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A Comparison of Four New Automated Telephone Telepathy Tests[1]

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Abstract: *Objective*. To develop user-friendly automated telephone telepathy tests. *Method*. In one kind of test, three participants who knew each other were linked together continuously in a conference call format. In each trial, the receiver was selected at random. The other two participants were muted and one was selected at random as the caller and asked to think about the receiver before being connected to that person. The receiver was asked to identify who was on the line, and then the caller and receiver were linked up and could talk. In the second type of test, trials were spaced out over longer time periods and callers and receivers went about their normal lives in between trials. *Results*. In none of the "conference call" tests was the hit rate significantly different from the chance level of 50%. In the second type of test, with a total of 266 trials, the hit rate was 57% (p = .01). *Conclusion*. The failure of our "conference call" tests to show any significant telepathic effects could have been because all three participants were continuously engaged with the test, which may have confounded any telepathic influences. Tests in which non-callers were not engaged with the experiment gave better results. We suggest developing an intuition training application that would work along with people's regular calls and messages. Such an app could be more user-friendly and enable participants to practice their intuitive skills, as well as enabling talented participants to be identified for more rigorous testing.

Keywords: telephone telepathy, automated tests, intuition training, psi

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Highlights

- We explored a range of automated tests for telephone telepathy in an attempt to develop a user-friendly system.
- Tests involving a "conference call" format in which all three participants remained connected to the system showed no significant telepathic effects.
- Tests in which trials were conducted less frequently and in which non-callers were unaware that trials were taking place gave significant positive results, $p = .01$.
- We suggest developing an intuition training app that would work with calls or messages that are happening anyway.

Seemingly telepathic experiences in connection with telephone calls are very common. Surveys in Europe and the Americas have shown that most people say they have thought of someone for no apparent reason, then that person called, or that they know who is calling before looking at the caller ID or answering the phone (Sheldrake, 2003). Committed skeptics dismiss all these experiences on the grounds that they are a product of chance coincidence and/or selective memory, and some argue that in any case telepathic experiences are impossible in principle, and therefore any evidence for them can be dismissed in advance (Pinker, 2021; Reber & Alcock, 2020). Despite these negative opinions, based on prior assumptions rather than empirical data, there is empirical evidence that telephone telepathy does in fact occur. In experimental tests, participants had 2, 3 or 4 potential callers, and for each trial the callers were selected at random; when the callers called the participants, the participants indicated who they felt was calling before answering the phone. If they had simply been guessing then the expectation of being right by chance would have been 25% with 4 potential callers, 33% with 3 and 50% with 2. In studies so far, the overall hit rates have significantly exceeded chance levels (Lobach & Bierman, 2004; Sheldrake & Smart, 2003a, 2003b, Sheldrake et al., 2004; Sheldrake et al., 2015). Similar studies testing for telepathy in connection with online messages (Sheldrake & Beharee, 2009; Sheldrake & Lambert 2007), SMS messages (Sheldrake et al., 2009), and emails (Sheldrake & Avraamides, 2009; Sheldrake & Smart, 2005) have likewise given significant positive results.

In some of these experimental studies, participants were recruited on the basis of their claim that they often experienced telephone telepathy in real life situations, and some were selected for further testing on the basis of high hit rates in initial tests. In initial tests with 63 self-identified *sensitive* participants, the average hit rate in a to-

tal of 571 telephone telepathy trials was 40%, very significantly above the chance rate of 25% ($p < 1 \times 10^{-15}$; Sheldrake & Smart, 2003a). These initial tests were not filmed, which left open the possibility that some participants might have cheated.

In a second series of tests, carried out with four selected participants under filmed conditions that greatly reduced the possibility of cheating, the hit rate was 45% compared with the chance level of 25% ($p < 1 \times 10^{-12}$). The highest-scoring participant had a hit rate of 57%, with 16 trials correct out of 28, $p = .0003$ (Sheldrake & Smart, 2003b). These findings indicate that some people are much more sensitive than others, a conclusion independently supported by the findings of Schmidt et al. (2009). In their initial telephone telepathy tests, most of their participants did not score significantly better than chance, but in further videotaped tests one woman scored 50% compared with 25% expected by chance. In an additional 60 filmed trials, she was right 24 times (40%, $p = .007$). Thus, some participants were strikingly better than others in these tests and were able to score reliably and repeatedly above chance under rigorous test conditions.

In automated tests for telephone telepathy conducted with mobile phones with unselected participants, hit rates were less impressive than with selected participants, but still very significant. In tests with three potential callers, out of 2,080 trials there were 869 hits (42%) compared with the 33% chance level; and with two potential callers 411 hits out of 745 trials (55%) compared with 50% by chance (Sheldrake et al., 2015). In these automated tests, potential callers, selected at random, were sent a text message asking them to call their receiver through the automated system. When they made the call, they were not connected directly to the receivers; instead, the receivers were sent a text message asking them to indicate which of their potential callers was on the line, after which the line opened up and they could talk to the caller. Although in most cases this system worked well, a major problem was that, for a variety of reasons, some of the potential callers did not respond when asked to, and the tests therefore came to a premature end.

Here, we describe four new exploratory automated telephone telepathy experiments, the first three of which were designed to avoid the problem of missed calls by keeping all potential callers connected with the system throughout the test. Our aim was to make the tests work more reliably by preventing them from ending prematurely because of unreliable callers. Our fourth experiment was similar to the automated telephone telepathy tests in previous studies but used more sophisticated software than was available when the first automated tests were devised.

Unsupervised tests of these kinds are potentially open to cheating and cannot provide conclusive evidence for telepathy by themselves, but they enable people to try to improve their telepathic abilities by practice, with the ability to monitor their own progress. Such tests could also enable experimenters to identify unusually sensitive participants for further research under more rigorous conditions.

Methods

Test System

All these tests were conducted on mobile phones and were designed to be carried out by participants and callers who could be in any location within the same country – the UK or US – although, of course, they were asked not to be in the same room or otherwise nearby in such a way that participants could see or hear what callers were doing.

The test platform was the programmable communication system Twilio, which allows the automation of calls and texts, and the construction of call environments. The application was written in TwiML (Twilio Markup Language), PHP and MySQL. Random numbers were generated using the *mt_rand()* function in PHP, which utilizes the Mersenne Twister Random Number Generator. The generator was seeded from user time, location, and various system variables. This randomization determined the choice of caller.

Tests were designed to work in a given country, and the participants chose their country in which the test would be performed test during registration. Country dialing codes were automatically added to the numbers provided, and the test did not work in countries other than the one chosen. Where applicable, available test times were given in the local time of the chosen country. Each version had its own database.

Experiments 1, 2, and 3

In Experiments 1, 2, and 3, when the initiator started the test, all three participants were called by the automated system and asked to confirm their participation. If all responded and agreed to participate, they were connected together in a conference call. They were given instructions for the test by a voice message, and the first trial began. All three participants remained continuously connected together throughout the test, during which six trials took place. In each trial one of the participants was

randomly selected as a caller and one as a receiver; the remaining participant was a non-receiver. The receiver was then asked to indicate which of the two potential callers was thinking about them, choosing by key press from the two names, which were presented in alphabetical order. The receiver and caller were then connected so they could speak to each other for 15 seconds. After each trial ended, all three participants could speak to each other for 45 seconds before the next trial began. The tests ended when all six trials were completed, or if they could not run to completion for any reason (e.g., participants disconnecting). At the end of the test, summary scores for the group were given. Tests with guesses recorded in all six trials were marked as *complete* while those with guesses recorded in less than six trials were marked as *incomplete*. The whole test took approximately 10 minutes. The first three tests differed as follows:

Experiment 1: This test was designed to obtain as much information as possible, involving all three participants in every trial. The caller was asked to think about the receiver, while the receiver and non-receiver were told they were or were not being thought about respectively, and asked to indicate who they thought the caller was from the two other names presented in alphabetical order. Thus, the non-receiver was a kind of control. Once the receiver had responded, s/he was connected with the caller. Once the non-receiver had responded, s/he was played hold music. All three participants were then connected back together, so they could talk to each other until the next trial began. The test ended when all six trials were completed. In every trial the three roles were assigned afresh at random so that, on average, each person was a receiver in two trials, a caller in two trials and a non-receiver in two trials.

Out of a total of 1,047 trials, 1,031 were by participants in the UK and 16 in the US. Complete tests were those in which guesses were recorded in all 6 trials; incomplete tests were those with guesses recorded in less than 6 trials.

Experiment 2: This version was similar to Experiment 1, except that the non-receiver was informed that s/he was a non-receiver, and then was played music while the trial proceeded until being reconnected with the other two participants after the trial ended. All the results in Experiment 2 came from participants in the UK and Canada.

Experiment 3: Experiment 3 was the same as Experiment 2 except that the same person, chosen at random, served as the receiver in all six trials. In Experiment 3, 430 guesses were from participants in the UK, and 17 from the US and Canada.

Experiment 4: This test procedure differed from the previous three in that not all

three participants were on the phone at the same time. The person who initiated the test was the receiver in all trials. In each trial, at randomly chosen times during preselected time windows, one of the two callers, chosen at random, was telephoned and asked by a voice message asked to press 1 to take part. He or she was then asked to think about the receiver and played music. The receiver was also called, and told that one of the two callers was on the line, and asked to guess which by pressing 1 for the first caller and 2 for the second. The names of callers were alphabetically ordered, so nothing could be inferred from which was designated 1 or 2. Once the receiver had made her choice, he or she was connected to their caller, after which the two could talk for as long as they wanted. It was only at this point that receivers knew if they were correct or not. The test continued until all six trials had been attempted. As previously, tests were marked as *complete* if six trials were completed, otherwise they were treated as *incomplete*. Tests could be completed in as little as an hour or over several days. For most of this time the participants were not on the telephone. Receivers necessarily took part in all trials, but callers took part in an average of three trials each lasting only a minute or so. When the trials were not taking place, participants pursued other activities and went about their normal lives.

This general procedure was similar to that used by Sheldrake et al. (2015) with the difference that the previous procedure involved sending text messages to the randomly chosen callers asking them to call the receiver through a special telephone number, which was that of the test system. In this new test, the system built with Twilio enabled the message to the callers and their calls to the receiver to be made seamlessly.

Instructions

The instruction messages for the Experiment 1 were as follows; in this example the person registering the test was Rupert and the other two participants were Tom and Pam. Experiments 2 and 3 used similar messages, but with the non-receiver informed that they were not being thought about and would listen to music until they were reconnected with the other participants.

Message to all participants when test begun:

"Welcome to Rupert's telepathy test Rupert/Tom/Pam. To participate in the test, please press one… You will now be connected to the other participants.

Hello and thanks for taking part. When the first trial begins, one of you will be selected at random to be the caller, and will be asked to think about one of the other

participants. The other two will both be told whether or not they are being thought about, and will be asked who they feel the caller is. After they have registered their responses, the caller will be connected to the person he or she has been thinking about. The third person will then be reconnected, and all three of you can talk to each other for a while, until the next trial begins. There will be 6 trials altogether… The test will commence in five seconds.

Message to Rupert:

You will think about another participant. Please think about Tom. You will be connected to this person shortly.

Message to Tom:

You are being thought about by one of the other participants. Please take your time to try to guess who this is. You will have about a minute. Please make your choice when you are ready. [Choice is made here]. Your guess of Rupert has been registered. You will now be connected to the person thinking about you.

Messages to Pam:

In this trial you are not being thought about. But please take your time to try to guess who is thinking about someone. You will have about a minute. Please make your choice when you are ready. [Choice is made here] Your guess of Rupert has been registered. You will be reconnected to the other participants soon. You will now be connected back with all the participants, and the next round will commence.

Final message to all participants:

Thank you for taking part. In guessing who was calling, your group scored 3 hits out of 6 when they were being called by someone and 3 hits out of 6 when they were not being called by anyone. The test is now complete. Thanks again for taking part and goodbye.

The simpler instructions for Experiment 4 were as follows:

Message to Rupert

Welcome to Rupert Sheldrake's telepathy test, Rupert. Please press one to continue. Please think about Tom. When you are ready, press one and we will try to connect you to them."

Message to Tom

Welcome to Rupert Sheldrake's telepathy test, Tom. One of your friends is on the line. Please try to guess who it is, and you will be connected to them. Please enter your choice when you are ready. We will now connect you. You can both hang up when you are ready.

Registration

During test registration, the initiating participant provided their name and phone number in a web interface on www.sheldrake.org. Optionally, they also provided an email address, and their gender (male or female) and their approximate age (20-30, 30-40, etc.). The initiating participant also provided names and phone numbers for two friends, and optionally their genders and approximate ages. For the first three tests, the test began immediately after initiation and the roles were determined at random immediately before each trial. For the fourth test, the initiating participant selected time windows in which trials could be attempted. These were one-hour periods available from the next complete hour after registration; for example, if the volunteer registered at 9.30 am, the first slot was at 10.00 am. Slots were available during the next two days also, from 9.00 am until 9.00 pm. Slots on the day of registration were likewise available until 9.00 pm. Once the volunteer had provided all these details, they could initiate the test. Times were chosen for six trials within the chosen time slots, and the caller for each trial was also chosen (the initiator was always the receiver). This information was not revealed to the participants but was predetermined at this point.

Participants

Participants were recruited through Rupert Sheldrake's website www.sheldrake.org, newsletter, Facebook website, and also newsletter, sent to people who had subscribed to it, and at his talks. It was hard to persuade people to take part, largely because of the difficulty of their having to recruit two other people to be available at the same time (Experiments 1-3) or continuously available during the test period (Experiment 4). For this reason, we did not set in advance a target number of participants for each experiment, although we aimed for a number exceeding a minimum of 200 trials, and simply recruited as many as we could within a given time period. We did not ask participants about their prior beliefs in telephone telepathy, but most participants were probably aware of the phenomenon and took part because they believed it was possible. As experimenters, we thought that telephone telepathy was a real phenom-

enon, based on prior experimental results, but were neutral (3 on a 1 to 5 scale, where 5=strong belief and 1=strong non-belief) about the effectiveness of the procedures in Experiments 1-3, which had never been tried before. Experiment 4 was similar to previous experiments that had given positive results and so had a moderate belief (level 4) that this experiment would also give positive results. This research was conducted with ethical principles and informed consent as described in www.publichealthnotes.com/research-ethics-definition-principles-and-advantages/. This project was preregistered with the Open Science Foundation (OSF) on November 12, 2015 with registration https://osf.io/72b3g/

Storage of Data

All test and trial data were stored in the system database, either during test registration, or during the execution of a trial. MySQL views were used to make the data easily readable for individual trials and tests, as well as provide running totals of the guess success rate. These tables were available in a password protected web interface. We also archived data by emailing copies of it to a third party every week. The data are publicly available on the OSF website at https://osf.io/72b3g/

Analysis

Statistical analyses were carried out by binomial test with the expected probability of a correct response by chance of .5 or 50%, one tailed, and with chi squared analysis for proportions.

Results

In all tests, it was possible that a guess was not registered, either by the participant not pressing a key, pressing the wrong key, or mis-pressing the intended key. The number of recorded guesses is thus generally lower than the number of trials conducted.

Experiment 1

In this test there was a total of 1,089 trials, with 536/1047 (51%) correct responses by receivers, not significantly different from the chance level (p = .23). There were 145 completed tests (870 trials) with all receiver guesses recorded, with 456 hits (52%)

(Table 1). The non-receivers served as controls: they knew that they were non-receivers and were asked to guess who the caller was even though s/he was not thinking about them. Their responses could therefore be expected to be close to chance, which in fact they were, with 509 hits out of 1,035 responses (49%, p = .31).

Table 1.

Hit Rates with Receivers and Non-receivers in Experiment 1

	Receiver			**Non-receiver**		
Tests	Trials	Hits	Hits %	Trials	Hits	Hits %
Complete	870	456	52	822	410	50
Incomplete	177	80	45	213	99	47
Total	1047	536	51	1035	509	49

Experiment 2

After finding a hit rate close to chance level in Experiment 1, we explored the possibility that our design might have created a telepathic confusion for the receivers. The non-receivers were trying to detect which of the other two participants might be the caller and were therefore thinking about these participants, one of whom was the receiver. Consequently, the receiver may have detected influences both from the actual caller and also from the non-receiver, confounding any possible telepathic effect. To avoid this confusion, we ran a new version, Experiment 2, in which non-receivers were again informed that they were not the receivers and were played music during the trials in which they were not participating. In this test the hit rate was still not significantly above the chance level: out of 231 trials there were 118 hits (51%, p = .35). The results from complete and incomplete tests are shown in Table 2.

Table 2.

Hit Rates in Experiments 2 and 3

	Experiment 2			**Experiment 3**		
Test	Trials	Hits	Hits %	Trials	Hits	Hits %
Complete	180	93	52	414	216	52
Incomplete	51	25	49	33	15	46
Total	231	118	51	447	231	52

Experiment 3

We next asked whether the non-significant result in Experiment 2 might have occurred because the receiver was changed from trial to trial at random, possibly confusing the receivers and perhaps also reducing the possibility that they could improve through practice. Thus, in Experiment 3, the same participant was the receiver in all six trials within a test, which was otherwise conducted in the same way as Experiment 2. Once again the results were not significantly above chance, with 231 hits out of 447 trials (52%, p = .22). The results from complete and incomplete tests are also shown in Table 2.

Experiment 4

We next wondered why the results of Experiments 1-3, so close to chance, differed from previous telephone telepathy tests, which gave above-chance results. One possible reason was that our experimental design meant that all participants were continuously linked throughout the tests in a conference call format and were talking to each other between trials. This closeness may have meant that they were telepathically entangled even when we wanted the non-receivers to switch their attention to the music they were hearing and not to think about the other participants. We therefore ran another test that was similar to the experimental designs in previous studies, in which the callers and receivers were detached from each other between trials and could take part in other activities. In particular, each caller only occasionally took part in a trial, with gaps of up to several hours in between. Moreover, when one caller was

taking part, the other caller was unaware that a trial was taking place. Under these circumstances, there were 152 hits out of 266 trials (57%), a hit rate similar to that in previous automated telephone telepathy tests, and significant, p = .01. In the complete tests the hit rate was slightly below chance, but in the incomplete tests the average hit rate was 60% (Table 3). However, this difference between hit rates was not significant, χ^2 = 2.69, p = .10. by a 2x2 chi-squared test.

Table 3.

Hit Rates in Complete and Incomplete Tests in Experiment 4.

Test	Trials	Hits	Hits %
Complete	66	32	49
Incomplete	200	120	60
Total	266	152	57

For these tests to be completed, both callers and receivers had to be free to answer their phones six times, and therefore this low proportion of completed tests is not surprising and was indeed expected. The main reason we developed the procedures in Experiments 1-3 was to reduce the proportion of incomplete tests, and in that sense these procedures worked. In Experiment 1, the proportion of trials in complete as opposed to incomplete tests was 81%; in Experiment 2, 78% and in experiment 3, 93%. By contrast, in Experiment 4 this proportion was 25%.

One reason that we tried to increase the proportion of complete tests was to avoid the problem of "optional stopping," whereby participants who were not scoring above chance could simply have stopped doing the test, while those who were scoring above chance might have continued, even though their positive scores might have been a result of random guessing. Thus, optional stopping could, in principle, introduce a bias into the results, favoring artifactual above-chance scores. In Experiments 1-3, the hit rates in complete tests were at chance levels, and hence optional stopping, if it occurred, did not lead to spurious positive results. In Experiment 4, where the overall result was positive and significant, and where 75% of the tests were incomplete, could optional stopping have accounted for the positive results? No. Hit rates were in fact lower in complete tests than in incomplete tests, showing that optional stopping could not explain these positive results (Table 3).

We looked at the data from Experiment 4 in more detail to find out whether the overall positive effect could be explained by high scores from a few participants and scores close to chance levels by most others. Such a pattern might suggest that some people were cheating. The data in Table 4 show that this was not the case. If participants were simply guessing, by chance roughly equal numbers of tests should have had positive and negative scores. In tests with 5, 3 and 1 trials, all results were either positive or negative because scores of 2.5, 1.5 and 0.5 were impossible. "Positive" results in complete tests with 6 trials were those in which receivers gave 4, 5, or 6 correct responses, "at chance" those with 3, and "negative" those with 2, 1, or 0. Likewise, for tests with 5 trials, "positive" results were those with 3, 4, or 5 hits, and "negative" those with 2, 1, or 0 hits.

In fact, 17 tests had negative scores and 36 positive scores. Thus, out of a total of 53 tests with hit rates that were either positive or negative, 36 were above chance, a significant positive effect, p = .006. This analysis confirms that the overall positive effect in Experiment 4 could neither be explained in terms of optional stopping nor by most people scoring at near-chance levels with a few scoring strongly above chance. Significantly more people had positive than negative scores, showing that the positive scores were not confined to a small minority but were widely distributed.

Table 4.

The Number of Complete and Incomplete Tests with Positive, At Chance or Negative Results

Trials per test	Negative	At chance	Positive
6	4	5	2
5	6		15
4	1	4	3
3	4		6
2	0	8	4
1	2		6
Total	17	17	36

Discussion

We attempted to devise easy-to-use telephone telepathy tests in which all participants were connected together in a conference call format. All three versions this type of experiment gave results that were close to the chance level, showing no detectable signs of telepathy. However, when we reverted to an earlier type of experiment, in which there were longer intervals between trials and the receivers and callers went about their normal lives when not being tested, we obtained an above-chance result, comparable to the hit rate in a previous automated telepathy test (Sheldrake et al., 2015).

The failure of our first three tests may well have been because all three participants were connected together continuously. Although this experimental design reduced the proportion of incomplete tests, it may have led to telepathic confusion. The participants may have been unable to detach their minds from an awareness of each other, even when they were not callers. They also may have been disengaged by the automated call environment the tests employed. The systems we used, especially in Experiments 1-3, had a somewhat frustrating pace, typical of automated calls. Thus, while these programmable systems technically allow almost any test design to be constructed, they are unlikely to put participants at ease. In Experiment 4, the participants were free to go about their lives, with the system designed to be as unobtrusive as possible. Participants had no need to think about the procedure except during a trial. The small but significant positive effect, in line with previous results, suggests that this procedure was more effective, perhaps because there was less interference from potential callers who were not involved in the trial, and because the calls were relatively quick and therefore less likely to disengage participants. However, as in previous experiments of this type, many of the tests were not completed. This was often because the randomly selected callers did not answer their phones.

The fact that the first three experiments showed no significant effect is reassuring in one way: it suggests that the participants were not cheating. The data from Experiment 4 (Tables 3 and 4) lead to a similar conclusion. As in previous studies (Sheldrake et al., 2015), a small effect widely distributed among participants is not the pattern that would be expected if some people were cheating. If telephone telepathy did not exist and positive scores were the effects of cheating by a minority of participants, then a few people would have had high hit rates and others would be around the chance level, which is not what we found. Nevertheless, in unsupervised automated tests, it is impossible to completely eliminate the suspicion that some participants might cheat, and these tests cannot therefore provide conclusive evidence for telephone telepathy. Instead, they provide a system whereby participants may be able to practice and

increase their sensitivity, and also provide a way of identifying potentially talented participants.

In Experiment 4 and in other comparable tests of telephone, email, and SMS telepathy, the results were positive and significant, but were not far above chance, implying that most people have a limited ability to detect who is calling telepathically under these artificial test conditions. Nevertheless, some people do better than others, as discussed earlier. This is not surprising, given that human abilities and sensitivities are unevenly distributed: some people have a better sense of smell than others; some are unusually musical; some can hear high-pitched sounds that others can barely detect. Thus, the best uses for future automated tests would be to enable people to practice and, if possible, improve their telepathic abilities. Such tests could be incorporated into an intuition training app.

In this discussion, we have assumed that above chance results in telephone telepathy tests are indeed a result of telepathy, but there is another theoretical possibility, namely precognition. Could participants have picked up who was about to speak to them by anticipating this future experience, rather than telepathically detecting the callers' intention to call? In previous research using automated tests both with telephone calls and SMS messages, the effects seemed to be telepathic rather than precognitive. In telephone tests with three callers, with a mean chance expectation of a 33.3% hit rate, with more than 400 trials, the hit rate was 42%, ($p < .0001$). By contrast, under precognitive conditions, where the receiver was asked to guess who would be calling *before* the caller was selected at random, in more than 700 trials, the hit rate was 33%, almost exactly at chance level. In similar tests using SMS messages, under telepathic conditions in more than 800 trials the hit rate was 38% ($p < .01$), whereas under precognitive conditions, with 340 trials, the hit rate was 32%, again very close to chance level (Sheldrake, 2014). We therefore think it probable that the effect we observed in Experiment 4 was telepathic rather than precognitive.

In order to develop an automated training procedure, it may not be necessary to use the forced choice format employed in all the tests conducted so far. One general problem with forced-choice tests for psi abilities is that they may inhibit the very phenomena they are designed to investigate because they create artificial conditions that make participants self-conscious. In real-life conditions, most psi phenomena occur spontaneously and do not involve discursive thought or the conscious consideration of multiple options. In telephone telepathy, people "just know" or "feel" who is calling, rather than thinking about the possible alternatives. Moreover, the callers have a motive to call the receiver.

In our tests, by contrast, people had no motive except to follow automatically randomized instructions, and the receiver was confronted with a forced choice that raised the possibility of responding incorrectly, inducing doubt and uncertainty. It would be easier to encourage participation and also easier for the participants if there were a procedure that could be used as part of everyday life in connection with telephone calls or online messages they are receiving anyway. Here is one possible design using online messages:

Participants who are acting as receivers encourage some of the people who message them relatively frequently to do so through a training app. Instead of sending the message direct to the receiver, they send it to the training app which then sends a message to the receiver saying that "One of your friends is getting in touch with you right now. Please indicate who you think it is." They would then speak or type in, or simply select, the name of the person they thought was trying to contact them. The message would then be delivered, giving immediate feedback. An online database would keep track of their hit rates in these tests. Such a training app could be integrated with any major social media platform via their Application Programming Interfaces (APIs), effectively creating a substitute interface for widely used messaging systems. In some cases, participants may have been expecting a call from a particular person at a particular time, or know that person's habits in such a way that they can predict who is calling without the need for telepathy. Hence some of the positive responses may not depend on telepathy, but the receivers themselves would probably be aware of this fact. After the call has ended, they could be asked to rate how expected or unexpected the call was on a 1 – 5 scale.

A graphical display within the training app could show their weekly hit rates, and whether these were going up or down or remaining more or less the same. Such an approach could also overcome the most significant challenges of performing this research. The biggest barrier to participation was the requirement for three people to coordinate being online at the same or similar times. In practice, many people are online or available through their phones at the same time and responses are sometimes but not always almost instantaneous. The time between message and response would be recorded, and the effect of delayed interactions could be explored. This approach would remove the need for coordination by participants, utilizing instead the ubiquity and ease of online communications via platforms that participants already use.

If such an automated training system existed, people who claim to be able to teach others how to improve their intuitive skills could monitor their students' progress by finding out whether their hit rates were in fact increasing. This would enable intu-

ition training methods to be improved by providing an ongoing objective measurement of telepathic abilities. Then those who have been able to improve their telepathic skills, or who appear to be naturally talented, could be invited to take part in more rigorous tests, possibly with the incentive of payment. These tests would be done under supervised conditions with the participants being filmed in a way that could rule out cheating, similar to the original telephone telepathy tests that preceded the development of automated methods, in which the receivers responded by saying who they felt was calling, rather than responding to a forced-choice list (Sheldrake & Smart, 2003b; Schmidt et al., 2009).

There is much potential for automated tests for psi using phones, but the forced-choice methods used so far, including those described in this paper, do not work very well. Systems that go with the flow of people's everyday interactions seem more likely to be successful in both detecting and training telepathic abilities.

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Comparaison de Quatre Nouveaux Tests Automatisés de Télépathie par Téléphone

Rupert Sheldrake Tom Stedall

Résumé: *Objectif*: développer des tests automatisés de télépathie par téléphone, qui soient faciles à utiliser. *Méthode*: dans un type de test, trois participants qui se connaissaient étaient reliés entre eux de manière continue sous forme de conférence téléphonique. Dans chaque essai, le destinataire était choisi au hasard. Les deux autres participants ont été mis en sourdine et l'un d'entre eux a été choisi au hasard pour être l'appelant et il lui a été demandé de penser au destinataire avant d'être connecté à cette personne. On a demandé au destinataire d'identifier qui était en ligne, puis l'appelant et le destinataire ont été mis en relation et ont pu parler. Dans le second type de test, les essais étaient espacés sur des périodes plus longues et les appelants et les destinataires poursuivaient leur vie normale entre les essais. *Résultats*. Dans aucun des tests de "conférence téléphonique", le taux de réussite n'a été significativement différent du niveau de chance de 50 %. Dans le deuxième type de test, avec un total de 266 essais, le taux de réussite était de 57 % (p = 0,01). Conclusion. L'échec de nos tests de "conférence téléphonique" à montrer des effets télépathiques significatifs pourrait être dû au fait que les trois participants étaient continuellement engagés dans le test, ce qui a pu perturber toute influence télépathique. Les tests dans lesquels les personnes qui n'appelaient pas n'étaient pas impliquées dans l'expérience ont donné de meilleurs résultats. Nous suggérons de développer une application d'entraînement à l'intuition qui fonctionnerait en même temps que les appels et les messages habituels. Une telle application pourrait être plus conviviale et permettre aux participants d'ex-

ercer leurs compétences intuitives, tout en permettant d'identifier les participants particulièrement doués afin de mener avec eux des tests plus rigoureux.

Translation into French by Antoine Bioy, Ph. D.

Ein Vergleich von vier neuen automatisierten Tests zur Telefon-Telepathie

Rupert Sheldrake Tom Stedall

Zusammenfassung: Zielsetzung. Die Entwicklung benutzerfreundlicher automatischer Tests zur Telefon-Telepathie. Methode. Bei einer Art von Test wurden drei Teilnehmer, die sich kannten, kontinuierlich in Form einer Telefonkonferenz miteinander verbunden. Bei jedem Versuch wurde der Empfänger zufällig ausgewählt. Die beiden anderen Teilnehmer wurden stummgeschaltet, und einer wurde zufällig als Anrufer ausgewählt und gebeten, an den Empfänger zu denken, bevor er mit dieser Person verbunden wurde. Der Empfänger wurde gebeten, die Person in der Leitung zu identifizieren, und dann wurden Anrufer und Empfänger miteinander verbunden und konnten sprechen. Bei der zweiten Art von Test wurden die Versuche über längere Zeiträume verteilt, und Anrufer und Empfänger gingen zwischen den Versuchen ihrem normalen Leben nach. Ergebnisse. Bei keinem der "Konferenzgespräch"-Tests unterschied sich die Trefferquote signifikant von der Zufallsrate von 50 %. Bei der zweiten Testart mit insgesamt 266 Versuchen lag die Trefferquote bei 57 % ($p = .01$). Schlussfolgerung. Die Tatsache, dass unsere "Telefonkonferenz"-Tests keine signifikanten telepathischen Effekte zeigten, könnte daran liegen, dass alle drei Teilnehmer kontinuierlich mit dem Test beschäftigt waren, was eventuelle telepathische Einflüsse beeinträchtigen könnte. Tests, bei denen die Nicht-Anrufer nicht mit dem Experiment beschäftigt waren, ergaben bessere Ergebnisse. Wir schlagen vor, eine Anwendung für das Intuitionstraining zu entwickeln, die parallel zu den normalen Anrufen und Nachrichten der Teilnehmer funktionieren würde. Eine solche App könnte benutzerfreundlicher sein und es den Teilnehmern ermöglichen, ihre intuitiven Fähigkeiten zu trainieren und talentierte Teilnehmer für strengere Tests zu identifizieren.

Translation into German by Eberhard Bauer, Ph. D.

Uma Comparação de Quatro Novos Testes de Telepatia Automatizados por Telefone

Rupert Sheldrake Tom Stedall

Resumo: Objetivo. Desenvolver testes de telepatia automatizados por telefone que sejam user-friendly. Método. Em um tipo de teste, três participantes que se conheciam foram mantidos continuamente ligados em um formato de chamada em conferência. Em cada tentativa, o receptor era selecionado aleatoriamente. Os outros dois participantes foram silenciados e um foi selecionado aleatoriamente como o aquele que ligava e solicitado a pensar no receptor antes de ser conectado àquela pessoa. O receptor foi solicitado a identificar quem estava na linha e, em seguida, o chamador e o receptor foram conectados e pud-

eram conversar. No segundo tipo de teste, as tentativas foram espaçadas ao longo de períodos de tempo mais longos e os chamadores e receptores seguiram suas vidas normais entre as tentativas. Resultados. Em nenhum dos testes de "chamada em conferência" a taxa de acerto foi significativamente diferente do nível de chance de 50%. No segundo tipo de teste, com um total de 266 tentativas, a taxa de acerto foi de 57% (p = .01). Conclusão. A falta de efeitos telepáticos significativos em nossos testes de "chamada em conferência" pode ter se dado devido ao fato de os três participantes estarem continuamente envolvidos com o teste, o que pode ter confundido quaisquer influências telepáticas. Testes nos quais aqueles que não telefonaram não estavam envolvidos com o experimento apresentaram melhores resultados. Sugerimos o desenvolvimento de um aplicativo para treinamento de intuição que funcionaria junto às chamadas e mensagens regulares das pessoas. Tal aplicativo poderia ser mais fácil de ser utilizado e permitir que os participantes praticassem suas habilidades intuitivas, além de possibilitar a identificação de participantes talentosos para testes mais rigorosos.

Translation into Portuguese by Antônio Lima, Ph. D.

Comparación de Cuatro Nuevas Pruebas Automatizadas de Telepatía Telefónica

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Resumen: *Objetivo*. Desarrollar pruebas automatizadas de telepatía telefónica fáciles de usar. *Método*. En un tipo de prueba, tres participantes que se conocían entre sí se conectaron continuamente en formato de conferencia telefónica. En cada prueba, el receptor se seleccionaba al azar. Se silenciaba a los otros dos participantes y se elegía a uno al azar como interlocutor y se le pedía que pensara en el receptor antes de conectarse con esa persona. Se pedía al receptor que identificara quién estaba en la línea y, a continuación, se conectaba a la persona que llamaba y al receptor, que podían hablar. En el segundo tipo de prueba, los ensayos se espaciaban durante periodos de tiempo más largos y los llamantes y los receptores hacían su vida normal entre las pruebas *Resultados*. En ninguna de las pruebas de "conferencia telefónica" el porcentaje de aciertos fue significativamente diferente del nivel de azar del 50%. En el segundo tipo de prueba, con un total de 266 pruebas, el porcentaje de aciertos fue del 57% (p = .01). *Conclusiones*. El hecho de que nuestras pruebas de "conferencia telefónica" no mostraran ningún efecto telepático significativo podría deberse a que los tres participantes estaban continuamente ocupados con la prueba, lo que podría haber confundido cualquier influencia telepática. Las pruebas en las que las personas que no participaban en la llamada no estaban involucradas en la prueba dieron mejores resultados. Sugerimos desarrollar una aplicación de entrenamiento de la intuición que funcione junto con las llamadas y mensajes habituales de la gente. Esta aplicación sería más fácil de usar y permitiría a los participantes practicar sus habilidades intuitivas, así como identificar a los participantes con talento para someterlos a pruebas más rigurosas.

Translation into Spanish by Etzel Cardeña, Ph. D.