

Study Registration For the KPU Study Registry

The registration information for the study is given below. Each section can be expanded as needed.

1. The title or name of the experiment (for listing the experiment in the registry).

Darkness, Light and Numinosity in Remote Viewing Success

2. The name, affiliation, and email address for the lead experimenter(s) for the study.

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3. A short description or abstract of the purpose and design of the experiment.

Remote viewing can be defined as as “a series of non-local consciousness formalized protocols” where a person provides “detailed information about a person, place, object, or event which information they should not be able to know by reason of their being shielded from it by time, space, or both” (Schwartz, 2017). Throughout history, putative psi phenomena have been believed to be augmented by conditions of darkness, with the use of darkness in remote viewing and other psi-related phenomena well established in esoteric and traditional accounts (Lyon, 2012). However, beyond these associations the contribution of darkness to remote viewing performance is unclear. A quasi-experimental repeated measures study (Krippner et al., 2018) was conducted to explore the potential differential effect of darkness and light on purported remote viewing ability. During this study participant attrition led to results which were indicative that darkness increased remote viewing performance, however these findings were statistically

non-significant. With a dropout rate of over 50% (participants ceasing to continue with the protocol); only 7 of the original 20 participants completed 19 usable trials. When queried in a follow up analysis, a common response received was that participants did not find the target pictures “engaging,” “interesting,” or “emotionally involving.”, with many participants attributing their drop out rate to these characteristics of the selected targets.

Schwartz (2007) has stressed the importance of choosing RV targets that are endowed with “numinosity” (pp. 114-125), which can be defined as “the perceived ability of a target to evoke an emotional state in the participant”. As a post-hoc analysis, trial target numinosity ratings were found to be significantly higher for trials where participants successfully identified the target than for trials which were unsuccessful ($p = .024$, $d = 1.02$, [.01, 1.99]). Given these findings, more clarity is required for both the role of darkness in augmenting purported remote viewing ability and the role of numinosity in successful trial performance as an a-priori rather than post-hoc comparison. As participant motivation clearly has an impact on participant attrition, a smaller sample of specially selected participants for their prior ability in remote viewing trials be selected and tested for a longer period. Selection of these individuals should help to mitigate against participant attrition due to heightened levels of motivation and investment in remote viewing research held by these individuals.

Thus, using a pre-cognitive design, the proposed study would explore these questions by utilising a quota sample comprised of two highly motivated individuals, purported to be exceptionally proficient remote viewers. These claimants will be tested over a total of 40 sessions (20 under light conditions; 20 under dark conditions). Both participants will be expected to participate in all 40 sessions. Dynamic targets, randomised target selection, free-response descriptions and feedback after each session (in line with Tart, 2007) shall be utilized, alongside ratings by both participants and a blind Independent Judge. Independent Judge rankings will be taken as the primary outcome measure for participant success, this shall be achieved by providing the independent judge with four alternative targets for each individual trial. These alternatives will consist of the actual target and three decoys. The independent judge will compare participants' mentation for the trial against these four alternatives and rank-order according to their similarity with the participant mentation. No ties are allowed in the ratings given to each of the four alternative targets for any given trial.

4. A statement or list of the specific hypothesis or hypotheses being tested, and whether each hypothesis is confirmatory or exploratory. ([confirm/explore guidance](#))

Hypotheses 1 and 2 are confirmatory.

H1: Successful performance in the remote viewing darkness condition will be significantly more accurate than mean chance expectation (MCE) as measured by sum of ranks analysis of the independent judge's ranking of the target.

H2: Successful performance in the remote viewing light condition will be significantly more accurate than mean chance expectation (MCE) as measured by sum of ranks analysis of the independent judge's ranking of the target.

Hypothesis 3 and 4 are exploratory.

H3: Remote viewing performance will be significantly more accurate in the darkness condition when compared to the light condition as measured by comparison of odds ratios of independent judge ranking between light and dark conditions in a generalized estimating equations model.

H4: Increases in target numinosity ratings on a scale of 1-100 will be positively significantly related to independent judge target similarity ranking accuracy, measured by generalized estimating equations model.

5. The planned number of participants and the number of sessions per participant.

Purposive sampling will be used to recruit 2 highly skilled remote viewer claimants known to the principal researcher to test over a total of 40 sessions (20 under light conditions; 20 under dark conditions). Both participants are expected to participate in all 40 sessions.

6. A statement that the registration is submitted prior to testing the first participant, or indicating the number of participants tested when the registration (or revision to the registration) was submitted.

The registration document for this study has been submitted before the testing of either participant.

The following additional information is needed for studies that include confirmatory analyses:

7. Specification of all analysis decisions that could affect the confirmatory results, including: the specific statistical test for each confirmatory hypothesis, whether the test is one-sided or two-sided, the criterion for acceptable evidence, any transformations or adjustments to the data, any criteria for excluding or deleting data, and any corrections for multiple analyses. Checklists and examples for registering classical analyses, permutation and bootstrap analyses, Bayesian analyses, and classification analyses are provided in the [statistics registration document](#). (This information can be included in section 4 above for simple experiments.)

To analyze the effect for H1 and H2, The primary outcome measure is pre-specified to be a sum of ranks test using the preferential ranking ordinal weighting scheme of Solfvin, Kelly and Burdick (1978). Z-scores will be used to evaluate whether the overall sum of ranks for all trials in the experiment are statistically significant with alpha set at $p \leq .05$ one-tailed. The final Z score will be calculated as a summing of all the ranks and variances across trials ($Z = (M - U_m \pm 0.5) / \sqrt{N(R^2 - 1)/12}$).¹

The dependent variable will be the total sum of ranks determined by independent judge for correspondence between the RV's description of the remotely viewed location for the target

¹ M refers to the observed sum of ranks, R represents the total number of potential ranks on a given trial (4), N represents the number of trials overall and U_m represents $N(R + 1)/2$. The 0.5 is the standard continuity correction, its sign variable and determined as opposite to $M - U_m$ (Solfvin, Kelly & Burdick, 1978).

location and three decoy locations. The independent judge will be blind to the identity of the target for each session and will rate all four locations for how well the RVer's mentation corresponds to them. The criteria for determining if the RVer successfully identified the target location is based on rank ordering of the judges target-image raw correspondence score (range 1-100) leading to the target for a given trial receiving a higher score (and therefore a lower rank) than the three decoy's raw correspondence scores for a given session.

For H3 & H4 A generalized estimating equation ordinal logistic model shall be utilized with the outcome variable defined as the judges ranking of the target image, using light/dark as a factor. Trial number is identified as the non time-specific longitudinal repeated variable and target numinosity ratings included as a covariate. This analysis will allow for comparisons of the difference between light and dark conditions in relation to the ranks afforded to each target for any given trial by consideration of differences in odds ratios between light and dark conditions. This analysis will also allow for a consideration of the role of numinosity in those outcomes without violating the assumptions which underly general linear models.

8. The power analysis or other justification for the number of participants and sessions.

There is a long history of the identification and use of "expert" remote viewers within published remote viewing research. For example, an analysis of some of the experiments conducted at SRI (May, et al., 1988) considered data from six expert remote viewers, contributing 196 sessions in total. The resulting effect size for these participants was reported as 0.385 (May et al, 1988, p.13). While no information in the report breaks down information individually by viewer, a further report conducted after the 1988 review highlights a single participant, tested over 40 sessions, the effect size for this individual was reported at .363 (Mumford, Rose & Goslin, 1995, p.20). Given these previously reported effect sizes and the similarity of the proposed analytic approach in this study to those utilized at SRI, two specially selected participants, across 40 trials is considered reasonable to expect sufficient power for the identification of the hypothesized effect.

9. The methods for randomization in the experiment.

Selection of the target sets and targets themselves (one of each for each participant per trial, generated in a counterbalanced way) will be conducted by a true random number generator at the end of each trial period to ensure that neither participant gets the same target set or target in any one trial. The tRNG proposed for the selection process is found online at (<https://www.random.org/>) and was developed by Dr Mads Haahr, Trinity College, Dublin. This tRNG uses radio technology measuring changes in atmospheric noise to gather entropy for random number generation. Within this study every target set has an alphanumeric identifier (ranging from set number 1-50) and within each set, a second number distinguishes between the four possible locations, for example 1:1, represents set one location one, thus the RNG will first determine the number for the set from a generated table, , then the number for the target image within the set ranging from a possible 1 - 4. The set and target selection for each trial are chosen with replacement for the follow trial, as this is considered statistically preferential to selection without replacement (Solfvin, Kelly & Burdick, 1978).

10. A detailed description of the experimental procedure.

Pilot Stage:

Before the formal start of the study, a pilot shall run for a week with the intention of familiarising the participants to the protocol. During this week two sessions will occur, this will inform both the researchers and participants as to the feasibility of running two sessions per week and allow any final necessary amendments to be made to the planned schedule of testing before the formal study begins. The pilot is designed to familiarize participants first and foremost, and is not intended to lead to amendments to the protocol that would require another preregistration of the study. The outcomes of these pilot trials will not form part of the study analysis.

General Protocol:

The day prior to an experimental day, the participants will receive an e-mail from Experimenter A to inform them whether the session will be in light or dark conditions, a decision made using a random number generator (Random Sequence Generator also found at Random.org) to select one of twenty paired sets of trials. Twenty AB pairings (numbered set 1- 20) and twenty BA pairings (numbered set 21-40), corresponding in total to the 40 planned sessions where A reflects a light condition and B reflects a dark condition. This ensures counterbalancing across the two participants (when participant one has a light condition trial, participant two will experience a dark condition trial), this further ensures the total number of 40 sessions have an equal number of both light and dark sessions occurring as a random permutation without replacement

Each trial is scheduled to begin the following day at 12:00 pm Central Pacific Standard Time (PST) corresponding to 8:00 pm Greenwich Mean Time (GMT). Participants will receive an e-mail reminder 30 minutes before this time to emphasise the start and finish date/time for the particular trial. Each trial period will last 48 hours, so participants can organise their participation around any other commitments they may have. They will be requested to spend approximately 30 minutes remote viewing at some point during this 48hour window either during the day, or at night, depending on which condition has been selected for them for a given trial. Participants will also be requested to record the date, start and end times of the period they have spent remote viewing.

For the light sessions, participants are urged to illuminate (with natural lighting) their room as much as possible before their remote viewing period for that trial. If a dark session, participants are requested to take measures to either a) perform their trial at night if convenient, or b) cut out as much natural light as possible if attempting during the daytime. Blindfold/sleeping masks or any other tools which the remote viewer deems as beneficial in this task will not be permitted for standardisation.

During a trial, participants will be requested to record themselves via their mobile phone or other video recording device for the duration of their mentation, this will allow for Researcher A to

easily listen back and transcribe the participants impressions. Additionally, this will allow experimenter A to confirm the degree of darkness/light as sufficient for each trial.

Photographs of any sketches drawn, recorded date, start and end times of the participant's session and copies of their video-files from the recorded trials are to be sent to researcher A within 12 hours following the close of the 48-hour trial window (via uploading the files to secure, private cloud storage). The file storage location will be an individually encrypted online file, created explicitly for this study for each participant. The only individuals able to access these files will be researcher A (who will have access to both participants files) and the remote viewing participants themselves (who will have access to only their own file).

As this is a precognitive design, target selection does not occur until after the participants have completed their mentation and sent a copy of all required files to Experimenter A.

Once Experimenter A receives all mentations and associated documents due from participants, The audio recording of the mentation is transcribed. Researcher A shall then inform experimenter B of successful receipt of the trial documentation and the target selection process begins.

The target pool for this study will have been determined in advance by Experimenter B and are unknown to Experimenter A. Targets will be organised into 50 sets of 4 images to accommodate 40 for the trials, and sufficiently accommodate any instances in which trials must be discounted and additional sessions put on (please see final paragraph of this section). The images within each set will all be geographical locations that can be explored using google earth, chosen to be thematically distinct from one another, and also to vary in terms of their perceived numinosity (as judged and rated by an external researcher) in advance of the study beginning. Selection of the target sets and targets themselves (one for each participant per trial) will be conducted by a true random number generator at the end of each trial period. With the selection process being run for each participant individually, this will be counterbalanced across trials, and be performed without replacement, ensuring the two participants can never receive the same target set or target for any given trial. The tRNG proposed uses radio technology utilising atmospheric noise to gather entropy for random number generation. Every target set has an alphanumeric identifier (ranging from set number 1-50) and within each set, a second number distinguishes between the

four locations within that set, for example 1:1, represents set one location one, thus the RNG will first determine the number for the set, without replacement, then the number for the image within the set ranging from a possible 1 - 4.

Once determined, information regarding the targets only is sent via Experimenter B to the appropriate participant via e-mail as a hyperlink address. This address will take the participants directly to the location of the target on google earth. Here participants will be able to observe, and to a degree, explore the target location as feedback, they will also rate their observations by the degree of correspondence, on a 100-point scale but they do not get to view the decoy images in their target set. Only these participant ratings, with no additional information about the target or how the number was obtained will be sent to Experimenter A, who shall record them.

At the completion of all trials, Experimenter A will forward copies of all participant mentation's, video files, location drawings, for each of the sessions to Experimenter C, the independent judge for the final judgement process. Experimenter B shall also send a list of all target sets to judge C. When the independent judge has concluded their judging process, they will send a copy to experimenter A. Once received, experimenter B will send a copy of the actual targets for each trial to experimenter A and to judge C.

Once completed the independent judge's rankings, target numinosity scores, the actual targets and participant ratings from experimenter B are shared with experimenter A for statistical analyses.

In the instance that a participant misses a cutoff for the submission of their documentation associated with a particular trial, or communicates with the researcher of particular issues with their submitted data (for example, due to illness or other personal circumstance) an extra trial of the appropriate type (light/dark) will be added to the end of the number of scheduled sessions for that participant. this ensures that both participants shall submit a total of 40 sessions by the studies end.