

The Effects of THC and Psilocybin on Paranormal Phenomena

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Abstract

Two experiments are reported dealing with the effect of psychoactive drugs on paranormal phenomena. In the first experiment 40 subjects did two Ganzfeld ESP sessions in which they tried to get impressions of a remote target. One session while being, and one session while not-being intoxicated by Marijuana intake. When asked to select the actual target from 4 possible targets, the scoring rates were 30% (THC) and 15% (control), suggesting that there is an effect of THC intake on the performance in a standardized ESP task.

In the second experiment 20 subjects did two Ganzfeld sessions. As in the THC experiment, a within subject design was used in order to evaluate the effect of Psilocybin intake. The scoring rates in the two conditions did NOT differ and only when breaking down the result for negative and positive targets a clear picture arises. There is a positive effect of Psilocybin intake on psi performance when the material used is positive (scoring rate is 45%) and a negative effect when the material is negative (scoring rate is 8%). For the control conditions the opposite is true.

Introduction

Near the end of the sixties, psychologist Charles Tart surveyed experiences of Marijuana users. This research was quite original at the time and triggered much interest (Tart, 1971). One of the remarkable outcomes was that many respondents did report clairvoyant and telepathic experiences (ESP). Of course these were subjective reports and Tart did not undertake the huge task to try to verify the reports because his focus was on the subjective data.

One could have expected that at least other researchers would have been stimulated by these reports to start lab-research to explore if these subjective experiences were based upon objective instances of ESP. But this was not the case. The field of Parapsychological research was already highly controversial by itself and did not need an extra portion of controversy especially not in the United States. However, one Dutch research group did embark on validating the effects of a psychoactive drug on paranormal phenomena. Rather than Cannabis they used Psilocybin (van Asperen de Boer et al, 1965). About 30 minutes

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after intake of a standard dose the participants had to do a whole range of psi-tests. These tests were rather boring at the time (card guessing and the like). So in hindsight one should pity the poor participants who were forced to do these things while tripping. The authors themselves acknowledge that at least some intermissions had to be included, otherwise the tests would be too 'strenuous'. Nowadays a parapsychological researcher would think twice before putting so much burden on a subject but I assume that the researchers at that time thought that since we have the subject in this altered state 'let's get the most out of it'. However, trying to get the most out of it one can get the reverse effect and the researchers concluded after one year of hard labor that: " *Psilocybin does not induce ESP....*" If there was still somebody to plan this type of research, this conclusion certainly would have had a de-motivating effect and actually not a single serious scientific experiment on the relation between psychotropic drugs and paranormal phenomena was done ever since. Until 1997, when a number of psychology students at the University of Amsterdam, probably also inspired by liberal Dutch drug policies, suggested to try it again.

Experiment 1²: The effect of a joint on psi .

Since the early seventies the use of forced choice card-guessing as a method to assess clairvoyance or telepathy has give way to experiments where the subject is free to respond with everything that comes to mind. A good example of this approach was the series of famous Maimonides dream telepathy experiments (see Child, 1985). The subject in this type of experiments is 'supposed' to dream about a picture, called the 'target', which is randomly selected from a number of potential targets. During the night the subject is monitored by psychophysiological equipment and if the instrumentation indicated that a REM-dream has started another person gets a signal to look at the target and try to transfer the contents to the dream of the subject. After the dream the subject is wakened and asked to report the dream that just ended. When the experiment is finished the dream reports are compared by independent judges with the possible targets among which the real target. This procedure allows for a quantitative statistical evaluation although the primary material is highly qualitative. Although the results of these experiments were quite positive, the time investments were so high that this research tradition was terminated and replaced with another approach where by means of a specific induction procedure subjects were brought into a slightly altered state comparable to the hypnagogic state (the state while falling asleep; see Mavrotamis, 1987). This procedure is called the

² This experiment consisted out of two studies one year apart. The results are combined. For a complete report see: Wezelman, R. & Bierman, D.J. (1997) Process Oriented Ganzfeld Research in Amsterdam. Proceedings of the 40th PA Convention, Aug97, Brighton, UK

Ganzfeld procedure and hence the experiments are known as Ganzfeld experiments. Like in the dream telepathy experiments, subjects who became slightly hallucinating through the Ganzfeld induction were expected to 'see' the randomly chosen target picture. They were requested to report anything that they experienced and their reports were audio-taped. To reach the required state of consciousness subjects are situated in a relaxing and comfortable chair, listen to some relaxation exercises and get some unstructured visual and auditory input. In laymen language: they get earphones through which white noise is played and two half ping pong balls on their eyes illuminated by red light. Important is that the eyes are kept open. For a number of subjects this induction produces spontaneous but mild hallucinations. The results obtained with this procedure are a bit smaller than when using the dream as an altered state but nevertheless highly significant. The percentage of hits, i.e. the number of times that the subject guesses the actual target correctly is 33%, while it is clear that when the subject or independent judge has to choose from 4 alternatives the expected percentage (on the basis of chance) is 25% (see Bem & Honorton, 1994).

In the research at the University of Amsterdam we used the standardized procedure (for details see also Bem & Honorton, 1994) which was the result of long debates between sceptics and parapsychological researchers. However, the judging procedure was manipulated. Not only did the subject judge the target but everything the subject said was taped and independent (and of course blind, i.e. uninformed about the real target) judges used this tape and compared it with the 4 possible targets. The major manipulation in this experiment however, was the drug manipulation. Preceding half of the sessions the subject smoked a joint. The subjects were experienced users and also friends of the experimenters. Rather than using a standardized dose we instructed the subject to restrict themselves to a quantity that felt comfortable. This part of the experiment was formally set up as a so-called within subject design. This means that each subject has two sessions. In one session the subject is stoned in the other not. The order is randomized.

A legitimate scientific question is why we thought that adding the feeling of being stoned to the already altered state of consciousness induced by the ganzfeld would be helpful to elicit psi effects. Apart from the anecdotic evidence supplied by the survey of Tart we had another good reason. We found in earlier research that many subjects when doing a Ganzfeld session tended to get fixated. They started to construct a story based upon a simple impression and never got rid of this. This rigid behavior, we assumed, was not conducive for getting psi impressions. The use of a joint breaks through this rational (left brain dominated) behavior simply because short-term memory is affected.

Results of the Marihuana experiment

Fourty subjects, who all signed an informed consent form, and were all friends of the experimenters, participated twice. One half of the subjects smoked a joint preceding the first, one half preceding the second session. This was done to avoid possible confound of a drug-effect with a sequential effect. In half of the sessions judging was done by the subject her(him)self. For the other half, judging was performed by independent judges on the basis of the audio-tapes with the impressions of the subject. For both judging procedures the mean chance probability for a correct assessment of the target was 25%. The combined results are given in figure 1.

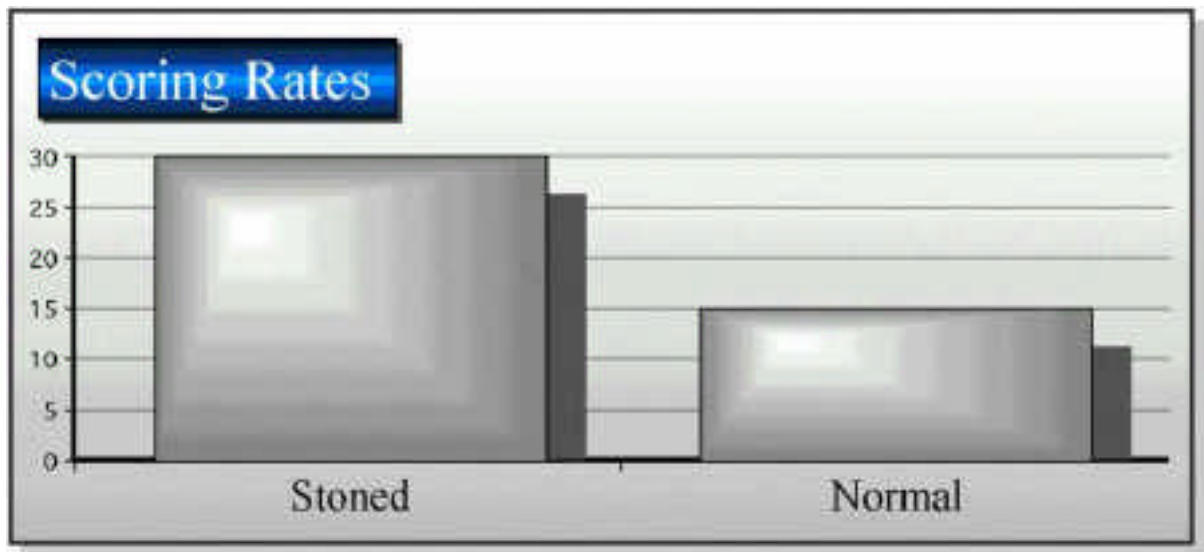


Figure 1: Scoring rates in Stoned and Control condition

Although there is a marked difference between the scores in the 'stoned' and the 'normal' condition (30% and 15%) we cannot conclude that the intake of a joint results in better paranormal performance. First, the difference is mostly caused by the control condition where subjects do NOT smoke a joint. In that condition we find a peculiar effect, namely that the subjects do somehow seem to avoid choosing the correct target clip. This so-called psi missing is not completely unknown in the field of parapsychology. In this case it could be due to the fact that subjects preferred the session with a joint over the session without, thus inducing a slightly negative atmosphere in the latter sessions. Interestingly, the positive score in the stoned condition was mainly caused by those sessions where an independent judge was used. And furthermore this effect was most striking for judges who blowed themselves before judging.

Experiment II: The effect of psilocybin.

Pilotstudy

In the second part of experiment I the student experimentators wanted to explore the effect of Psilocybin on ESP in the Ganzfeld. Here (other) subjects who were experienced with the use of halucinoids took a standard dose of Psylocybin in Mexican mushrooms about half an hour before the session. Because of the exploratory nature, this part of the experiment was not set up as a within subject design and hence did not allow for valid evaluation of the effect of Psylocybin. Also we introduced a new feature in the procedure, namely rather than testing one person at a time we tested two simultaneously. This was done to enhance the feelings of cohesion in the group and was part of a series of measures taken to prevent potential bad trips. During each session the experimentator could, if the situation would demand this, contact the psychiatric department of the nearby hospital. Fortunately, we never had to use this option.

Results Pilot study

Only 12 subjects participated only once (tripping) in this study so it is impossible to compare their performances with and without Psilocybin. In figure 2 we therefore give their scoring percentage together with mean chance expectation.

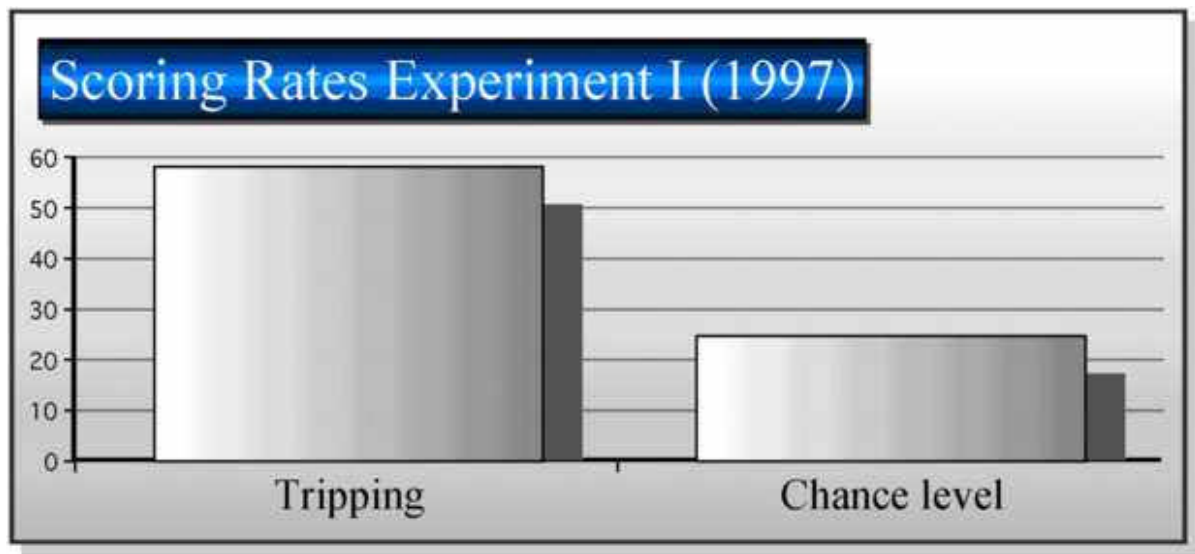


Figure 2 Scoring rates in 'tripping' condition compared to chance level

Although this comparison suggests that the use of Psilocybine has a dramatic effect on the psi scores, the alternative explanation is that the group of selected

subjects we used (namely subjects with trip experience) is a very special group with different personality characteristics and that they would have scored in the same way when they had been in a normal state of consciousness.

Confirmatory study

Twenty subjects participated twice in this study. They all had some experience with using mushrooms and they were generally recruited from friends of the experimentators or from friends from the Institute where the experiments took place. Preceding one of the two sessions a standard dose Mexican Mushrooms were prepared and taken by the subject. After about 30 minutes the subject was introduced into the Ganzfeld procedure which lasted about 45 minutes. During this time a 'sender' was looking a few times at a randomly chosen video clip in another part of the building. At the end of the 45 minutes the subject had to do the judging, i.e. to select one out of 4 possible video clips as being the target for the session that was just finished. After having entered this choice into the computer the 'sender' came downstairs and told which one of the 4 clips was the actual target. After this the subject was left alone for about another hour with music of his/her choice in order to get over the most intense part of the trip. Subjects stayed at the institute until they felt comfortable enough to return home.

Results of the confirmatory study

The results were quite disappointing because the over-all scoring rate in the tripping condition was exactly what could be expected by chance. I.e. the tripping subjects did select the correct target only once in every 4 sessions. In the control condition the subjects did even worse but the difference was not statistically significant.

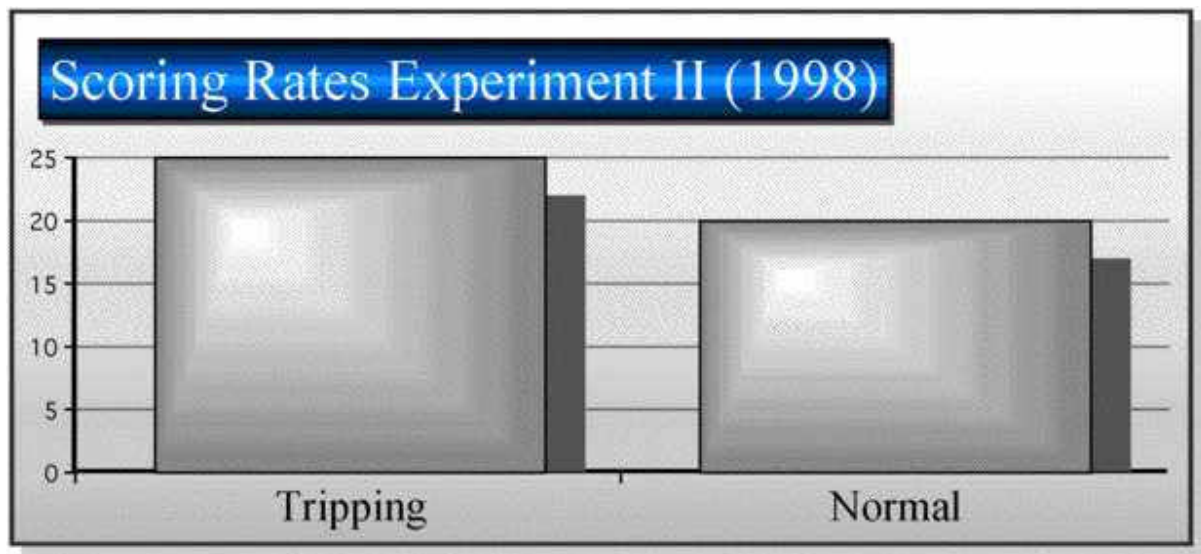


Figure 3: Scoring rates in tripping and control condition

The effect of Emotional Target Content

When discussing these findings with some of the subjects it was mentioned that they had not felt at ease during the experiment. This was to be expected because the experiment was much more formal than the pilot study. One felt basically alone. It was noted that in that context experienced trippers probably would suppress negative feelings that were coming up. Half of the target clips were rather negative, for instance a fragment of a crashing airplane (fig.4).



Figure 4: example of image from negative clip

The remaining clips were positive, for instance the beautiful images of a horse breaking free from a group of horses.



Figure 5: example of image from positive clip

When breaking down the results for the two categories we found that results that at first sight looked disappointing were actually quite fascinating.

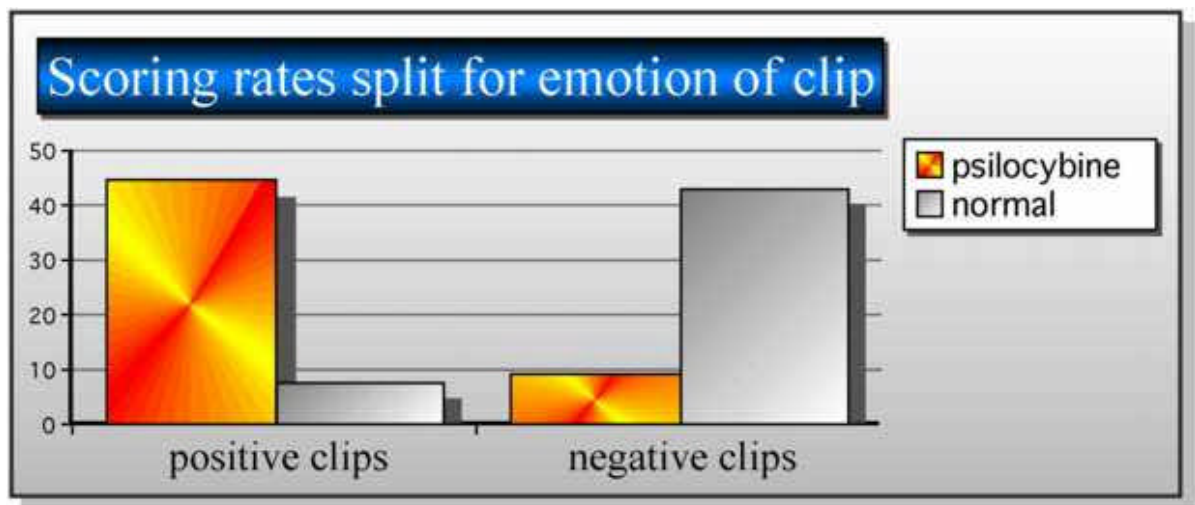


Figure 6: Scoring rates in tripping and control conditions split for type of target.

It turns out that for positive clips the effect of psilocybin is quite positive with a scoring rate close to the one found in the pilot study. However, this effect is completely annihilated by the effect of psilocybin in sessions with negative clips as targets. There we see that the subjects seem to 'avoid' to get impressions about the negative clips when tripping. It seems as if they try to avoid to drift

into a bad trip. The effect is completely the opposite when the subjects are in their 'normal' state of consciousness. The latter could be explained by the evolutionary value of getting psi-impressions of negative events.

Conclusions

We should stress that a single experiment especially with a limited number of subjects, can never give rise to strong conclusions. The statistical power is too low. Nevertheless the findings reported here seem to suggest that:

- a) Psi performance is affected by the use of psychoactive drugs.
- b) Cannabis induces increased scoring rates but it seems that in within subject designs the major difference comes from psi missing in the control condition.
- c) Psilocybin increases scoring rates if the material is positive. It might decrease scoring rates when the material is negative. This conclusion could be dependent on the context. If the context is very pleasant and subjects feel they can allow themselves to experience negative feelings, also negative clips might show a positive rather than a negative effect.

Although it is common to confine experimental research reports to the 'numbers' we would like to add two qualitative observations. In the first place we discovered a strong judging effect in the Marijuana experiment. This was quite accidental because the student experimenters who served as judges had spontaneously decided to use a joint themselves in the first part of the study. This resulted in very high scoring rates. In the second part of the study the judges were explicitly required to be in a normal state. It turned out that this judging effect then disappeared. Similarly, we found that in spite of the high scoring rate in the pilot phase of the Psilocybin study the impressions of the subjects were not clearly associated with the target. In fact, tripping persons do report so many images that there are correspondences with each target in the target-set and choosing from them becomes quite difficult. When asked, the subjects said they 'felt in their stomach' which target was the real target.

Both observations suggest that further research should focus on the effect of the drugs not only in the phase where the impressions are supposed to 'come in' but also in the judging phase where the final choice has to be made..

Literature

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