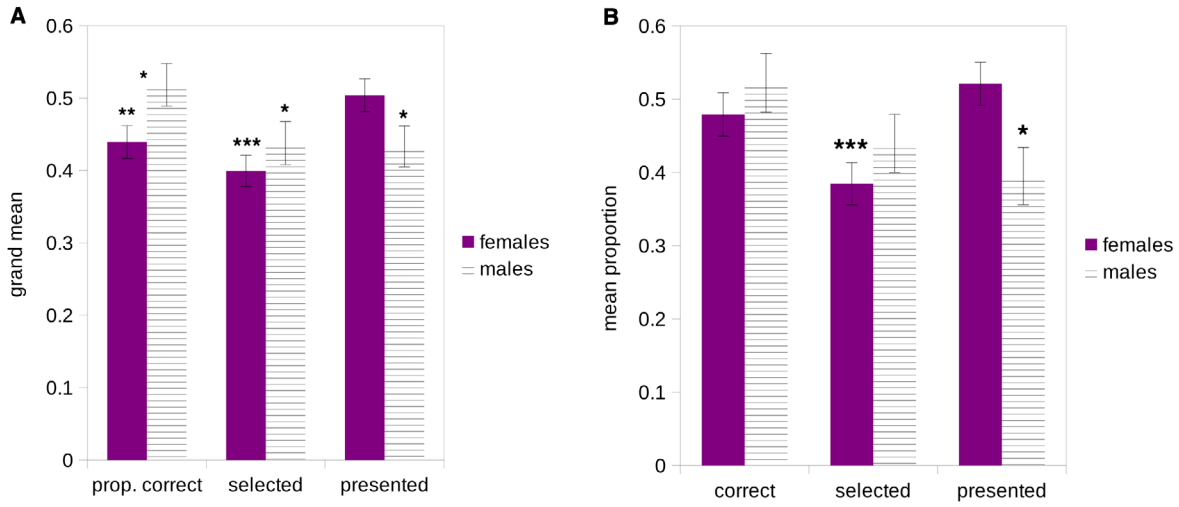

Figure 4

*Grand means of all trials performed by each participant (A) and mean proportion for first trials only from each participant (B) compared between participants who reported their sex at birth as female (purple solid) or male (horizontal hatching), combined across the two data batches. "Selected" = proportion of trials on which participants selected profile B; "Presented" = proportion of trials on which the target was profile B. *p < .05, ** p < .01, ***p < . 001. Error bars show +/- 1 SEM.*

To further understand this effect, we examined the relation between sex, target selection, and target presentation. There were no significant differences between males and females in terms of the mean proportion of trials on which each sex selected profile B as their choice (Figure 4a second column; grand means for females: 40%, males: 44%, ns, $p > .30$). However, we found a near-significant difference between the sexes in the mean proportion of time the software itself presented profile A versus profile B as the target ($t_{444} = 1.90$, $p < .058$). In trials performed by females, profile B was selected by the software as the target for a mean of 50% of the time, whereas in those

performed by males, profile B was selected by the software 43% of the time, lower than chance (t_{157} = 2.36, p < .02; Figure 4a, third column).

Discussion: Experiment 1

Experiment 1 was performed using a website designed for free and uncontrolled practice on the PRV task, a situation that resulted in a wide range of participation (e.g., each participant performed anywhere from 1 to 30+ trials within a time frame of 1 to 364 days). Further, a newsletter was sent to subscribers to the website, a subset of which were participants, to remind participants in Experiment 1 that the software was not biased even though it appeared that people preferred to select Profile A, which is likely why the Profile A bias disappeared in the second batch. Despite these uncontrolled aspects of experiment 1, it revealed several interesting effects that require further examination.

First, there were two weak "expectation-opposing effects" countering the presumed intention of the participants, a result apparently common for online forced-choice precognition tasks (Mossbridge & Radin, 2021). Although there was no significant target precognition in this task, there was, if anything, worse performance on test as compared to practice trials. This could suggest that performance anxiety might have hurt accuracy when participants knew that their results would be used to gauge their inclusion in the "Hall of Fame," which was the only difference between the tasks. Second, women were less accurate than men on this task overall and women's performance was, on average, worse than chance. Men's better performance on the forced-choice PRV task may have resulted from the random number generator presenting the target in the Profile A position more often for men, matching the Profile A bias. However, these results would need confirmatory replication to support a true gender difference.

Via a pre-registered confirmatory analysis, we found that performance in the second batch of trials on the forced-choice PRV task reflected the same dependence on independently-rated target interestingness as seen in the first batch (Figure 2). This effect could be caused by three different forms of participant knowledge about target content: words (text), subjects, and more than one element, but the results from control analyses did not support these ideas. The pre-registered confirmatory analysis of data in the second batch and the extra controls supported the idea that target interestingness may influence accuracy, though an additional experiment would be needed to draw firm conclusions.

Rationale and Approach for Experiment 2

The major effect found in experiment 1 was that greater target interestingness seemed to be related to increased accuracy. Our concerns about this result were addressed via experiment 2, in which participants did not have any information about the potential target prior to viewing it. A weaker effect found in experiment 1 was that gender seemed to be related to PRV performance in a complex way. We knew that any attempt to further examine these effects or our additional hypotheses related to participant mood would require a more controlled experiment. Further, we were interested in whether we would obtain significant target precognition using a free-response precognitive remote viewing task that more closely resembled the tasks used in applied precognition projects.

In experiment 2, our dependent variable was performance on an online two-minute, one-trial, free-response precognitive remote viewing task (the free-response PRV task) that had previously been shown to produce large effect sizes (Mossbridge et al., 2021b). Our independent variables were: anxiety score, feelings of unconditional love score, gender, exogenous reproductive hormonal status, and target interestingness. We tested five predictions, based on the results of experiment 1 and previous work in the field. All predictions were submitted to the granting agency before conducting the experiment, except where noted:

1. Free-response PRV accuracy will be better among participants who report higher versus lower feelings of unconditional love (confirmatory prediction based on Mossbridge et al., 2021b).
2. Free-response PRV accuracy will be better among participants who report lower versus higher feelings of anxiety (exploratory prediction).
3. Regardless of directionality, accuracy will be most closely related to higher feelings of unconditional love in women and to lower feelings of anxiety in men (exploratory prediction).
4. Women taking reproductive hormones will demonstrate above-chance accuracy and out-perform women not taking reproductive hormones (exploratory prediction). Note: In the plan originally submitted to the granting agency, we set out to test this hypothesis with pregnant women but IRB constraints required us to change the population to women taking reproductive hormones.
5. Targets rated as more interesting by independent judges will be more likely to be correctly described as future targets in the free-response PRV task (confirmatory prediction).

Methods: Experiment 2

Participants

All participants were screened, recruited, and paid via Amazon Mechanical Turk (mTurk). The screening and the experiment itself were only open to mTurk workers who read consent forms for each task and consented to be in the study (per Windbridge IRB 2020-BF/TILT-1208). Based on the pre-screening task, we accepted workers who lived in the United States, had the ability to perform the pencil-and-paper task required, were between the ages of 18 and 40, considered their gender as either men or women, and were not pregnant. Note that we excluded gender nonbinary people from this study because we needed enough participants to make a comparison between genders and we had a limited budget, not because of any lack of worthiness of asking similar questions about gender nonbinary people. Participants also answered questions about whether they were taking reproductive hormones, had given birth to a child in the last 6 months, and were breastfeeding. In all, 307 "non-bots" (presumed human participants, see below) completed the free-response PRV task (151 men, 125 women not taking hormones, 31 women taking hormones). We initially planned to recruit 150 men, 125 women not taking hormones, and 30 women taking hormones, but the experiment ended just after we reached these goals due to difficulties replacing apparent bots with actual respondents. Even so, the numbers remain similar to our goals. We identified 18 apparent bots; these were incomplete attempts at using non-human or AI means to complete the task quickly and get paid without doing the task (see Data analysis, below). When analyzing the data, we removed data from these apparent bots and replaced them with data from human participants.

Procedure and Free-response PRV Task

Before screened and consented participants performed the free-response PRV task, we asked them to complete a questionnaire with seven questions about their feelings of anxiety (Spitzer et al., 2006) and four questions about their feelings of unconditional love (Mossbridge et al., 2021a,b). We then presented participants with custom web software to assess free-response PRV ability (https://doi.myprecog.com/tilt01/). In this task, participants first watched a brief video about the task and then were asked to imagine they were opening a door that contained a future target behind that door. They were allowed two minutes (with an onscreen countdown) to describe what they imagined in words and/or images on a single sheet of paper. Finally, they were asked to take a photo of their paper (called a "transcript") and upload it. After the upload of

the transcript was complete, it could not be altered unless the experimenter asked for a re-upload because the original image was crumpled or blurry (two cases). In those cases, the original transcript was compared with the re-uploaded transcript and no discrepancies were found.

After transcript upload, the software used a true random-number generator drawing from network traffic (the same type as in experiment 1) to select one of 89 potential targets. This target was shown to the participant. In all, through the course of the experiment 86 targets (all but three of the targets) were shown at least once. To ensure that the participant observed the target with some level of conscious attention, the participant was then required to write a brief description of the target in an open text field.

Researcher Information

JM interacted with participants by creating the advertisement for the experiment, addressing rare questions via email from participants, and ensuring participants were paid for their work. Her belief that the experiment would produce positive results was at the strongest level (5 out of 5, on the same scale used in experiment 1). KC did not interact with participants except indirectly by analyzing their transcripts to detect bots, and her belief in the outcome of the experiment was neutral (3). MB interacted with participants indirectly via database queries as requested from JM and his belief in a positive outcome of the experiment was at the strongest level (5).

Free-response PRV Transcript Judging

We paid two experienced remote viewing judges, who did not know about the purpose of the experiment, to assess each participant's transcript as compared to two images: the actual future target the participant was shown and a non-target comparison image. The judges were not told which was the non-target or the actual target, and the transcript, target, and non-target images were presented to the judges in a randomized order sorted across trials via a hashed version of the participant ID (which did not reflect any independent or dependent variable). In anticipation of a potential position bias, the target was presented with equiprobability on the left or the right of the spreadsheet columns. Judges were not given each other's identities or contact information and thus did their judging separately.

The judges' task was to identify, for each transcript, which of the two images was most like it. With the two judges' responses for each participant, we calculated three types of judgments and scored them as follows: 1 (both judges agreed that the target image matched the transcript; chance expectation = .25), 0 (both judges agreed that the non-target image matched the transcript; chance expectation = .25), and -1 (the judges disagreed on which image was most similar to the transcript; chance expectation = .50). In this way, our scoring system discounted sketches that did not match either the target or non-target image well enough to gain judge agreement. Note that this is a more conservative scoring method than a version that just considers the proportion of judges that selected the actual target as matching a transcript.

Approximately 14 months after the original judging process, the same judges performed a control judging process on the same transcripts. In this process, the judges were given the transcripts in the original order, but the two images the judges were asked to compare with each transcript were not the original target and non-target. Instead, neither image was the target image – both were comparison images. The judges were told that we were doing a double-check on the judging and that they were to follow the same rules as in the first judging process. They were not told that the true target was not shown to them for any participant's trial. After the data were received from the judges, the judges were debriefed as to the purpose of this second judging process. The control judging process was scored according to the originally correct identity of the target (i.e., the first or second image presented to the judges) for each trial, effectively "yoking" the scoring to the original order of the targets shown to the judges more than a year before.

Anxiety and Unconditional Love Questionnaire

The anxiety portion of the questionnaire (Spitzer et al., 2006) presented the questions below, with possible responses of: not at all (0 points), several days (1 point), over half the days (2 points), and nearly every day (3 points). "Over the last 2 weeks, how often have you been bothered by the following problems? 1. Feeling nervous, anxious, or on edge. 2. Not being able to stop or control worrying. 3. Worrying too much about different things. 4. Trouble relaxing. 5. Being so restless that it's hard to sit still. 6. Becoming easily annoyed or irritable. 7. Feeling afraid as if something awful might happen." Summing the points from all questions produced the anxiety score.

The unconditional love portion of the questionnaire (Mossbridge et al., 2021a,b) first presented a definition of unconditional love followed by four questions with six possible responses: not applicable (not scored), never (1 point), a few times (2 points),

sometimes (3 points), often (4 points), a great deal (5 points). The definition was: "Unconditional love is the heartfelt benevolent desire that everyone and everything – ourselves, others, and all that exists in the universe – reaches their greatest possible fulfillment, whatever that may prove to be. This love is freely given, with no consideration of merit, with no strings attached, with no expectation of return, and it is a love that motivates supportive action in the one who loves." This definition was presented along with the questions, which were, "Given the definition you just read, to what extent do you feel unconditional love... 1. toward yourself? 2. toward other humans? 3. toward animals? 4. toward the computer on which you are completing this survey?" The calculated unconditional love score was the point value of the last question only, for reasons described below.

As expected, scores on the anxiety questionnaire were collinear across all seven questions and thus responses from the seven questions were summed to provide a single anxiety score (mean Pearson r = .67, range: .52-.89; all 307 participants included). The unconditional love measure had been previously validated in a laboratory experiment (Mossbridge et al., 2021a) and been successfully combined in a subsequent experiment with other state measures (Mossbridge et al., 2021b), so we expected its characteristics to remain the same for this experiment when used in combination with the anxiety questions. However, the four questions related to unconditional love revealed inconsistent relations with the anxiety questions. Across all participants, scores on the first three questions were essentially collinear with and negatively related to the anxiety questions and significantly positively correlated to each other, while scores on the last factor – unconditional love for the device on which the survey was being completed -- were not related to any other unconditional love or anxiety measure.

Thus, we used this final item alone as our measure for feelings of unconditional love, under the assumption that the collinearity of the other factors made this single question about unconditional love the only question that uniquely revealed feelings of unconditional love rather than the inverse of anxiety in this online context. Specifically, the average correlation of scores on the first three unconditional love questions with scores on the "device" question was r = .06, range: .03-.07, while the average correlation on the first three unconditional love questions with one another was r = .30, range: .15-.42. The average correlation of scores on the first three unconditional love questions with the average anxiety scores was r = .21, range: -.47 -.02, and the correlation of scores on the "device" question with the average anxiety scores was r = .05.

Target Set

The target image set was a subset of the targets at remoteviewed.com that were used in a previous experiment (Mossbridge et al., 2021b), following the removal of several targets that could be interpreted as violent or destructive. The non-target image presented with each target to the judges was also from the same target set and was determined for each target prior to collecting data. This comparison-target determination was based on pairings designed to accentuate differences between the contents, moods, and meanings of the images (as in Mossbridge et al., 2021b).

Data Analysis

Uploaded transcripts from all participants were judged as to whether they were from a bot according to three tests: 1) Does the writing in the transcript look like a type-set font? 2) Is the same transcript uploaded by more than one participant? 3) Does the transcript make no sense according to the instructions (instead of a photo of a piece of paper with a sketch and/or words on it, was it a photograph taken from the internet)? If any test gave a YES response from either of the two examiners (JM and KC), it was considered a bot and rejected.

To understand whether participants were fully attending to their answers on the survey questions, we examined consistency across survey responses. Seventy-six participants gave the same answer for all seven anxiety questions within the survey. This seemed unlikely to reflect attentive responding to the survey, especially given that the average amount of time spent completing the survey was significantly lower for these participants than those who responded with more variety. Thus, while we analyzed data from all 307 participants for any prediction not related to the anxiety and unconditional love survey, we removed these 76 "survey-inattentive" participants from our analyses for the three predictions related to that survey (predictions 1-3), because we could not be sure that their responses reflected their emotional states accurately.

To test the confirmatory prediction from experiment 1 that targets rated by independent judges as more interesting were also more likely to be accurately described in the PRV task, we asked other Amazon mTurk workers who had not participated in this experiment to rate all 86 targets shown to participants according to how intriguing/interesting they were. We presented two images at a time in the same pairs that were presented to the judges. The workers' task was to choose which image was most interesting or if this could not be determined (this was rare). We then created an in-

terestingness score based on the sum of all a given target's determinations as most interesting divided by the total number of determinations excluding "could not be determined" responses. To investigate any relation between interestingness and accuracy, we calculated each target's "accuracy score" as the sum of scores for each target across participants who viewed that target. Note that by calculating the sum rather than the average, we weighted more heavily the scores from targets presented more often and that scored more consistently (e.g., a target presented 3 times and correct all 3 times will have a score of 3, while one presented 1 time and correct that time will have a score of 1). All statistical analyses used null hypothesis significance testing with alpha set at 0.05 and two-tailed tests where appropriate.

Results: Experiment 2

On this task, significant precognition of the target image was evident. To examine precognition, we used binomial tests to compare actual performance to chance expectation (Figure 5). Overall, there were significantly more instances of matches to the target images than expected by chance (35% vs 25% chance expectation [CE], $p < .0002$, $h = .22$) and more instances of matches to the non-target images than expected by chance (42% vs. 25% CE, $p < .00001$, $h = .36$). There were fewer judge disagreements than expected by chance (23% vs. 50% CE, $p < .00001$, $h = -.57$). The control judging process, in which judges were never shown the actual target displayed to the participant, produced a significantly different pattern. Specifically, the number of matches to the yoked "targets" was indistinguishable from chance (26% vs 25% CE, $p > .69$, $h = .03$), while the number of matches to the yoked "non-targets" was almost identical to the results from the original method and therefore greater than chance (41% vs 25% CE, $p < .00001$, $h = .34$). The number of no-agreement trials remained significantly lower than chance (33% vs 50% CE, $p < .00001$, $h = .35$). A Chi-square analysis revealed that the overall score distributions differed between the original and control judging processes ($\chi^2_{(1, N = 614)} = 8.5$, $p < .015$).

The data supported prediction 1, showing a positive relation between free-response PRV accuracy and feelings of unconditional love, but not prediction 2, that anxiety is negatively related to accuracy. We performed a median split with an excluded median on both unconditional love and anxiety scores for survey-attentive participants. Comparing accuracy between these extremes revealed that greater feelings of unconditional love were associated with better accuracy on the task ($t_{192} = 2.50$, $p < .01$; $\chi^2_{(2, N = 194)} = 10.0$, $p < .007$). In contrast, greater feelings of anxiety were marginally associated with *greater* accuracy on the task, weakly opposing prediction 2 ($t_{217} = 1.990$, $p < .048$; $\chi^2_{(2, N = 219)} = 4.2$, $p > .12$).

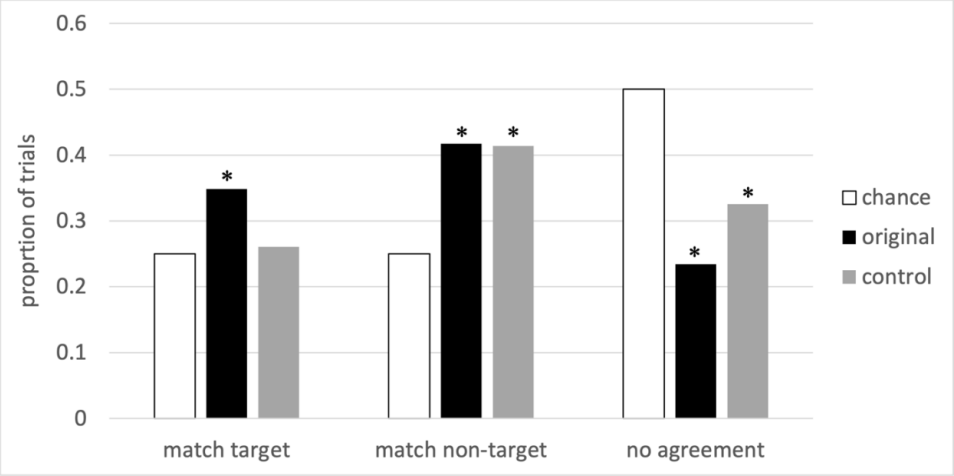

Figure 5

*Proportion of transcripts that matched the target (score = !), matched the non-target (score = 0), or on which there was no agreement (score = -1). Parameter is chance expectation (empty), original judgment method (black) and control judging method (gray). * p < .05.*

We found no gender difference in the relation between unconditional love and accuracy, but did find a gender difference in accuracy related to anxiety (prediction 3). Unconditional love was quantitatively associated with better accuracy in both men and women in the survey-attentive group, but there were no significant effects when data from each gender were analyzed separately (women: $t_{44} = 1.56$ $p > .12$; $\chi^2_{(2, N = 46)} = 1.7$, $p > .42$; men: $t_{55} = 1.59$, $p > .12$; $\chi^2_{(2, N = 57)} = 2.8$, $p > .42$). In contrast, anxiety in the survey-attentive group was associated with *better* free-response PRV accuracy in women according to the results of a Chi-squared test ($t_{114} = 1.93$, $p < .057$; $\chi^2_{(2, N = 116)} = 8.0$, $p < .02$), but not men ($t_{93} = .755$, $p > .45$; $\chi^2_{(2, N = 95)} = 2.80$, $p < .10$). Men with high anxiety scores showed a different pattern of performance than women across the three score types ($\chi^2_{(2, N = 104)} = 8.18$, $p < .02$), with the difference being most obvious for instances in which both judges agreed that transcripts matched the targets (score of 1; women: low anxiety = 12 trials, high anxiety = 32 trials; men: low anxiety = 21 trials, high anxiety = 8 trials).

Any relation between free-response PRV accuracy and exogenous reproductive hormones (prediction 4) was not evident in our data. Women taking reproductive hormones, including birth control pills, had above-chance free-response PRV accuracy as predicted, but did not significantly out-perform women not taking hormones ($t_{154} = .82$, $p > .41$; $\chi^2_{(2, N = 156)} = .68$, $p > .71$).

Finally, confirming prediction 5, we found that targets more likely to be correctly described were also considered more interesting by independent judges. Interesting-

ness scores for each target were determined by mTurk workers who were not included among our participants and not informed about the experiment or its hypotheses. These scores correlated positively with target accuracy (Figure 6; r_{84} = .21, p < .05). Extreme inaccuracy scores (target accuracy score = -3) were associated with two targets and extreme accuracy scores (target accuracy score = 3) were associated with seven targets. The extreme-scoring targets (Figures E, F) can be retrieved from https://tinyurl.com/MossbridgeEtAl2024Appendix.

Figure 6

Results from free-response PRV task (experiment 2) showing the relation between target accuracy and interestingness. Each dot is a target (N = 86); the purple line shows the linear regression.

Discussion: Experiment 2

In experiment 2, we imposed a time constraint on responses and required a free-response protocol using independent judges to assess PRV accuracy, and we found overall significant target precognition. Judges were more likely than expected by chance to agree on their match of a transcript to either of the two images shown to them on each trial. This result could indicate successful precognition of the target and non-target images, or the result could indicate poor precognition across the board. In the latter case, the argument would be that the transcripts were so non-reflective of the future target that any similarity between a given transcript and each of the two comparison images was agreed upon by the judges because it was the only possible connection between the transcript and either of the images. We used the control judging process to disentangle these possibilities.

If the original effects were entirely due to good precognition, then the control judging process in which the targets were never shown to the judges with the correct transcripts would reveal results indistinguishable from chance. However, if the original effects were entirely due to poor precognition, then the control judging process would reveal results indistinguishable from the original pattern. The control judging process revealed a cross between these two, in which the proportion of agreed-upon target matches was indistinguishable from chance, but the proportion of agreed-upon non-target matches was indistinguishable from the original effect. Further, the results from the two judging methods were significantly different overall. Our interpretation of these results is that the original results revealed good precognition of the target image. However, it remains difficult to tease out whether the non-target images shown to the judges in both scoring processes were also precognized at a rate above chance. Perhaps this interpretational ambiguity is a good argument for single-comparison judging methods in PRV experiments, like the calculation of a figure-of-merit for each transcript (May, 2014).

In terms of our trait-, state- and target-interestingness predictions, the results from experiment 2 confirmed our prediction that feelings of unconditional love would be positively associated with free-response PRV accuracy (prediction 1). Meanwhile, the results provided contrasting evidence for our exploratory prediction that feelings of anxiety would be negatively associated with free-response PRV accuracy (prediction 2), instead showing that feelings of anxiety were at least partially associated with *greater* accuracy, particularly for women. Our data did not support the exact prediction that higher feelings of unconditional love would be related to higher accuracy mostly for women and higher anxiety would be related to lower accuracy mostly for men (prediction 3), but the data did support a gender interaction with anxiety. While women taking exogenous reproductive hormones performed significantly better than chance on the free-response PRV task, this effect was no different from that of women not taking hormones, so prediction 4 was not supported. Finally, prediction 5 was confirmed. Targets rated by independent judges as more interesting were also more likely to be consistently accurately described in the participants' free-response PRV transcripts.

The fact that free-response PRV accuracy correlated with feelings of unconditional love confirmed previous exploratory analyses (Mossbridge et al., 2021b), but accuracy was weakly correlated with greater feelings of anxiety. The anxiety result seems counterintuitive, but the relation was weak and therefore potentially spurious; greater effort in understanding this result would be necessary if it were to be replicated. In contrast, the unconditional love result is consistent with an established relation

between positive or self-transcendent feelings and better performance on psi tasks. What we conclude from the present results is that our measure of unconditional love seems to have a gender-independent, positive relation with accuracy on the free-response PRV task we administered.

Overall Discussion and Recommendations for Future Research

One key finding is that an online free-response PRV task can produce significant results without pre-screening for trained remote viewers. Further, both experiments suggest that PRV accuracy in both forced-choice and free-response tasks is affected by target interestingness. The finding that interestingness was associated with target accuracy scores in three analyses across two experiments suggests that whatever psi capacity is being used to perform PRV tasks, it is behaving similarly to visual working memory and visual attention. Specifically, images that are more interesting, memorable, or salient are recalled more easily (Fine & Minnery, 2009) and our attention is drawn to them over other targets (Wang & Theeuwes, 2020).

In contrast to the forced-choice PRV task used in experiment 1 where we found an accuracy difference for sex-at-birth, for the free-response PRV task in experiment 2 there was no gender difference in accuracy except a weak and indirect relation with anxiety. Although sex-at-birth and gender are not the same thing and there were major differences between the two experiments, it is worth considering that our results echo gender effects found in forced-choice precognition tasks (Bierman & Scholte, 2002; Lobach, 2009; Mossbridge, 2017; Mossbridge, Tressoldi & Utts, 2012; Radin & Lobach, 2007; Wittmann et al., 2021; Mossbridge & Radin, 2021) as well as the *lack* of such effects reported anecdotally among free-response PRV trainers and students.

Based on the present experiments, our recommendations for future researchers studying precognition and related phenomena are:

1. Avoid using a pool for which some participants can choose to communicate with the experimenter and gain insight into the experiment. This could bias or de-bias their behavior in ways inconsistent across participants, increasing noise in the data and making it more difficult to observe effects.
2. Use a time-controlled, single-trial, online free-response precognitive remote viewing task to examine research questions about precognition. The effect sizes are robust, overall gender effects are not apparent, and it is not too difficult to find participants if you have the funding to pay them. Make sure you have a system for eliminating bots from your sample.

3. For your judging process, consider a single-target judge-free method (May, 2014) to avoid ambiguities related to non-target precognition.
4. Try to hold target interestingness steady across the target pool, and consider measuring unconditional love or other self-transcendent states in your participants.
5. Build on your results by creating a useful AI-based predictive model of real-world events at least partially informed by precognitive remote viewing transcripts weighted according to each viewer's particular skills, characteristics, and vulnerabilities.

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Paramètres d'Etat, de Trait et de Cible Associés à la Performance dans Deux Tests en Ligne de Vision à Distance Précognitive

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Résumé: *Objectif*:Pour mieux caractériser les relations entre la précision dans les tâches de visualisation à distance précognitive (PRV) et les paramètres potentiellement pertinents de trait, d'état et de cible, nous avons recueilli des données PRV dans deux expériences en ligne et examiné la performance selon : le sexe de naissance, le genre, l'âge, l'anxiété, l'amour inconditionnel, et l'intérêt pour la cible. *Méthode*: L'expérience 1 a utilisé un choix forcé, un temps non contrôlé, une tâche de PRV auto-jugée pour laquelle 682 participants non rémunérés ont contribué à un total de 5432 essais. L'expérience 2 a utilisé une tâche de PRV à réponse libre, à temps contrôlé et à jugement indépendant, pour laquelle 307 participants rémunérés ont contribué à un seul essai chacun. Dans les deux cas, les participants n'ont pas été présélectionnés pour leur capacité de précognition. *Résultats*: Dans l'expérience 1 (tâche de PRV à choix forcé), il n'y a pas eu de précognition significative de la cible, ni d'effet de l'âge sur la performance PRV, mais nous avons trouvé un effet complexe concernant le sexe de naissance. Nous avons également constaté que les cibles les plus susceptibles d'être correctement prédites étaient également plus susceptibles d'être jugées intéressantes que les cibles les plus susceptibles d'être incorrectement prédites; une analyse préliminaire a confirmé cet effet. Dans l'expérience 2 (tâche PRV à réponse libre), nous avons constaté une précognition significative des cibles,

aucun effet de l'âge sur la performance, et un effet faible et indirect du sexe de naissance. Les sentiments d'amour inconditionnel et d'anxiété étaient tous deux corrélés à une plus grande précision dans l'expérience 2. Une fois de plus, l'intérêt de la cible était positivement lié à la précision. *Conclusion*: Ces résultats suggèrent que la performance dans les tâches de PRV est liée à l'état émotionnel des participants et à leur intérêt pour la cible, et que les caractéristiques de la tâche atténuent la performance globale. Sur la base de ces observations, nous formulons des recommandations pour de futures recherches.

Translation into French by Antoine Bioy, Ph. D.

Zustands-, Eigenschafts- und Zielparameter in Verbindung mit der Genauigkeit in zwei Online-Tests für präkognitives Remote Viewing

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Zusammenfassung: Zielsetzung: Um die Beziehungen zwischen der Genauigkeit bei präkognitiven Remote-Viewing-Aufgaben (PRV) und potenziell relevanten Merkmals-, Zustands- und Zielparametern besser zu charakterisieren, sammelten wir PRV-Daten in zwei Online-Experimenten und untersuchten die Genauigkeit in Abhängigkeit von: Geschlecht bei der Geburt, Geschlecht, Alter, Angst, bedingungslose Liebe und Interessantheit des Ziels. Methode: In Experiment 1 wurde eine Forced-Choice-Aufgabe mit unkontrollierter Zeit und selbsteingeschätzter PRV-Aufgabe verwendet, an der sich 682 unbezahlte Teilnehmer mit insgesamt 5.432 Einzelversuchen beteiligten. In Experiment 2 wurde eine zeitlich kontrollierte, unabhängig bewertete PRV-Aufgabe mit freier Antwortmöglichkeit verwendet, zu der 307 bezahlte Teilnehmer jeweils einen einzigen Versuch beisteuerten. In beiden Experimenten wurde keine Vorauswahl der Teilnehmer in Bezug auf ihre Präkognitionsfähigkeit getroffen. Ergebnisse: In Experiment 1 (forced-choice bei PRV-Aufgabe) gab es keine signifikante Zielpräkognition und keinen Effekt des Alters auf die PRV-Leistung, aber wir fanden einen komplexen Effekt des Geschlechts bei der Geburt. Wir fanden außerdem heraus, dass Targets, die am wahrscheinlichsten richtig vorhergesagt wurden, auch eher als interessant eingestuft wurden als Targets, die am wahrscheinlichsten falsch vorhergesagt wurden; eine vorab registrierte Analyse bestätigte diesen Effekt. In Experiment 2 (PRV-Aufgabe mit freier Antwortmöglichkeit) fanden wir eine signifikante Präkognition des Targets, keinen Einfluss des Alters auf die Leistung und einen schwachen und indirekten Einfluss des Geschlechts. Gefühle von bedingungsloser Liebe und Angst waren in Experiment 2 beide mit höherer Genauigkeit korreliert. Auch hier war das Interesse am Ziel positiv mit der Genauigkeit verbunden. Schlussfolgerung: Diese Ergebnisse deuten darauf hin, dass die Genauigkeit bei PRV-Aufgaben mit dem emotionalen Zustand der Teilnehmer und dem Interesse am Ziel zusammenhängt und dass die Merkmale der Aufgaben die Gesamtleistung abschwächen. Auf der Grundlage dieser Beobachtungen geben wir Empfehlungen für die zukünftige Forschung.

Translation into German by Eberhard Bauer, Ph. D.

Parâmetros de Estado, Traço e Alvo Associados à Precisão em Dois Testes Online de Visualização Remota Precognitiva

Julia Mossbridge Kirsten Cameron Mark Boccuzzi

Resumo: Objetivo: Para caracterizar melhor as relações entre a precisão em tarefas de visualização remota precognitiva (PRV em inglês) e parâmetros de traço, estado e alvo potencialmente relevantes, coletamos dados de PRV em dois experimentos online e examinamos sua precisão em relação a: sexo de nascimento, gênero, idade, ansiedade, amor incondicional e atratividade do alvo. Método: O Experimento 1 utilizou uma tarefa de PRV de escolha-forçada, sem controle de tempo, autoavaliada, para a qual 682 participantes não-remunerados contribuíram com um total de 5.432 tentativas. O Experimento 2 utilizou uma tarefa de PRV de resposta-livre, com tempo controlado, avaliada de forma independente, para a qual 307 participantes remunerados contribuíram com uma única tentativa cada. Em ambos os casos, os participantes não foram pré-selecionados quanto à habilidade de precognição. Resultados: No Experimento 1 (tarefa de PRV de escolha-forçada), não houve precognição significativa acerca do alvo e nenhum efeito de idade no desempenho do PRV, mas encontramos um efeito complexo relacionado ao sexo de nascimento. Também descobrimos que os alvos mais propensos a serem previstos corretamente eram mais propensos igualmente a serem julgados como interessantes em comparação com os alvos mais propensos a serem previstos incorretamente; uma análise pré-registrada confirmou esse efeito. No Experimento 2 (tarefa de PRV de resposta-livre), encontramos uma precognição significativa acerca do alvo, nenhum efeito da idade no desempenho e um efeito fraco e indireto do gênero. Sentimentos de amor incondicional e ansiedade estavam ambos correlacionados com uma maior precisão no Experimento 2. Novamente, a atratividade do alvo estava positivamente relacionada à precisão. Conclusão: Esses resultados sugerem que a precisão em tarefas de PRV está relacionada ao estado emocional dos participantes e a atratividade do alvo, e que as características da tarefa mitigam seu desempenho geral. Concluímos com recomendações para pesquisas futuras baseadas nessas observações.

Translation into Portuguese by Antônio Lima, Ph. D.

Parámetros de Estado, Rasgo, y Objetivo Asociados a Acertar en Dos Pruebas en la Red de Visión Remota Precognitiva

Julia Mossbridge Kirsten Cameron Mark Boccuzzi

Resumen: *Objetivo*: Para mejor caracterizar las relaciones entre acertar en las pruebas de visión remota precognitiva (VPR) y los parámetros de rasgo, estado, y objetivos potencialmente relevantes, recopilamos datos de VPR en dos experimentos en la red y examinamos la precisión en relación con: sexo al nacer, género, edad, ansiedad, amor incondicional, e interés en el objetivo. *Método*: En el Experimento 1 utilizamos una tarea de PRV de elección forzada, de tiempo no controlado y autoevaluada en la que 682 participantes

no remunerados contribuyeron 5,432 respuestas. En el Experimento 2 utilizamos una tarea PRV de respuesta libre, tiempo controlado, y juicio independiente en la que 307 participantes remunerados contribuyeron una sola respuesta cada uno. En ninguno de los dos casos preseleccionamos la capacidad de precognición de los participantes. *Resultados*: En el experimento 1 (tarea de PRV de elección forzada), no hubo precognición significativa de objetivos ni efecto de la edad en el rendimiento de PRV, pero encontramos un efecto complejo del sexo al nacer. También encontramos que los objetivos con mayor probabilidad de ser predichos correctamente eran más propensos a ser juzgados como interesantes en comparación con los objetivos con mayor probabilidad de ser predichos incorrectamente; un análisis pre-registrado confirmó este efecto. En el experimento 2 (tarea de PRV de respuesta libre) encontramos una precognición significativa del objetivo, ningún efecto de la edad sobre el rendimiento, y un efecto débil e indirecto del sexo. En el experimento 2, los sentimientos de amor incondicional y ansiedad correlacionaron con una mayor precisión. De nuevo, el interés por el objetivo se relacionó positivamente con la precisión. *Conclusiones*: Los resultados sugieren que acertar en las tareas de PRV se relaciona con el estado emocional de los participantes y el interés por el objetivo, y las características de la tarea afectan el rendimiento general. Basándonos en estas observaciones, ofrecemos recomendaciones para futuras investigaciones.

Translation into Spanish by Etzel Cardeña, Ph. D.