

Minding the Matter of Poltergeists: Current Parapsychological Findings and Perspectives^{*}

Bryan J. Williams
Psychical Research Foundation

Abstract: Few psychic occurrences are as mysterious - or as disruptive - as objects spontaneously flying across the room on their own, or knocking noises emanating from the walls when no source is clearly making them. These are the occurrences which commonly characterize the type of phenomena traditionally labeled as “poltergeist.” What are we to make of them? How are they to be understood? One long-held interpretation is that they are caused by the pestering and malicious actions of a disembodied spirit or demon. But a number of findings gathered over the past century seem to suggest that poltergeists may actually have a purely human side to them, one which ties into the possible link between mind and matter. A general summary of these findings - coming from various case surveys, experimental studies, and field investigations conducted within the scholarly domain of parapsychology - is presented in this paper, which may be helpful in the effort to better understand, and maybe even deal with, this particular type of ostensibly paranormal phenomena.

Introduction

February 9, 1958 had likely started out as a typical Sunday morning for most people living in the community of Seaford on New York’s Long Island. But for the Herrmann family, it was anything but typical. On that particular morning, the Nassau County Police Department had received a desperate request for help from the Herrmanns regarding strange physical occurrences that were taking place inside their home. An excerpt from the filed police report gives an account of some of the things that were said to be occurring:

On Sunday, Feb. 9th, 1958, at about 1015 hours [10:15 A.M.] the whole family was in the dining room of the house. Noises were heard to come from different rooms, and on checking it was found that the holy water bottle on the dresser in the master bedroom had...opened and spilled, a new bottle of toilet water on another dresser in the master room had fallen, lost its screw cap and also a rubber stopper and the contents were spilled. At the same time, a bottle of shampoo and a bottle of Kaopectate in the bathroom had lost their caps, fallen over and were spilling their contents. The starch in the kitchen was also opened and spilled...and a can of paint thinner in the cellar had opened, fallen and was spilling on the floor. The complainant then called the police department and Patrolman J. Hughes of the 7th Precinct responded. While Patrolman Hughes was at the complainant’s home, all of the family was present with him in the living room when noises were heard in the bathroom. When Patrolman Hughes went into the bathroom with the complainant’s family, he found the medicine and the shampoo had again spilled. The complainant further stated that at the time of occurrences there were no tremors in the house, no loud noises or disturbances of any kind that could be noticed. None of the appliances were going at these times and the complainant has no high frequency equipment at all in the house.¹
p.14

^{*}This is the written version of an invited talk given at the April meeting of the New Mexico UFO & Paranormal Forum held at the North Domingo Baca Multigenerational Center in Albuquerque, New Mexico, on April 15, 2017. My thanks go to Lesley Günter and Richard Smith for coordinating the talk and inviting me to speak, and to Jerry Conser for all his support.

This report relates only a small fraction of the occurrences witnessed by the police and the Herrmanns in the home, which the local media eventually dubbed “the house of flying objects.” Word of the unusual events soon reached the Parapsychology Laboratory at Duke University and its director, J. B. Rhine, asked J. Gaither Pratt and William Roll to look into the case.²

As unusual as they were, the occurrences seemed to come to an end almost as quickly and suddenly as they started up, and the two investigators weren’t able to directly witness any flying objects for themselves. However, they did manage to be present when an unusual event occurred in another part of the house.

On that particular occasion, Pratt and Roll were upstairs with the family when “a loud dull noise” was heard from somewhere downstairs. When they went down into the empty basement, they found a bleach bottle lying on its side in a box, with its cap located on the floor a short distance away. No one had been in the basement in the hour prior to this event, and the small amount of moisture under the cap suggested that the event was recent – if it’d been staged an hour before, the liquid likely would’ve evaporated away by the time the noise was heard. Another thing which argues against this being a staged event is the fact that the investigators were unable to adequately reproduce the phenomenon in tests they did with bottles of pressurized gas. The noise and the distance at which it was found suggested that the cap wasn’t screwed off the bottle in a normal fashion, but had somehow just “popped” off. If we momentarily assume that this event – as well as some of the others which reportedly occurred in the Herrmann house – were genuine, then what could’ve been causing them?

Unusual physical disturbances like these – in which objects spontaneously move around on their own with no apparent force acting upon them, and noises are made without a clear source being present – commonly characterize the type of paranormal phenomena that have traditionally been labeled as *poltergeist*. In some instances, other kinds of phenomena have been said to take place during poltergeist outbreaks, as well (see Table 1). These can include instances of supposed apportation (where objects spontaneously appear and disappear out of closed space), flashing lights, and occasional sightings of apparitions. But more often than not, these other phenomena are the minority, and so they are not typically taken as being essential characteristics.

Table 1. Types and Frequency of Reported Poltergeist Phenomena

Phenomena	PRF Cases ³	IGPP Cases ⁴	Gauld-Cornell Cases ⁵
Object Movements	91%	87%	64%†
Knocking & Rapping Sounds	54%	57%	48%
Apparitions	23%	12%	29% [°]
Apportation of Objects	17%	37%	22%
Flashing Lights	8%	26%*	10%

All values are rounded to the nearest one percent. PRF - Psychological Research Foundation; IGPP - Institut für Grenzgebiete der Psychologie und Psychohygiene.

* May be inflated by inclusion of visual manifestations of human-like figures

† Refers to small objects only

[°] Refers to human apparitions only; may be inflated by the inclusion of haunted apparitions

Reported accounts of poltergeist phenomena extend quite a ways back in human history, with some of the earliest coming to light in the 17th century. Among these was an account given

by Richard Chamberlain, the royal secretary of New Hampshire province, who had seen stones flying through the air – seemingly of their own accord – on several occasions while he was residing at a local estate in 1682. His log of these partially described them in the following manner:

On Tuesday Night (June 28) we were quiet; but not so on Wednesday, when the Stones were play'd [i.e., thrown] about in the House...But my Landlord had the worst of that Day, tho' he kept the Field, being there invisibly hit above 40 times as he affirm'd to me...Upon Saturday, 9 July, as I was going to visit my Neighbour Capt. Barefoot and just at his Door his Man [i.e., servant] saw, as well as my self, 3 [stones] fall just by us in the Field...After this we were pretty quiet, saying now and then a few Stones march'd [i.e., moved] about for Exercise and to keep as it were the Diabolical hand in use, till July 28, being Friday, when about 40 Stones flew about, abroad, and in the House and Orchard, and among the Trees therein, and a Window broke before, was broke again.^{6, pp.101-102}

Another account which surfaced during this period was that of the Tidworth poltergeist, given by Joseph Glanvill (a chaplain to King Charles II and a member of the Royal Society of Great Britain) in his book *Saducismus Triumphatus*, a compendium of various accounts of supposed witchcraft and other mysterious events. Occurring in 1661, the Tidworth case involved a number of odd noises and object movements that were said to be taking place in the home of John Mompression, a local justice of the peace. Sounds resembling drum beats were among the most frequently heard noises, and this led many people to popularly refer to the case as the “Drummer of Tidworth” case.

One poltergeist account from this period even drew the attention of Robert Boyle, the British chemist and member of the Royal Society who is well-known for his work on the nature of gases. The account came from Francis Perrault, a minister in the city of Mâcon, France, who said that he, his wife, and his young maid had personally experienced several unusual occurrences in their home, including cooking ware being tossed about in the kitchen, stones being flung against the exterior walls, and odd sounds permeating the halls. Part of Perrault's account went as follows:

Once he [i.e., the poltergeist] snatched a brass candlestick out of the maid's grasp, leaving the candle lighted in her hand.

One afternoon a friend of mine, one M. Conain, a physician of Mâcon, bestowed a visit upon me. As I was relating to him these strange passages [i.e., experiences] we went together to the chamber where the demon was most resident. There we found the feather-bed, blankets, sheets, and bolster laid all upon the floor. I called the maid to make the bed, which she did in our presence, but presently, we being walking in the same room, saw the bed undone and tumbled down on the floor, as it was before.^{7, p.45}

The account had intrigued Boyle so much that he recommended it be published, noting that it'd left him with the impression “...at length to overcome in me...all my settled indisposedness to believe in strange things.”

Some Interpretations of Poltergeists

What are we to make of poltergeist phenomena? How might they possibly fit into our understanding of the natural world? Of course, these questions don't pose much of a problem when purely normal factors or deliberate fraud are ultimately found to be the cause for the phenomena (and there have been some cases where such explanations were found to apply – see, for example, the cases described in Refs. 8 – 9, as well as the cases in Chapter 8 of Ref. 1). But in certain cases where we can be reasonably confident that these conventional explanations are not applicable – such as the ones we'll look at a bit later in this paper – these are not particularly easy questions to answer.

Perhaps the longest-running interpretation of poltergeist phenomena stems from cultural beliefs inherently based in religion, spirituality, and folklore, where it's been thought that they are caused by the pestering and malicious actions of a disembodied spirit or demon. One can see this implied in the term *poltergeist* itself, when it is broken down to its basic roots in the German language: The first half of the term, *polter-*, derived from the verb *poltern*, means “rumble” or “to make a noise.”^{10,p.170} The related term *Polterabend* refers to a wedding-eve party where glass and old crockery are broken by the guests as a sign of good luck to the engaged couple, resulting in a great deal of noise.^{3,p.382} The second half of the term, *geist*, actually means “spirit, apparition, or ghost.”^{10,p.83} Thus, the two halves of the term combined seem to represent the traditional image of a “noisy spirit.” Even when one looks up the term *poltergeist* in *Webster's Dictionary*, they will often find it defined along the lines of “A mischievous ghost, esp. one that makes mysterious noises.”^{11,p.541}

This spirit-related interpretation was one that the early observers apparently favored – for instance, one might note usage of the term “Diabolical hand” in Richard Chamberlain's description of the flights of stones he witnessed, implying that some sort of intelligent entity was carrying out malicious deeds. This notion is likely what influenced Chamberlain to title his account *The Stone Throwing Devil*, thereby coining a phrase that was often used at the time to refer to such displays.

When Glanvill's *Saducismus Triumphatus* was first published in 1681, it had a decorative frontispiece made up of small illustrations that depicted the cases contained within its pages. One of these illustrations (shown on the right) represented the Tidworth poltergeist case, displaying a winged demon figure hovering over the Mompresson home and beating on a drum, clearly reflecting what was thought at the time to be the cause for the disturbances in the home. One can see the same kind of thought running through Perrault's mind by his direct use of the term “demon” in his excerpted account cited above of the Mâcon case (which some had referred to as the “Devil of Mâcon” case).



Of course, efforts to make sense of certain phenomena through interpretations like these were quite the norm in the eras preceding the Enlightenment period, when many natural phenomena were widely attributed to the acts of religious and spiritual deities. Thunderstorms and other forms of severe weather, for example, were once thought to reflect the wrath of the gods from the heavens above. Eventually, through empirical observations, scientists learned that the weather was influenced by complex interactions involving atmospheric temperature, pressure, and humidity, and something which appeared inherently mysterious suddenly seemed to enter more within the realm of human

understanding. Could the same type of situation ever come of trying to understand the seemingly paranormal nature of the poltergeist?

There are some hints which suggest that it may be possible. The first of these came quite subtly, when it was noticed that a number of the disturbances in the Mâcon case had taken place in the presence of Perrault's maid (as can be seen in the excerpts from Perrault's account cited above). In addition, Perrault noticed that some of the disturbances would manifest soon after his maid verbally challenged the poltergeist to produce them. Other observers in the case began to notice this close connection to the maid as well, which given the mindset of the time, had led the poor young girl to be suspected of some kind of witchcraft, unfortunately. But this one observation seemed to hint at some kind of human connection to the disturbances.

The same connection was noticed three centuries later when physicist Sir William Barrett took it upon himself to closely examine the details of various poltergeist cases. And in doing so, Barrett had observed that, among other things, "...the disturbances are usually, though not invariably, associated with the presence of a child or young person of either sex."^{12, p.410}

This human connection remains to be noticeable even in modern-day poltergeist cases. In the Seaford case, J. G. Pratt and William Roll noticed that the disturbances occurring in "the house of flying objects" most often occurred whenever Jimmy, the Herrmann family's 12-year-old son, was awake and present in the home. One example comes from the police report that was filed on the case, which describes a disturbance witnessed by Jimmy's father:

Mr. Herrmann [was] standing in [the] bathroom doorway, [with] son James at [the] sink brushing [his] teeth, [when he] actually saw a bottle of Kaopectate move along the formica top of the drain in a southerly direction for about 18 [inches] and fall into the sink. At the same time, a bottle of shampoo moved along the formica drain in a westerly direction and fell to the floor. There was no noise or vibration and no one touched either bottle to move them.^{2, p.85}

As noted in the report, Jimmy was busy brushing his teeth at the time, and Mr. Herrmann stated that Jimmy had "froze" when the bottles began moving (i.e., he remained in place and didn't move). Mr. Herrmann further stated that the area around the sink had been clean and dry, and so it doesn't seem likely that the bottles were merely sliding on a wet, slick surface. Other relatives and visitors also described witnessing disturbances while being present with Jimmy nearby.

Roll and Pratt came across a similar situation when they later investigated the poltergeist disturbances reportedly occurring in a small distribution warehouse located in Miami, Florida.¹³ According to the owners and employees, several souvenir objects being decorated and prepared for shipping (which included such things as beer mugs, ashtrays, and highball drink glasses) were frequently falling off the storage shelves. Many of these objects broke in the process, and some were even found several feet from where they'd been stored, suggesting that they had taken flight to land where they did. Larger objects, such as cardboard boxes, also occasionally fell and spilled their contents onto the warehouse floor. Most of these apparent "accidents" were initially thought to be due to simple carelessness on the part of the employees, but soon they became too numerous to dismiss in this fashion. Over time, it also became pretty clear that they most often took place whenever one particular person was present in the warehouse: Julio, the 19-year-old Cuban boy working there as a shipping clerk.

The disturbances were still taking place when Roll and Pratt arrived, and this gave them the rare opportunity to conduct a semi-controlled experiment with a poltergeist. Noticing that there were certain shelves in the warehouse from which objects had repeatedly fallen or taken off, they decided to place specially-selected “target” objects on these shelves to see if those objects would move at some point, as well. To be confident that there wasn’t any kind trickery going on here, Roll and Pratt carefully searched the area around the objects for any kind of magical devices or riggings, and they regularly monitored the actions of Julio and his fellow employees to make sure that no one went anywhere near them. Even with these efforts at controlling the situation in place, there were ten target objects that moved while Roll and Pratt had the warehouse and its employees under surveillance. At least seven of these target objects had moved while one or both of them had Julio directly in their sight.

On one of these occasions, Roll was watching Julio kneel down to place a plastic alligator figure on one of the lower storage shelves, in the hopes that the little figure might move at some point. A photograph that Roll had taken at that moment can be seen in Figure 1 below.



Figure 1. A photo taken by Roll of Julio placing the plastic alligator figure on a storage shelf inside the Miami warehouse.

Just as Julio was in the midst of doing this, a highball glass located on another shelf four feet behind him suddenly fell to the floor and shattered to pieces. Roll was standing five feet away from Julio, and he could see that both of Julio’s hands were full at the time: in his right hand was the alligator figure, and in his left hand was his shipping order clipboard (this is also readily apparent from the photo shown in Figure 1). There were only two other employees in the warehouse at the time, and they’d both been more than 15 feet away from the glass when it fell. It didn’t seem plausible that either of them could’ve picked up the glass and thrown it because no one went near the glass after Roll and Pratt had initially placed it there. There’d also been no trickery devices or riggings found by the investigators upon placing the glass, which greatly lessens the likelihood that the disturbance was faked.

There were two occasions in which the disturbances were found to have stopped: The first time came when Julio felt ill and stayed home. The second time came when he'd left his position at the warehouse shortly after the investigation was completed. No other disturbances reportedly took place in the warehouse after that time.

In another investigation several years later, Roll again found a human connection to the poltergeist disturbances reportedly occurring in the home of John and Joan Resch in Columbus, Ohio.¹⁴ The disturbances mainly involved household objects of various sizes and weights being moved around – the smallest was a hair barrette, while the biggest was a love seat. There were also some instances in which electric lights and appliances were said to be turning on and off by themselves. When the Resches called a family friend who was an electrician and asked him to look into the problem, he too witnessed these electrical disturbances first hand, but was unable to trace them to any apparent fault in the home's electrical wiring.

Before long, people began noticing that the disturbances seemed to focus around the Resches' 14-year-old adopted daughter Tina, who they'd raised since she was an infant. The disturbances in the home also caught the attention of the local newspaper, *The Columbus Dispatch*, which sent reporter Mike Harden and photographer Fred Shannon to look into them. While Harden and Shannon were interviewing Tina in the living room, two telephones sitting on the end table next to Tina began spontaneously flying across the room. Eager to capture the movement on film, Shannon trained his camera on the phones for several minutes, but they didn't budge. Only after he'd put his camera down did the phones suddenly fly off the table again. Noting the apparent elusiveness of the phenomenon, Shannon decided to try a sly trick of his own by holding his camera up toward Tina and the phones, and then briefly looking away. When he saw movement out of the corner of his eye, he quickly snapped the shutter. The approach was effective, and his resulting photo (seen in Figure 2 on the next page) appeared to show a phone in mid-flight across the lap of a startled Tina. The photo soon appeared on the front page of the *Dispatch*, alongside Harden's news story about the poltergeist.¹⁵ Harden's story and Shannon's photo were eventually picked up by the Associated Press, and for a few weeks in March of 1984, the "Columbus Poltergeist" became national news.

At first, the case didn't seem too promising to some. A flurry of media attention soon followed in the wake of Harden's story, and at one point, a simple news conference held at the Resch home turned into a nine-hour vigil when a large group of reporters insisted on staying around to witness the disturbances for themselves. During this vigil, a TV crew had filmed Tina pulling down a lamp, an event she'd apparently staged herself just to satisfy the reporters, who wouldn't leave until something happened (which, up to that point, nothing had). Most skeptics immediately focused their attention on this staged incident, blew it out of proportion, and used it to dismiss the case off-hand, claiming it was evidence that Tina had produced all of the poltergeist disturbances through simple trickery.¹⁶

But there were also several individuals who'd directly witnessed disturbances that they couldn't easily dismiss in this fashion, including Harden, Shannon, Tina's caseworker, and William Roll. On one occasion, an empty teacup that Roll had placed on a bedside table in Tina's room went flying across the room, covering a distance of about 12 feet. Tina had been in Roll's direct view the entire time, as he was watching her mop up some water she'd accidentally spilled. Both of her hands were occupied with the task, and a bed stood between her and the table, so she couldn't have grabbed the teacup and thrown it without him noticing.



Figure 2. The picture taken by news photographer Fred Shannon in the living room of the Resch home which appears to show a telephone in flight across the lap of a startled Tina Resch. (Source: Fred Shannon/*The Columbus Dispatch*)

Two other disturbances occurred consecutively while he and Tina were re-hanging a painting that had fallen off the wall. As Roll was using a pair of pliers to hammer the hanging nail back into the wall, the tape recorder that he was using to document the disturbances suddenly flew off the dresser behind him and landed about eight feet away. At the time, Tina was standing right next to him with her hands in view, one of which was resting on the wall and the other being at her side. Placing the pliers on the dresser, Roll went and picked up the recorder to make sure it wasn't damaged, keeping Tina slightly ahead of him as he went. While he was kneeling down to check the recorder with Tina standing in front of him, the pliers apparently flew from the dresser and struck the headboard of a bed about six feet away. Roll noted that Tina had her hands at her sides and had been more than eight feet from the pliers at that moment. Given that he'd observed Tina ahead of him every step of the way as they went to retrieve the recorder, the idea that she'd picked up the pliers while crossing the room and thrown them a few minutes later is not plausible.

(In addition, the poltergeist disturbances around Tina were observed by several parapsychologists in a more controlled setting in the months following; more will be said about that in a later section of this paper.)

A human connection to the phenomena was even been found in one of the most recent poltergeist cases documented by Dutch parapsychologists Johan Gerding, Rens Wezelman, and Dick Bierman.¹⁷ At the center of this particular case was a 15-year-old Turkish boy, Çetin, whose family was being affected by disturbances reminiscent of the "stone-throwing devil" reports of much earlier times: Stones, dirt clods, and patches of sand would fly into the family home from the back garden on multiple occasions, with some of them striking certain family members and shattering windows. When the family called the police for help, the two responding officers immediately suspected Çetin of pulling childish pranks. But then, the officers began experiencing

some of the phenomena first-hand in Çetin's presence, which, given the conditions, they found difficult to dismiss as simple pranks.

To make sure he wasn't creating mischief, the two officers initially followed Çetin closely wherever he went in the home, including up to his room on the second floor. At one point, while she was keeping an eye on Çetin in his room, one of the officers suddenly had sand thrown in her face. The other officer then had sand thrown in his face a moment later, even though Çetin was noted to be standing directly in front of him with his hands in his pockets. No one else had been upstairs at the time.

Later on, the two officers drove Çetin to his step-sister's home in their patrol car. Along the way, the female officer again felt sand falling on her head, which she initially thought Çetin had thrown at her from his place in the back seat. But as she got out to let Çetin out of the car, she once again felt a heavy amount of sand fall onto her head. Çetin was still sitting in the back seat at the time, with the back door still closed and the windows fully rolled up.

This apparent human connection seems to hint at the possibility that there is something unique about the person at the center of the disturbances – but what? Many parapsychologists currently suspect that it may have to do with an inner capacity that we currently know precious little about: the inner power of the human mind. More specifically, they suspect that it may involve a large-scale form of *psychokinesis* (PK, or what is more commonly known as the ability of “mind over matter”) on the part of this central person (who is often referred to as the poltergeist *agent*). Just how did parapsychologists arrive at this PK interpretation of poltergeist phenomena, and why do they think this interpretation is plausible? Is there really any evidence that PK could be real? In order to answer those questions, we must take a look at the approaches parapsychologists have taken – and the progress they have made – in studying “mind over matter.”¹⁸

Studying Psychokinesis

When people hear the phrase “mind over matter,” they often readily think of such things as spoon-bending, moving objects with the exertion of one's will, and even starting fires with one's mind. Could there really be anything to these kinds of mental feats, or are they all just the stuff of fantasy, superstition, and illusionist magic tricks?

To find out, parapsychologists have conducted a number of experimental tests over the past 80 years to see if people could possibly influence the physical behavior of material objects through such means as focusing their mental will, building up their excitement, or even just “wishing” for a certain outcome to occur. The earliest experiments of this type involved attempts to influence rolling dice, in an effort make a certain number come up more often than would be expected by pure chance alone.¹⁹ Of course, it would be important for us to be confident that the dice rolls aren't being influenced by such normal factors as clever hand tosses, loaded dice, and puffs of air. To lessen that likelihood, many different kinds of dice would often be used in these PK tests. The dice would be rolled in a cup, or even inside a sealed tube that would be rotated by an electric motor belt. The target numbers that the participants would be aiming for on the dice rolls would also change for each test trial, with each of the six numbered sides on a die acting as the target number in turn. Going around the entire die in this manner would allow any imperfections in the dice to cancel out in the long run, and not give rise

to the kinds of biased scores that one can get with loaded dice.²⁰ Even when controlling for these normal factors, an analysis of all the dice tests reported from 1935 to 1987 did indeed reveal a tendency for the target number to come up significantly more often than would be expected, with an odds ratio of more than a billion to one against chance.²¹

PK tests took a technological leap forward in the 1970s when the target of choice gradually began shifting from rolling dice to the *random number generator* (RNG), a device first introduced into parapsychological research by physicist Helmut Schmidt.²² The typical RNG device consists of an electronic circuit that is designed to produce a random series of binary numbers (i.e., a series made up of “1”s and “0”s) based on physical processes which are inherently unpredictable, such as radioactive decay or the noise pattern created by the flow of electron particle streams. As a relatable analogy, we can look at this method of producing random binary numbers as being akin to repeatedly flipping an electronic “coin” in the air and determining whether “heads” (arbitrarily represented by a “1”) or “tails” (a “0”) comes up on each flip. With the probability of each outcome (“heads” or “tails”) being 50% for each flip, we should expect to see roughly equal amounts of “heads” and “tails” being obtained over a long series of electronic “coin flips.” When plotted visually as line graph, the random series of “coin flips” being produced by an RNG would ideally look something like what is shown in Figure 3, with the dark blue data line (representing the RNG data) being flat and zigzagging up and down randomly around the expectation line at zero (representing “50/50”), having no clear direction.

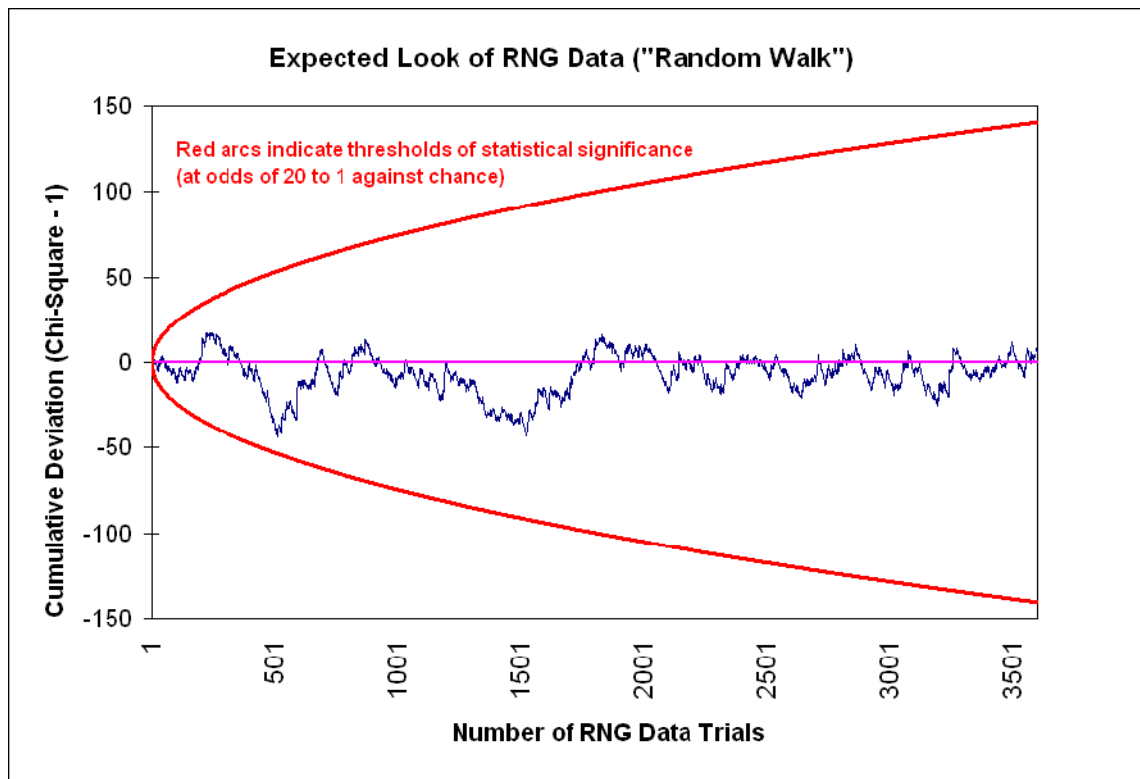


Figure 3. Data from a random number generator (jagged dark blue line) as it might ideally be expected to look when running undisturbed under ordinary, everyday circumstances, without any PK influence. The smooth curved arcs represent the threshold of statistical significance (at odds of 20 to 1 against chance).

The goal of the person participating in a PK test is to try and upset the roughly equal balance of “heads” and “tails” by willing the RNG to either produce more “heads,” or more “tails,” than chance alone would expect. Visually, such an upset of the balance would begin to steadily move the jagged dark blue data line seen in Figure 1 in one specific direction – either up or down, respectively.

The most extensive series of PK tests was conducted by the Princeton Engineering Anomalies Research (PEAR) group at Princeton University over a period of 12 years.²³ An evaluation of this experimental series – involving 91 participants and nearly 2.5 million individual RNG data trials – reveals an overall shift away from expected randomness in the RNG data that’s significant at odds of about 2.9 trillion to one ($z = 7.18$, $p \approx 3.5 \times 10^{-13}$).

A graphical representation of the PEAR series can be seen in Figure 4, showing the three separate directions of influence that the participants aimed for. When asked to aim “HI” (i.e., to produce more “heads”), the participants were seemingly able to willfully move the line steadily *upward* (top arrow in Figure 4) away from expectation, making the RNG produce more “heads.” Similarly, when asked to aim “LO” (i.e., produce more “tails”), the participants were seemingly able to willfully move the line steadily *downward* (bottom arrow in Figure 4), indeed making the RNG produce more “tails.” And even when the participants were asked to try and mentally will the RNG to maintain a flat and steady baseline (“BL”), there appeared to be some degree of directional influence on the data.

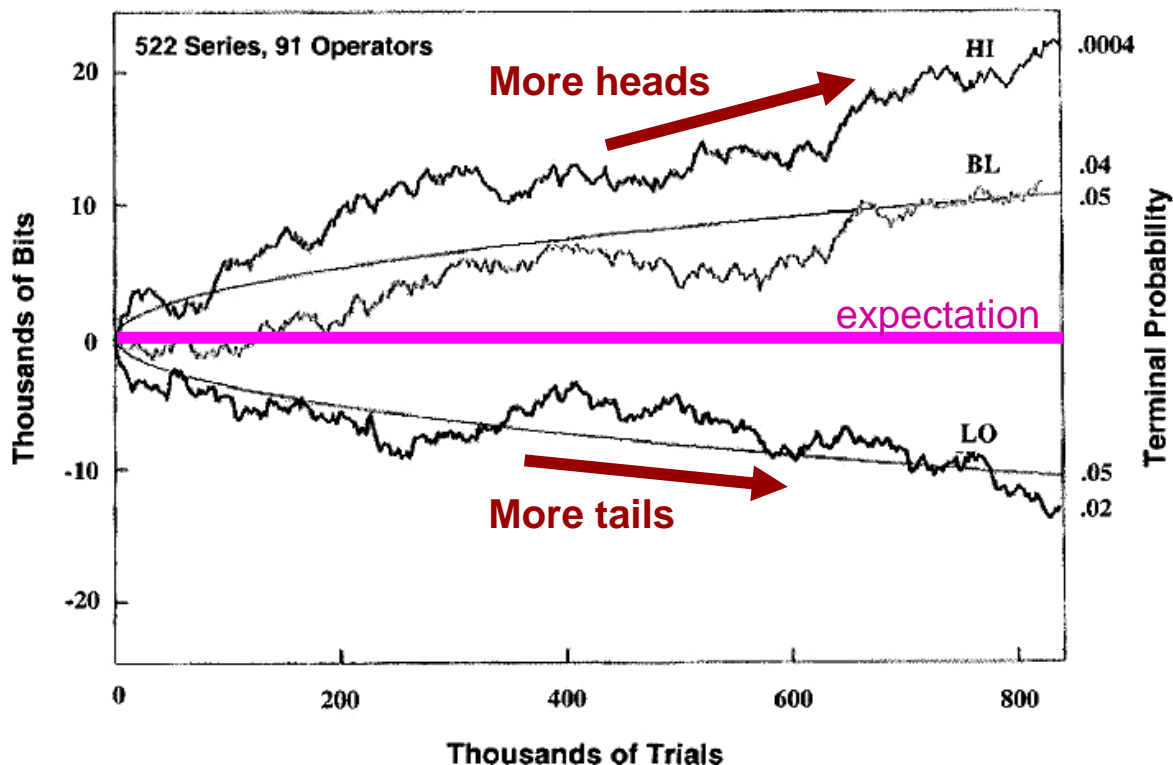


Figure 4. RNG data from the 12-year series of micro-PK experiments conducted by Princeton University’s PEAR Laboratory, showing the three directions of mental influence aimed for by its 91 participants. The smooth curved arcs indicate the threshold of statistical significance. Compare the behavior of this experimental RNG data with the example data shown in Figure 3. (Graph adapted from Figure 2 of Jahn et al., 1997²³)

In addition to the PEAR results, four other analyses have been done of the hundreds of experimental PK tests that parapsychologists have conducted using RNGs.²⁴⁻²⁷ A summary of their individual results is graphically displayed in Figure 5 (shown on the next page), along with a table of their associated odds ratios. It can be seen that in each of the first four analyses, the RNG data exhibit an extremely small – yet highly significant – shift away from the average expected amount of 50%, indicating a slight imbalance in the RNG data towards producing more “heads.” These experimental data contrast with the data collected from 137 control RNG tests reported up to the year 2006²⁶, which are largely consistent with the expected amount of 50%. From the associated odds ratios listed below, it can be seen that while the imbalances observed in the experimental RNG data are small, they are notably beyond what would be expected by chance (whereas the control data are entirely consistent with chance).

These analyses indicate that, for most people, PK effects tend to be so small on average that they are just barely distinguishable from the random “sea” of ambient background noise that regularly permeates the data produced by RNGs. Why might that be? One possibility, hinted at by researchers Mario Varvoglis and Peter Bancel in France²⁸, is that much like individuals who are particularly adept at certain skills and abilities (such as artistic creativity, musical performance, and professional sports), a natural adeptness for PK may be limited to only certain select people in the population. We can think of it in this manner: Most individuals who are randomly brought in off the street and seated in front of a piano might be able to play a few notes, but it’s unlikely that many of them will be able to play like a concert pianist right off the bat. But there’s a chance that we may come across certain people who can, if they have a natural adeptness for it – they may be professional orchestra players, people who’ve refined their skill through practice, or people who have just been good at it all their lives. A similar kind of situation may apply when it comes to PK ability: some people may be good at it from the start without practice, but most of them will probably be able to only produce very small effects, at best. This would especially seem sensible in light of the fact that many of the participants in these PK tests were ordinary, everyday people who graciously volunteered to take part.

Despite how small they tend to be, do these PK effects on RNGs manifest out in the real world? And if so, can we detect them? To find out, the PEAR group began taking these RNG devices out into the field and setting them up in locations where various kinds of group-oriented social events (such as concerts, parties, and workshops) were being held. But unlike in the standard PK test, the group members weren’t asked to try and mentally influence the RNGs in this case. Instead, the RNGs were set up to run silently in the background, and in most cases, the groups were entirely unaware of its presence. When analyzed, the RNG data collected during these group events often showed significant shifts from expected randomness that were very similar to those seen in standard PK tests.²⁹ In contrast, no such patterns were seen in control data collected from the RNGs after the social events were over, and the groups had dispersed. In total, the PEAR group collected RNG data from 15 different types of events, and the combined results had odds of over 450,000 to one against chance ($\chi^2 = 616.14$, 466 *df*, $p = 2.20 \times 10^{-6}$).³⁰ These findings suggested that a group PK effect was occurring which seemed to be related to the degree of social unity, rapport, or “bond” being shared by the group members, as well as the social dynamics that resulted from such unity.²⁹

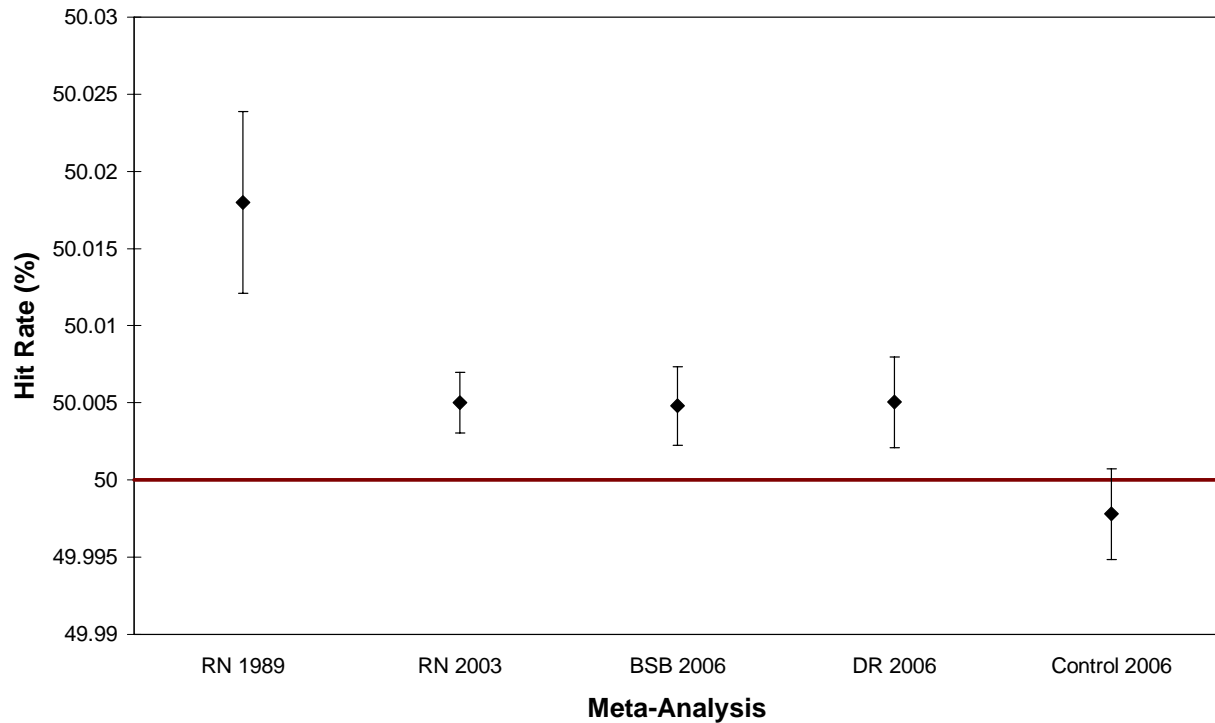


Figure 5. Graphical summary of four analyses that collectively examine the hundreds of experimental studies on micro-PK using RNGs (top), along with their associated odds ratios (bottom). The first two represent analyses done by Dean Radin and Roger Nelson (RN) in 1989 and 2003²⁴⁻²⁷, while the third represents an analysis done by Holger Bösch, Fiona Steinkamp, and Emil Boller (BSB) in 2006²⁶. The fourth represents a follow-up of the 1989 analysis by Radin (DR)²⁷. The results from 137 control RNG studies reported since 2006²⁶ are also shown for comparison. The horizontal line at 50% represents the average hit rate expected by chance (“50/50”).

The group PK findings obtained out in the field later motivated PEAR researcher Roger Nelson and his colleagues to expand this research effort to a more global scale by establishing the first Internet-based, worldwide network of RNGs. The purpose of this global network of RNGs is to monitor for any spontaneous group PK effects that may occur on a broad scale whenever an event occurs in the world which may capture our shared attention and emotions. This international effort to maintain and monitor this RNG network, involving some 70 researchers worldwide, is formally known as the Global Consciousness Project, or GCP, for short.³¹ Currently on average, there are about 20 to 30 RNGs in the GCP’s global network which are continuously collecting random data around the clock – 24/7.

To get a basic idea of the kinds of effects that are seen in the GCP's global RNG network, we can take a look at one particular mass social event that recently caught the attention and emotions of many people: On January 21, 2017, an estimated three million people in Washington D.C., across the United States, and around the world peacefully marched together to spread a shared message of equality: "women's rights are human rights." This "Women's March on Washington" was scheduled from last from 10:00 A.M. to about 5:00 P.M. Eastern Time, and Figure 6 displays the data collected from the 29 RNGs that were actively running in the GCP's global network during this seven-hour period (covering the main duration of the march). As can be seen (especially when compared against the example data shown in Figure 3), the data from these 29 RNGs exhibited a notable shift away from expected randomness throughout most of the duration of the Women's March.

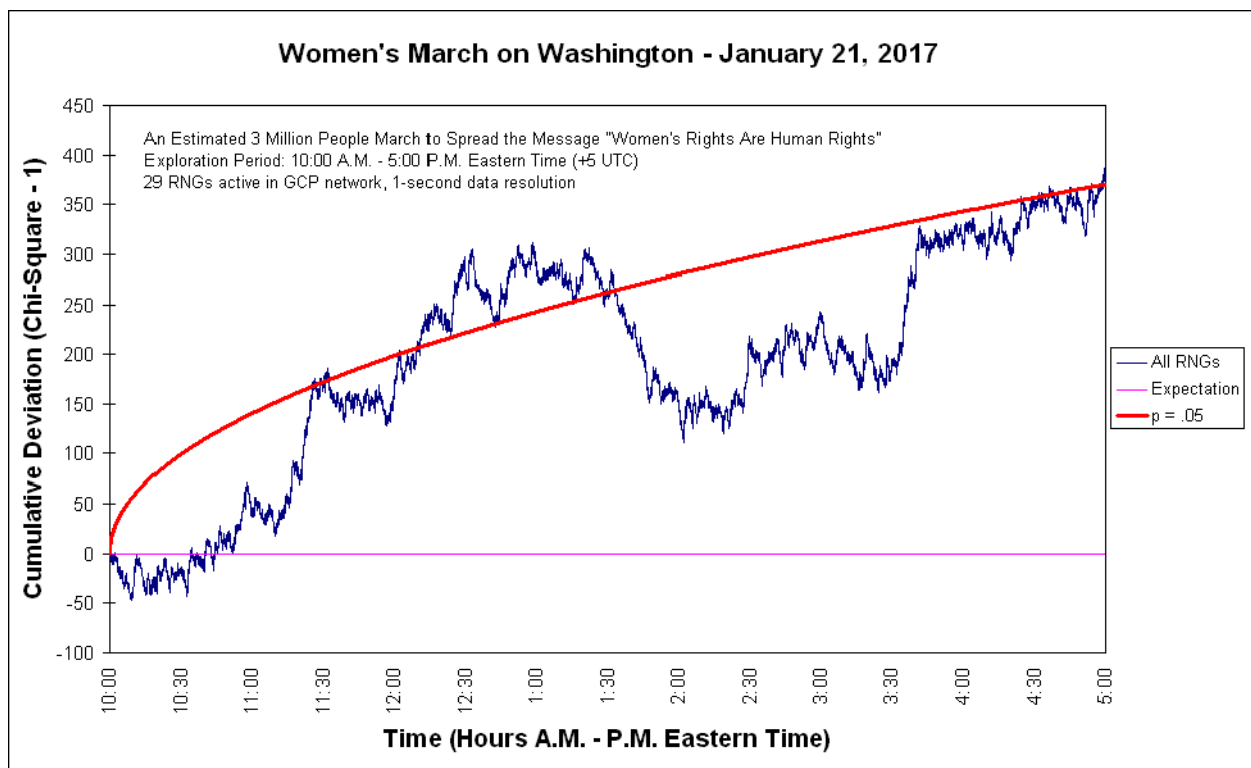


Figure 6. Graphical display of the data collected by 29 RNGs actively running in the GCP's global network during the scheduled seven-hour duration of the "Women's March on Washington" that took place on January 21, 2017. The smooth curved arc represents the threshold of statistical significance as time passes. Compare the behavior of this RNG data with the example data seen in Figure 3.

Because of how small the PK effects on RNG data tend to be (as we saw from the experimental PK tests), it can often be difficult to tell whether the shifts from randomness seen during any one particular event (like in Figure 6) are actually due to a group PK effect, or whether they are simply due to fluctuations in the random noise that just happen to appear significant purely by chance coincidence (something we should expect to occur in these kinds of data from time-to-time). In order to better test the idea of a group PK effect, we must look at the RNG data from a large number of world events to see if *similar shifts from randomness occur repeatedly across all of the events*.

From August 1998 (when it first began) to January 2011, the GCP analyzed the RNG network data from over 340 world events. Overall, the results indicated a significant shift from randomness, with odds that amount to about a million to one against chance ($z = 6.70$, $p = 1.02 \times 10^{-11}$).³² That finding has only grown as of December 2015 (Figure 7), with the observed shift in randomness seen across 500 events having an odds ratio of about a hundred billion to one against chance ($z = 7.31$, $p = 1.33 \times 10^{-13}$).³³ These findings suggest that when notable events were taking place in the world, the RNGs in this global network all started to behave in a similar fashion over a prolonged period of time (something we shouldn't expect them to be doing, since they are all completely separate and independent devices, where the activity of one RNG shouldn't have any bearing on the activity of others in the network).

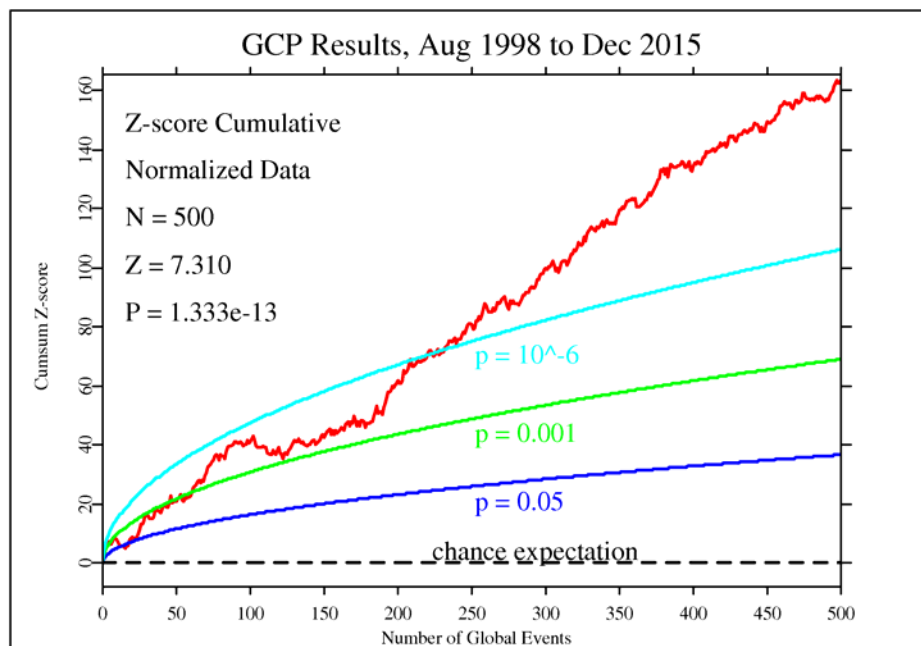


Figure 7. Overall result of the data from 500 individual world events collected by the RNGs running in the GCP's global network from 1998 to 2015. The smooth curved arcs indicate the thresholds for statistical significance at different levels, with odds of (from the bottom up): 20, 1000, & 1,000,000 to one against chance. (Source: Global Consciousness Project website³¹)

A similar kind of pattern is seen if we look at a smaller subset of the GCP event database, consisting of the many kinds of public events that were meant to promote global peace and harmony by bringing many people together in organized group meditations, mass prayer, and large public demonstrations in social activism held for the benefit of humankind (akin to that displayed by the Women's March on Washington). Figure 8 shows a graphical representation of the collective results for 120 events in the GCP database that had this purpose, which is based on an analysis that I conducted in June of 2014.³⁴

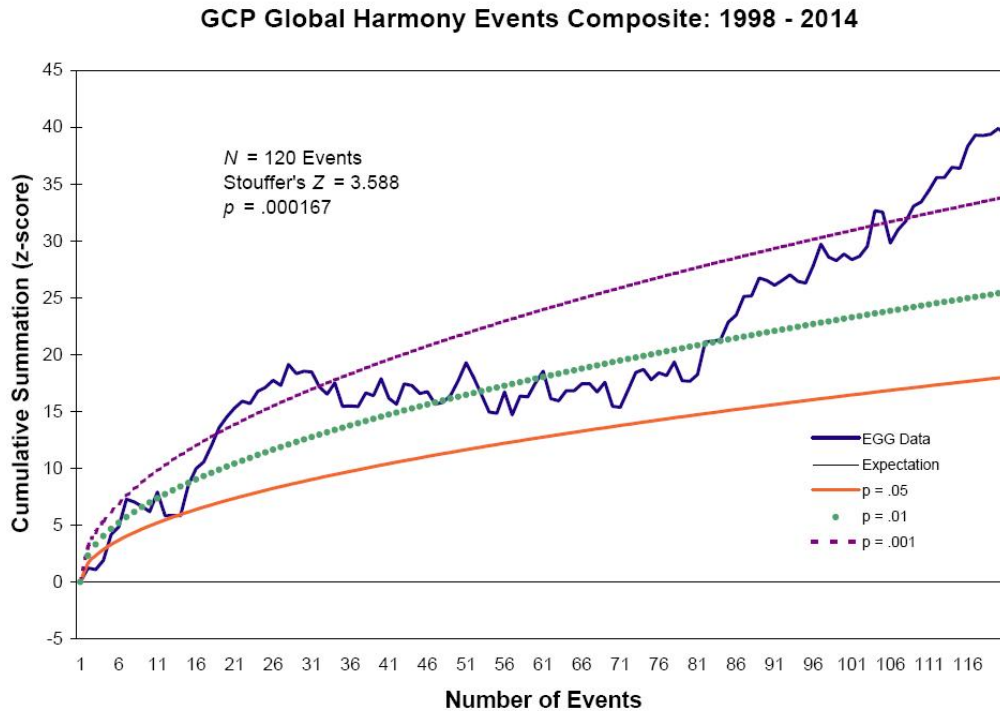


Figure 8. Graphical representation of the collective results for 120 individual events in the GCP database that were meant to promote peace and global harmony through activities such as organized group meditations, mass prayer events, and large public demonstrations in social activism. The curved arcs represent the thresholds for statistical significance, with odds of (from the bottom up): 20, 100, & 1,000 to one against chance.

Similar to the result for the entire GCP database, the collective results for these 120 events promoting global harmony tend to show a persistent upward trend, a result associated with an odds ratio of about 6,000 to one against chance ($Z = 3.588$, $p = .000167$). Based on how closely they seem to resemble the PK effects seen in the earlier experimental tests, one possible way to think about these findings by the GCP is that whenever our minds are moved by a particular event happening within human society, some aspect of the physical world may also “move” along with us to a very subtle degree, perhaps through an unconscious form of PK associated with our mass focus of attention and emotion toward the event.

Some parapsychologists have sought more overt evidence for PK by gathering together tightly-knit groups of interested people who’d informally meet on a (semi-)regular basis with the shared intent of producing brief displays of PK in a spontaneous fashion (somewhat akin to the kinds of manifestations seen in poltergeist cases). These *sitter groups*, as they’re called, were modeled after the traditional parlor-room séances from the late 19th century, when the Spiritualism movement was at its height. At that time, it was quite socially fashionable for people to meet one evening at somebody’s house, gather around the parlor room table with a certain medium, and attempt to contact spirits of the dead. To establish contact in this fashion, the people would either ask the spirits to speak through the medium while he or she was in a state of trance (known as *mental mediumship*), or they would ask the spirits to try and make themselves known physically by producing noises (such as raps and knocks) or by trying to move the parlor room table, among other things (known as *physical mediumship*).

One can look at sitter groups as being attempts to adapt this parlor-room séance setting to the modern day. Perhaps the most recognizable example is the “Philip” group that was formed by Iris Owen and the members of the Toronto Society for Psychical Research back in the early 1970s³⁵⁻³⁶, and it can serve here as an illustrative example of how a sitter group works.

The Philip group began convening in September of 1972, in a series of weekly group meetings. Their intent was to partly emulate the traditional séance setting by adopting certain spiritual assumptions, one of which was to conveniently attribute any PK manifestations to the actions of discarnate spirits. To help evoke the feeling of spirit presence in the back of their minds, the group members decided to invent a fictitious spirit that they dubbed “Philip,” who was said to have been a British nobleman living in the mid-1600s. To make him seem more real, the group gradually developed a more detailed character background for Philip, in which he was said to have taken his own life over the guilt he felt in being caught up in a scandalous affair with a gypsy girl.

During their meetings, the members of the Philip group would gather around a standard card table and develop a social rapport with each other, initially by meditating on and discussing their thoughts relating to Philip. Later on, they also began to establish a group rapport by engaging in activities which helped create a warm and relaxing social atmosphere, such as chatting, singing songs, and telling jokes. At times, they would address Philip out loud, greeting him and asking him to produce a manifestation. Before long, they would start to hear occasional knocks or raps that seemed to emanate from the card table. And after a few weeks, the manifestations grew into sharp jolts and shifts of the table, causing it to move about the room. In some instances, the table reportedly rose up into the air and even flipped once or twice.

By being semi-controlled, sitter group settings like the Philip group seem to provide a somewhat better condition for assessing the possible occurrence of PK. Though dimmed, the lighting conditions in the Philip group setting were said to still be bright enough to allow observation of everything happening around the table. The card table itself was often undraped, so there was less chance of somebody concealing their hands underneath the table. The group members reportedly placed their hands lightly on the table, with only their fingertips touching the surface. The floor on which the table stood was covered in thick carpet, which helped reduce sliding. And in being members of the Toronto Society for Psychical Research, the group members were quite familiar with one another and may have been more agreeable to adhering to the stated aims of the group. While this doesn’t completely rule out ordinary factors as a cause for the phenomena that reportedly occurred during the group meetings, it does provide a better basis for assessing the likelihood of their influence.

Some sitter groups have also apparently been successful at producing PK manifestations without necessarily adopting the spiritualistic assumptions of the traditional séance. Instead, earlier sitter groups formed by the late Kenneth Batcheldor³⁷ and Colin Brookes-Smith³⁸⁻³⁹ in the 1960s seemed to be guided more by the notion that, rather than spirit activity, any strange sounds or object movements could be due to the collective PK abilities of the group members, based on the idea that PK is an ability that everyone may have to some degree. More objective attempts to detect the possible occurrence of PK were also employed by these researchers through the use of custom-made mechanical devices that were designed to sense changes in the weight of the table as its legs rose up off the ground (presumably through PK-mediated forces working against gravity). As the table seemingly got lighter, the devices would either light up a

small lamp (as the lessened pressure of the table legs gradually closed an electrical circuit)³⁷, or they would register the weight change on a chart recorder.³⁹

Some parapsychologists still do occasionally use the sitter group sitting to study large-scale PK in the present time⁴⁰⁻⁴², with some of the most recent efforts involving preliminary attempts to monitor any physical changes in the surrounding environment whenever PK seemingly occurs.⁴¹⁻⁴² While slight shifts in temperature and magnetic field strength were observed in some instances, they haven't yet been observed frequently enough to be certain that they're reliably associated with any PK manifestation, and so much more research is needed along these lines.⁴³

PK and the Poltergeist

If all of the findings we've looked at so far really do indicate that PK is a genuine human ability, then it might seem plausible to think that the object movements and unusual sounds experienced in poltergeist cases could be due to the PK abilities of the poltergeist agent – the person at the center of the disturbances. And since it would appear to be a form of PK that occurs repeatedly and sporadically over time, William Roll and J. G. Pratt had coined the term *recurrent spontaneous psychokinesis*, or *RSPK* for short, as a descriptive term for it. RSPK is the technical term many parapsychologists still use today when referring to poltergeist phenomena.

To more directly explore the possibility that PK is involved in poltergeist cases, some parapsychologists have sought to test poltergeist agents for PK ability on certain occasions. There haven't been many opportunities to do this (given that genuine poltergeist cases tend to be rather scarce in society), but those that parapsychologists have had were quite insightful.

In the month following their investigation at the Miami warehouse, Roll and Pratt had brought Julio to Durham, North Carolina for three days of psychological assessment and PK testing at the Institute for Parapsychology, which was part of the Foundation for Research on the Nature of Man (FRNM, now known as the Rhine Research Center). In one of the tests, Julio was asked to try and influence the dice rolling around inside a two-foot long plastic tube that was being rotated in a circle by an electric motor belt. The two dice were loaded into one of the end of the tube through a trapdoor that was held closed by spring clamps, and then they were made to tumble down from one end to the other as the tube rotated, bouncing off a number of baffles as they went. After each rotation, the tube was stopped so that the numbers facing up on the dice at the bottom of the tube could be recorded as the outcome.

Julio was tested three times using this automatic dice-tumbling machine, with each test consisting of six rolls of the two dice, for a total of 36 rolls. With the probability of rolling the target number on each die being 1 in 6, he would be expected to score six successful rolls by chance. Instead, Julio scored nine successful rolls – three more than expected. But with an odds ratio of only about eight to one, this finding doesn't look too promising by statistical standards.

However, during the course of the tests, there were several occasions when the trapdoor at the end of tube seemed to suddenly pop open on its own unexpectedly, causing the two dice to fall out. Initially the FRNM researchers thought the trapdoor spring clamps simply weren't fastened well enough, but it kept happening even after the clamps were tightly fastened shut. They also noticed that it seemed to happen when the dice *were already resting at the bottom of the tube*, suggesting that it wasn't the force of the dice hitting the trapdoor that was causing it

to pop open. What was particularly interesting about this is that Julio had *scored five of his nine successful rolls on these occasions when the trapdoor popped open*, a finding that has an odds ratio of just over 100 to one against chance.⁴⁴

In addition, there was a curious moment during a break in the testing when a large vase suddenly fell on the floor and broke in the hallway, seemingly on its own. At the time, two FRNM staff members had seen Julio standing in an office doorway with a coffee cup in his hand. The vase was about 16 feet from where he was standing at the time, and there were no signs of a string found in the hall or on his person immediately afterward. The possibility that Julio could've secretly rigged the vase to fall also doesn't seem plausible in light of the fact that there was never a moment in which he was left alone to do so (Roll was always with him).

A similar kind of situation was observed during attempts to test Tina Resch for PK when Roll brought her to Spring Creek Institute in North Carolina in October of 1984. Initially, Tina seemed to show some promise in being able to influence a pair of custom-made PK test devices developed by the late neurobiologist Stephen Baumann, although the results were difficult to statistically evaluate in a reliable fashion because of ordinary factors which might have naturally caused the devices to vary from their expected behavior, as well.⁴⁵ But during breaks in the testing, there were several odd occurrences going on around Tina that were suggestive of PK.⁴⁶

One such occurrence took place at the end of the day, when Baumann and psychotherapist Jeannie Lagle Stewart were in a conference room packing up a video camera for storage. They were directly facing Tina when a loud bang was heard from down the hallway. Following the direction from which the sound had come, they found a large socket wrench lying on the floor inside an open storage room. A large dent was also found in the storage room door, suggesting that the wrench had forcefully struck the door to produce the banging sound that was heard. What was particularly unusual is that this socket wrench had been one of the various objects lying on a small table in the very same conference room where Baumann, Stewart, and Tina had been only moments before. To get where it was eventually found, the wrench would've had to move from the table, fly past all three individuals without them noticing, sail 18 feet down the hallway, and turned right to have struck the door and landed inside the storage room. The idea that Tina could've secretly grabbed it from the table and thrown it seems implausible in light of the fact that Baumann and Stewart were standing between her and the table, and with them directly facing her, it would've been hard for them not to notice Tina moving around them to grab the wrench and then heading out of the conference room to throw it down the hall. In addition to this occurrence, at least 20 other objects had moved at various times when the Spring Creek researchers had Tina under observation.

What's particularly important to remember in both of these cases is that Julio and Tina were being observed by multiple researchers in environments other than their own home or workplace. These were controlled environments that they'd previously been unfamiliar with, and so they couldn't have secretly rigged them for trickery ahead of time.

PK tests were also conducted with Çetin by Gerding, Wezelman, and Bierman during their investigation of the Druten case.¹⁷ In their test setup, Çetin was asked to try and mentally control the size of a circle being displayed on laptop computer screen, which would randomly grow and shrink based on the sequence output of an RNG. The results of the PK tests are shown graphically in Figure 9.

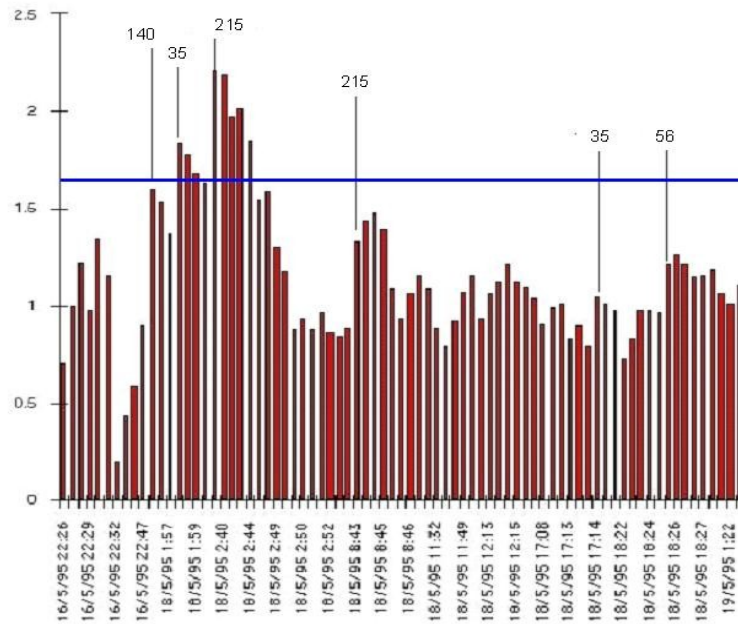


Figure 9. Cumulative results of the RNG-based PK tests that were conducted with Çetin, the suspected poltergeist agent in the Druten case. The horizontal line represents the threshold of statistical significance at odds of 20 to one against chance, and each of the numbered vertical bars indicates PK test scores contributing to the cumulative total that were notably above this significance threshold (the respective odds against chance for each one are indicated by the numbers above the lines). What is notable here is that the cumulative results exceeded the significance threshold early on, and that Çetin scored six PK scores with odds greater than 30 to one (whereas only around 2 would've been expected by chance in this case). (Graph adapted from Figure 1 of Gerding et al., 2002¹⁷)

It can be seen from the graph that overall, Çetin's PK test scores averaged out at a level consistent with chance, with odds of only about 9 to one against chance ($Z = 1.19$, $p = .115$). However, there are two other notable observations to be made here: First, Çetin's cumulative PK score total did sharply increase and eventually exceed the threshold of statistical significance (indicated by the horizontal line in Figure 9) early on in the testing. And second, there were six times in which Çetin produced 6 PK scores that were individually significant on their own, with odds greater than 30 to one against chance. This is notable because we should expect him to have obtained only 2.3 significant scores by chance in this case. The odds associated with this outcome are also statistically significant, at around 35 to one. As Gerding, Wezelman, and Bierman observed, these results suggest that if Çetin was producing PK, it "...occurred in rather erratic bursts."^{17,p.9} On the surface, such an observation would appear to be consistent with the sporadic manifestation of poltergeist phenomena.

In addition to the PK tests, Gerding, Wezelman, and Bierman had also used the RNG to try and observe any shifts from expected randomness that might occur spontaneously in relation to the poltergeist disturbances being reported by Çetin's family (akin to the way that RNGs are used to observe possible group PK effects during certain events, as we saw in the previous section). To do this, they set up the RNG to continuously collect random data in the family home over the course of several days. Whenever a poltergeist disturbance spontaneously occurred, the family was asked to record its occurrence on the laptop computer by pressing a key on the computer's keyboard, which registered the time and date in a log file. The family then wrote

down the details of the disturbance in a paper logbook, along with the date and time that it occurred.

After several days had passed, the researchers retrieved the RNG-computer system and extracted the RNG data from the time surrounding each of the 107 poltergeist disturbances recorded by the family. When analyzed this poltergeist event data did indeed exhibit a significant departure from expected randomness, with odds of about 55 to one against chance ($\chi^2 = 78.4$, 107 *df*, $p = .018$). In direct contrast, no shift of this kind was observed in the remaining RNG data collected when no poltergeist disturbances were reportedly occurring.^{17,47}

If PK is involved, then how exactly does it tie into poltergeist disturbances? From what parapsychologists have been able to tell by looking at a number of different cases, the PK outbursts exhibited by the poltergeist agents would seem to be related to inner psychological reactions they're having to certain adverse situations that they're in – whether at home, or at work. In many cases, these situations involve interpersonal problems that the agent is having with family members or co-workers. As William Roll once observed from his findings:

The red thread running through most of the cases I have investigated, or am familiar with, is tension in family situations or extensions of them....In general, we find hostility in the agent which cannot be expressed in normal ways, the main target for the anger being people with whom he is associated on a daily basis.^{1,p.175}

Of course, many people find themselves in these kinds of adverse situations in everyday life, and they find various ways to cope with them, such as by directly “venting” their feelings through emotional expression, or by engaging in pleasant activities which help calm them down and ease their tension. But unlike in the conventional everyday scenario, the manner in which poltergeist agents cope with their situation is rather unconventional. The late parapsychologist D. Scott Rogo had illustrated it in this manner:

The poltergeist is...both an expression and a release mechanism (or safety valve) of and for [the agent's] inner hostility.

This explanation also tells us a great deal about the specific dynamics of the poltergeist – that is, it actually explains quite neatly just *why* the poltergeist acts the way it does. I am sure that all readers...have seen what happens when a young child becomes frustrated, or when one becomes angry after being scolded for being naughty. The child is apt to throw a tantrum by slamming doors, throwing toys about, banging on the walls, and displaying other aggressive acts. It doesn't take much insight to realize that these are the exact activities in which the poltergeist engages. Like a frustrated youngster, it too bangs on the walls, throws things, and slams doors.^{49,p.11}

Parapsychologist Loyd Auerbach conveniently summed up the PK scenario of poltergeist phenomena as follows:

To begin with, an individual (sometimes more than one) in the family or work environment is undergoing some emotional or mental stresses (which often have negative physical effects on the body, of course). For whatever reason, the stress (and the cause of it) is not being dealt with or relieved. Many of us do things to help relieve stress, tension, and frustration. Perhaps we run or lift weights, maybe we do a little martial arts, or play computer games. Maybe we even feel it's okay to hit a punching bag or our pillows, or even just let out a primal scream....

But for some, the energy of the stress and frustration gets bottled up for some reason. The individual doesn't have some manner to relieve the tension building up. Some of these people end up feeling ill, the stresses from the mind directly affecting the body. But for a few, the mind "lets off steam" from the body itself, in an explosion of energy that affects physical things around them.

The events in a poltergeist scenario may happen at random times, but more likely happen when there is an argument or crisis in which the agent is involved, or when whatever causes the stress to build up continues (at least in the agent's mind).^{49,p.181}

Some of this might be easier to see if we look at examples from some of the poltergeist cases we've examined here: Psychological evaluations made of Julio during his visit to the FRNM's Institute for Parapsychology seemed to indicate that he may have harbored some inner feelings of resentment towards one of the owners of the Miami warehouse where he worked, seeing him as being a "phony and cheating" kind of fellow. The evaluations also suggested that Julio had some feelings of unworthiness and guilt over having not really lived up to his family's expectations – feelings which can sometimes be a source of stress or frustration.^{1,p.171}

There was also one curious observation made by Roll during the poltergeist outbreak in the Miami warehouse which seemed to hint at a possible connection between Julio's feelings, and the poltergeist disturbances themselves. One time, Julio seemed to become rather tense and angry when he got into a minor argument with a co-worker over the costs for replacing all of the souvenir objects that were falling and breaking in the warehouse. At one point in the argument, just as he was about to reply to his co-worker, an ashtray fell from a storage shelf behind Julio and broke. It didn't seem plausible that the ashtray could've just fallen off the edge through the normal effects of gravity because it had initially been located behind several other objects on the shelf. These objects were found to still be in place in the moments following.

Afterward, Roll noticed that Julio seemed much less tense and angry, especially when Julio said, "I feel happy; that thing [the breakage of the ashtray] makes me feel happy; I don't know why."^{1,p.169} And on another occasion, when there had been a long period with no disturbances, Julio commented that, "Now I am nervous because nothing happens." Then on a third occasion, after four disturbances had occurred, Julio commented on his feelings by saying, "I feel good. I really miss the ghost – I mean, not the ghost, but I miss it when something doesn't happen."^{1,p.169} Indirectly, Julio's comments seemed to suggest that his feelings were close in time to the disturbances: He seemed to feel joy and relief following a disturbance, which one might argue is consistent with a PK-related "venting" of inner negative emotions.

During her visit to Spring Creek Institute in October 1984, Tina Resch took part in some projective psychological tests conducted by clinical psychologist (and parapsychologist) James Carpenter. In interpreting the findings, Carpenter stated the following in Tina's case:

There is a general tone of unhappiness. Parents are seen as having high expectations and of being critical and disappointed in a child, whatever the latter tries to do. The disappointment is mutual, as longed-for approval doesn't transpire....

She is frequently ashamed of herself, but tends to express this indirectly as anger. She is probably angriest when she most feels herself to be a disappointment, and tries to "cover" her same with an outburst. Even trying is quickly stressful for her, as she has a low opinion of her abilities....

She experiences a lot of painful jealousy, probably of the odd flood of foster siblings with which she has had to cope. She sees her mother as perpetually busy and unavailable. She carries a lot of silent pain at this perceived neglect....

Father-figures, and males in general, are not seen as loving. In fact, they are frightening and dangerous.^{50, pp.493-494}

Overall, Carpenter noted that:

It would appear that for a long time Tina has experienced life as frustrating, neglectful and possibly abusive; and if the RSPK phenomena are genuine, they may in part be an extremely odd but emotionally consonant expression of these same deep and troubled themes.^{50, p.499}

These observations were consistent with those made by Roll during his on-site investigation at the Resch home.¹⁴ Although she was quite bright, Tina was known to have exhibited a number of social problems while attending public school, and so the Resches took it upon themselves to give her a home-school education, a situation which isolated her from other kids her age. In addition to Tina, the Resches were raising four other foster children in their home, and this caused their attention to be divided, with relatively little being directed towards Tina (being the oldest child). Feeling neglected, Tina would regularly resort to drawing negative attention from her foster parents by frequently misbehaving, and this would lead to verbal conflicts that at times escalated into physical abuse at the hands of her foster father. From what Roll could gather based on interviews with Tina and her foster parents, the peak of these conflicts was apparently reached the night before the poltergeist disturbances began.

The situation faced Çetin in the Druten case was found to be similar, in certain respects.¹⁷ Like Tina had been by her birth mother, Çetin's father had initially abandoned the boy at very young age. His father later came back into his life, and for a time, he received a lot of attention from his father while his step-mother and older step-sister were away on an extended trip to Turkey. But when his step-mother and step-sister returned, Çetin found himself having to share his father's attention with them. Stones began flying into the family home shortly after their return, and Çetin's step-mother and step-sister were apparently hit by them quite frequently (the symbolic significance of this becomes apparent when one realizes that stoning is a traditionally considered a form of punishment in Islamic culture). On this basis, one might suspect that perhaps the stone strikes were reflective of inner feelings of jealousy that Çetin may have harbored toward his step-mother and step-sister.

The hint on how PK may tie into the poltergeist disturbances that erupt in these situations comes from certain studies that have examined PK effects in relation to emotional expression. The main study of this type was conducted by psychiatrist Richard Blasband, who collected data from an RNG running silently in the background while he was conducting therapy sessions with clients enrolled in his private practice.⁵⁴ Strong outbursts of anxiety, anger, frustration, and/or sadness would often be elicited in the clients during their therapy sessions, and analysis of the RNG data collected during these periods of strong emotion revealed significant shifts from expected randomness. In contrast, control data collected from the RNG at times when no therapy sessions were taking place were in line with expected randomness. An example of the kind of shifts from randomness observed in the RNG data during the periods of emotional outburst exhibited by the clients can be seen in Figure 10 (on the next page).

Studies conducted by British researcher James Lumsden-Cook seem to show similar kinds of results, to a somewhat lesser extent.⁵⁵⁻⁵⁶ In these studies, emotional states were elicited in volunteer participants using artificial mood-inducing techniques involving the recall of good and bad memories, emotional reactions to disturbing event narratives, and audio-visual stimulation designed to bring out certain emotions. The statistical results indicated there were notable changes in emotion elicited in the participants by the techniques, and they offered some suggestion that shifts from expected randomness in a nearby RNG most often occurred in conjunction with these changes in emotional state (particularly the release and dissipation of strong emotion, such as anger).

One other study which offers a hint of the relation between PK and emotional expression comes from GCP director Roger Nelson, who examined the data in the GCP's worldwide network of RNGs in relation to the level of emotion associated with the world events in its database.⁵⁷ In general, his analysis suggested that those events which seemed to have stronger levels of emotion were associated with larger shifts from expected randomness in the RNG network.

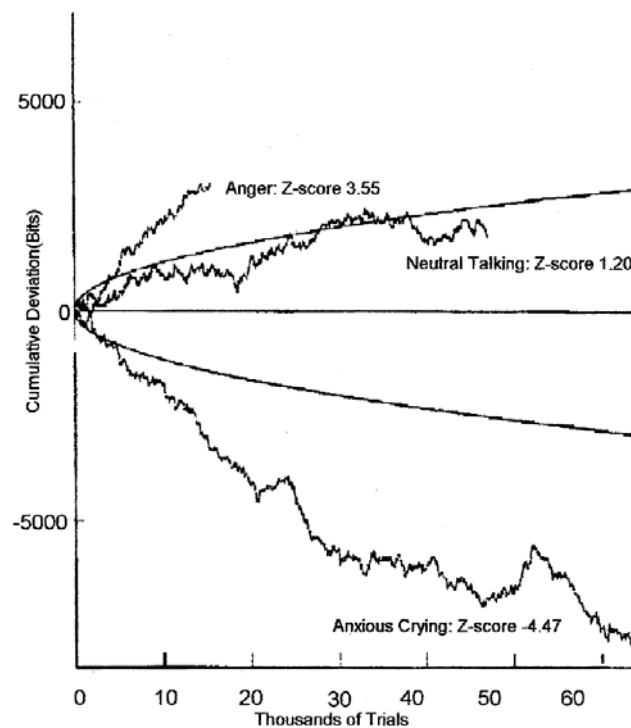


Figure 10. Examples of the kinds of shifts from expected randomness observed in the RNG data collected by psychiatrist Richard Blasband during moments in which clients in his therapy practice were exhibiting strong emotion. Compare the trends in these data to those shown in Figure 3. (Source: Blasband, 2000⁵⁴)

As mentioned previously, many other people in the course of their lives find themselves in adverse psychological situations very similar to those experienced by poltergeist agents. But yet we don't see poltergeist disturbances being reported in a large majority of them. Why is that? As parapsychologist Richard Broughton once pointed out:

If poltergeist outbreaks are simply due to young people with repressed hostility who are under psychological stress, we should expect to see whole school buildings come crashing down by the

dozens each year around exam time. At any given time there are probably hundreds of thousands of young people who have more severe psychological disturbances or who are enduring far greater stress than any of the poltergeist agents who have been studied. The real question is, What is the trigger that sets off so very few individuals, turning them into poltergeist agents?^{51, pp.231-232}

A very valid and important question, indeed. One starting hint at a possible answer may come from a survey of 92 poltergeist agents conducted by William Roll, which found that just over half of them (53%) seemed to have certain physical or mental health issues.^{3, p.400} And in some of the cases he investigated, there seemed to be an inverse relation between these medical/mental issues and the poltergeist occurrences, such that when one was manifesting, the other often was not. For instance, there was a case he investigated in which the suspected agent was a young man suffering from grand mal epilepsy, which developed from a back injury he'd sustained. Medication was prescribed to help keep his epileptic attacks under control, and while he was on the medication, loud poundings would be heard in the walls of the family home. The poundings were said to have stopped in the week following another epileptic attack. They then started up again while his epilepsy was further being treated, and stopped once he was hospitalized after a serious bout of attacks.⁵² A few other cases which seem to exhibit a similar kind of inverse relation have also surfaced, as well.⁵³ It isn't yet clear exactly how these medical/mental issues may be related to the poltergeist disturbances (if they really are at all), and that is something which parapsychologists are looking to figure out by continuing to examine the physiology of agents in other poltergeist cases that may arise in the future.

Are Poltergeist Phenomena Really Beyond Physical Understanding?

Of course, one of the most baffling things about poltergeist phenomena is how the movement of objects is brought about. The RSPK interpretation suggests that this may be done through a large-scale form of "mind over matter" that mostly acts on the unconscious level. But to some, this explanation might still be just as baffling because PK would appear to defy the laws of physics. But is that really so?

While the exact mechanisms underlying the manifestation of PK are not yet known, there may be a hint that PK is not so far beyond known physics that it would be impossible to understand it. For instance, the PK effects that we observe in the data from RNGs would seem to suggest that the human mind is capable of affecting physical matter on the subatomic level, since the physical processes which ultimately give rise to the random output of an RNG mostly operate on that level. At that ultra-small level of physical reality, much of the behavior of matter is governed by the rules of probability, and some interpretations of quantum theory suggest that the act of conscious observation could potentially influence these probabilities, thereby affecting the behavior of subatomic matter.⁵⁸ On this basis, some physicists have previously argued that PK could involve just such an effect, with the mental intention of humans influencing the probabilities associated with subatomic processes in such a way that they become more biased toward a preferred outcome (such as more "heads" than "tails," in the case of the RNG output).⁵⁹⁻⁶² While this may not be the entire explanation for PK, it would offer a possible way to think about PK effects in a manner that is not inconsistent with known physics.

PK on the large-scale, such as that seen in poltergeist phenomena, would be a bit harder to account for by these means, although there may again be a hint that it wouldn't be too inconsistent with physics. This hint comes from an observation made in the poltergeist investigations conducted by William Roll.⁶³ In the course of investigating the Miami warehouse disturbances, Roll used a tape measure to estimate how far the affected souvenir objects had been from Julio *before* they started moving. He did the same thing in the course of investigating the disturbances occurring around Tina Resch. In both cases, Roll's measurements indicated a notable pattern of decline: As the distance from Julio (or Tina) increased, the number of object movements around them decreased. In other words, there were fewer object movements when the distance from Julio (or Tina) got farther and farther.

This decline pattern is notable because it's very similar to the way known physical energies (like electricity and magnetism) have been found to behave. A familiar example is the light being emitted by a light bulb: the farther away the light rays travel from the bulb, the dimmer they get. This pattern can actually be modeled using a mathematical function that is widely used in physics, known as the inverse square function.

A similar kind of decline pattern is seen when sunlight passes through the ocean: As the sun's rays penetrate the watery surface and travel deeper and deeper into the ocean's depths, they rapidly get dimmer and dimmer. This pattern can also be modeled by another mathematical function, known as the exponential decay function.

To see if the object movements in poltergeist cases could be modeled in a similar fashion, Duke University engineer William Joines formulated a mathematical equation which effectively combined the inverse square and exponential decay functions together. He then compared a graphical plot of his equation with the distances measured by Roll in the Miami warehouse case and in the Columbus case involving Tina Resch.⁶³ Reproductions of these graphs are shown in Figures 11 & 12 (on the next page), and as one can see from them, the comparison revealed a rather remarkable degree of correspondence between the two.

This finding, which appeared in seven cases investigated by Roll, suggests that poltergeist disturbances actually exhibit patterns very similar to known physical ones, hinting at a way in which poltergeist phenomena could be consistent with known physics. If that's the case, then perhaps one day we'll find that these phenomena can ultimately be explained by physical mechanisms. (There's still a lot to be learned about the precise mechanisms that may be involved, however.)

Conclusion

Here we've examined the various findings which seem to lend support to the idea that psychokinesis (or "mind over matter," as it's more commonly known) on the part of a living human agent may be a plausible source for the type of phenomena we've come to label as "poltergeist." While these findings don't necessarily rule out the ages-old interpretation that poltergeist phenomena are produced by disembodied spirits or demons, one should recognize that they don't really offer much support for it, either.

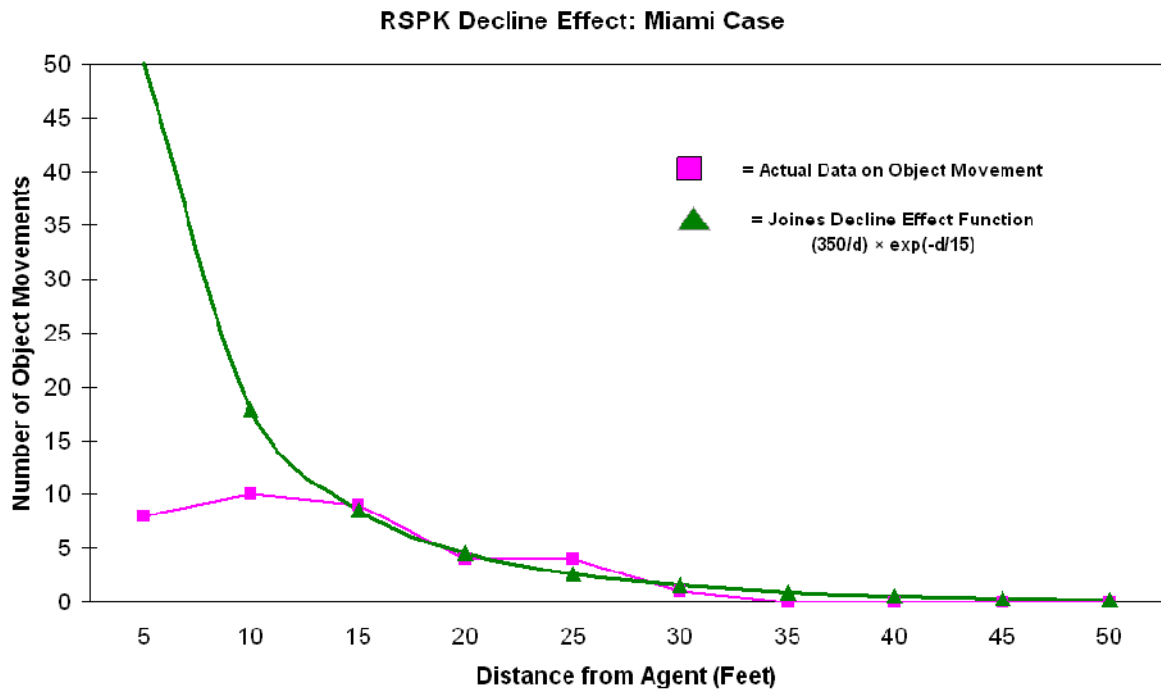


Figure 11. Graphical comparison of William Joines' combined inverse square/exponential decay equation (triangle-marked line) with the pattern of object movements observed with increased distance from Julio (square-marked line) in the Miami poltergeist case. (Reproduced from data reported in Roll & Joines, 2013⁶³)

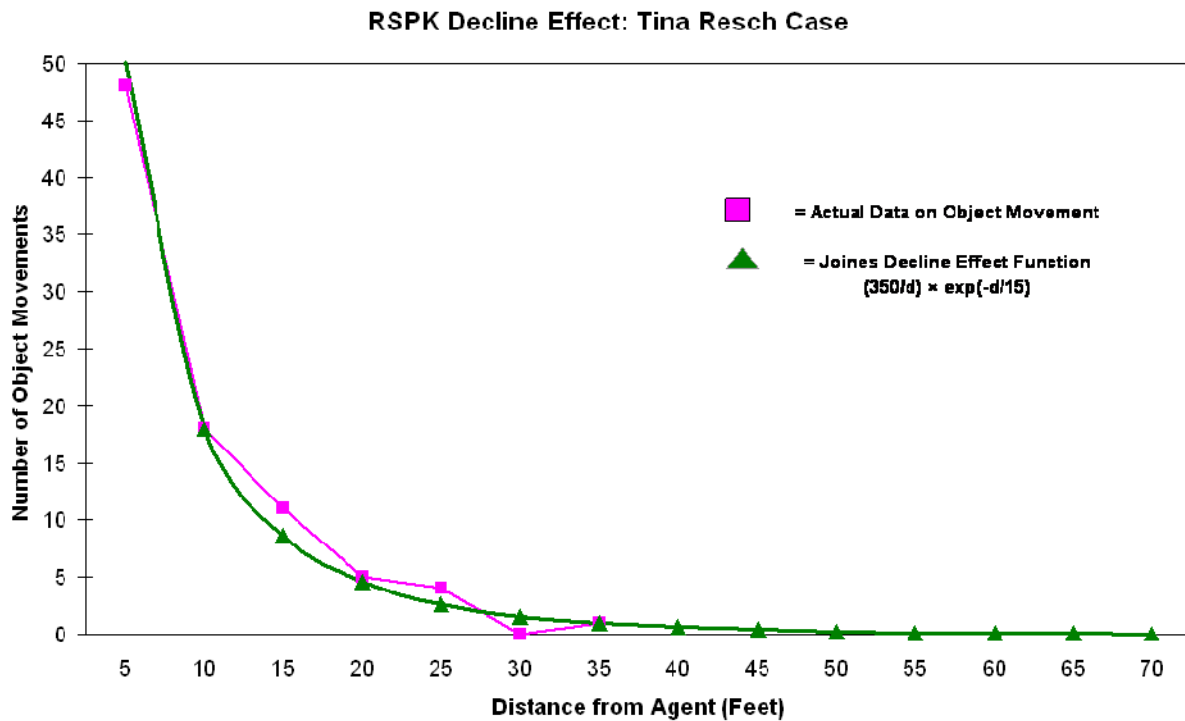


Figure 12. Graphical comparison of William Joines' combined inverse square/exponential decay equation (triangle-marked line) with the pattern of object movements observed with increased distance from Tina Resch (square-marked line) in the Columbus poltergeist case. (Reproduced from data reported in Roll & Joines, 2013⁶³)

Yet, there are a few researchers who maintain that certain aspects of poltergeist phenomena may be more suggestive of spirit activity on the surface.^{5,64} For instance, the late researcher Ian Stevenson once argued that spirit-related poltergeists should involve such things as the movement of heavy objects, objects moving in complex paths (e.g., zigzagging or moving around corners), and effective termination of the phenomena through spiritual means such as exorcism.⁶⁴ However, as William Roll has pointed out⁶⁵, all of the aspects listed by Stevenson have been seen in living-agent cases at one time or another, and there is very little evidence to indicate that exorcism is actually effective at bringing an end to poltergeist phenomena, with case surveys indicating that exorcism brought the phenomena to an end in only about 10% of the cases.^{1,4-5} As another case in point, attempts at exorcism were made twice in the Columbus case involving Tina Resch, where a Lutheran minister and a Mormon elder were brought to the Resch home on two separate occasions. In neither instance did the exorcism rites bring the poltergeist disturbances to an end.¹⁴ Arguably, from a purely logical standpoint, one shouldn't expect the effectiveness of exorcism to be this low if spirits were involved. When these points are considered alongside the findings presented in this article, it would seem that the evidential case for spirit involvement in poltergeist activity is very weak at this point.

The alternate indication that poltergeist phenomena may be due to living agents who are personally experiencing adverse psychological issues suggests that one way of effectively dealing with these phenomena may be to counsel the suspected agent about the issues that he or she is currently facing. This can be done by simply talking things through with the agent in a compassionate manner, as well as discussing the matter with the agent's own family and/or the individuals with whom the agent seems to be having issues, to see if these issues can be resolved. If the matter seems particularly complex, referral to a professional counselor or therapist may be necessary to resolve these issues. Stress, tension, or anxiety in the agent might also be reduced through the use of techniques such as meditation, mindful awareness, and attempts at channeling one's PK ability in a willful manner, such as by trying to move pinwheels and other small and light objects. The outcome of one recent investigation in which these techniques were used by the agent suggests that they can be effective in some instances.⁶⁶

In spite of the knowledge that has been gained through various parapsychological studies and investigations conducted over the past century⁶⁷, a lot of questions still remain unanswered about poltergeists. And needless to say, a great deal of additional research is needed in order for us to progress toward gaining clearer answers regarding their nature. Perhaps the viewpoint expressed by Harvard University physicist Lisa Randall may be useful in the context:

Understanding nature, life, and the universe poses extraordinarily difficult problems. We all would like to better understand who we are, where we came from, and where we are going – and to focus on things larger than ourselves and more permanent than the latest gadget or fashion. It's easy to see why some turn to religion for explanations. Without the facts and the inspired interpretations that demonstrated surprising connections, the answers scientists have arrived at so far would have been extremely difficult to guess. People who think scientifically advance our knowledge of the world. The challenge is to understand as much as we can, and curiosity – unconstrained by dogma – is what is required.^{68,p.412}

Looked at in a certain way, this viewpoint would seem to apply rather well to our efforts in trying to make sense of poltergeist phenomena. Although the answers are not yet fully known, it

would seem that parapsychological findings have led us from a purely spiritual interpretation of poltergeists to one which comes a bit closer to the realm of human understanding. This should pique our curiosity, and motivate our efforts to objectively learn as much as we can about these mysterious phenomena and others which can be found in the natural world around us. We can only wait and see where the journey of discovery will eventually lead us in the days ahead...

References & Notes

- ¹Roll, W. G. (1972/2004). *The Poltergeist*. Garden City, NY: Nelson Doubleday, Inc. (Reprinted by Paraview Special Editions)
- ²Pratt, J. G., & Roll, W. G. (1958). The Seaford disturbances. *Journal of Parapsychology*, 22, 79 – 124.
- ³Roll, W. G. (1977). Poltergeists. In B. B. Wolman (Ed.) *Handbook of Parapsychology* (pp. 382 – 413). New York: Van Nostrand Reinhold.
- ⁴Huesmann, M., & Schriever, F. (1989). Steckbrief des Spuks – Darstellung und Diskussion einer Sammlung von 54 RSPK-Berichten des Freiburger Instituts für Grenzgebiete der Psychologie und Psychohygiene aus den Jahren 1947 – 1986 [Characteristics of Poltergeists – Presentation and discussion of a collection of 54 RSPK reports from the Freiburg Institute for the Border Regions of Psychology and Mental Health from the years 1947 – 1986]. *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie*, 31, 52 – 107.
- ⁵Gauld, A., & Cornell, A. D. (1979). *Poltergeists*. London: Routledge & Kegan Paul, Ltd.
- ⁶Davidson, J. P., & Duffin, C. J. (2012). Stones and spirits. *Folklore*, 123, 99 – 109.
- ⁷Rogo, D. S. (1979/1990). *The Poltergeist Experience: Investigations into Ghostly Phenomena*. Wellingborough, Northamptonshire, UK: The Aquarian Press.
- ⁸Eastham, P. (1988). Ticking off a poltergeist. *Journal of the Society for Psychical Research*, 55, 80 – 83.
- ⁹Polidoro, M. (2005, September/October). Beware of poltergeists. *The Skeptical Inquirer*, pp. 22 – 23.
- ¹⁰Sasse, H.-C., Horne, J., & Dixon, C. (Eds.) (1966/1986). *Cassell's German and English Dictionary*. New York: Collier Books/Macmillan Publishing Company.
- ¹¹*Webster's II New Riverside Dictionary* (1984). New York: Berkeley Books.
- ¹²Barrett, W. F. (1911). Poltergeists, old and new. *Proceedings of the Society for Psychical Research*, 15, 377 – 412.
- ¹³Roll, W. G., & Pratt, J. G. (1971). The Miami disturbances. *Journal of the American Society for Psychical Research*, 65, 409 – 454.
- ¹⁴Roll, W. G., & Storey, V. (2004). *Unleashed – Of Poltergeists and Murder: The Curious Story of Tina Resch*. New York: Paraview Pocket Books.
- ¹⁵The story that broke the news of the poltergeist disturbances in the Resch home was called “Strange Happenings Unnerve Family” by Mike Harden, which appeared on the front page of the March 6, 1984 edition of *The Columbus Dispatch*.
- ¹⁶Magician James Randi was the main skeptic who focused on Tina’s staged incident and interpreted it as evidence of fraud. He also claimed that the photos taken by Fred Shannon further showed hints that the poltergeist disturbances had been faked by Tina through simple trickery. However, in discussing these photos, Randi never bothered to address the testimony of first-hand eyewitnesses such as Harden, Shannon, and Tina’s caseworker, who’d all been present when the photos were taken, and who all stated that they did not witness anything which clearly indicated to them that Tina was faking the disturbances. See Randi, J. (1985, Spring). The Columbus poltergeist case: Part I – Flying phones, photos, and fakery. *The Skeptical Inquirer*, pp. 221 – 235. (Incidentally, Randi never published Part II of his article.)
- ¹⁷Gerding, J. L. F., Wezelman, R., & Bierman, D. J. (2002). The Druten disturbances: Exploratory RSPK research. *European Journal of Parapsychology*, 17, 3 – 15.
- ¹⁸In his dissertation *Reimagining the Poltergeist in Twentieth-Century America and Britain* (University of British Columbia, 2016), historian Christopher Laursen has also traced a number of other historical factors which influenced the development of the PK interpretation of poltergeist phenomena within parapsychology and the impact it had on American and British culture. An electronic copy of his dissertation is currently available through the University of British Columbia’s Open Collections: <https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0319257>

- ¹⁹Rhine, L. E. (1970). *Mind Over Matter: Psychokinesis*. New York: Macmillan Publishing Company.
- ²⁰For instance, let's say we were using a pair of loaded dice that were each purposefully biased toward rolling a 6 more often than any other number. This bias would add to the number of successful rolls whenever 6 was the designated target number on a given test trial, but it would also subtract from the number of successful rolls obtained on any other trials in which one of the other numbers is the designated target.
- ²¹Radin, D. I., & Ferrari, D. C. (1991). Effects of consciousness on the fall of dice: A meta-analysis. *Journal of Scientific Exploration*, 5, 61 – 83.
- ²²Schmidt, H. (1971). Mental influence on random events. *New Scientist and Science Journal*, 50, 757 – 758.
- ²³Jahn, R. G., Dunne, B. J., Nelson, R. D., Dobyns, Y. H., & Bradish, G. J. (1997). Correlations of random binary sequences with pre-stated operator intention: A review of a 12-year program. *Journal of Scientific Exploration*, 11, 345 – 367.
- ²⁴Radin, D. I., & Nelson, R. D. (1989). Evidence for consciousness-related anomalies in random physical systems. *Foundations of Physics*, 19, 1499 – 1514.
- ²⁵Radin, D. I., & Nelson, R. D. (2003). A meta-analysis of mind-matter interaction experiments from 1959 to 2000. In W. B. Jonas & C. C. Crawford (Eds.) *Healing, Intention, and Energy Medicine: Science, Research Methods and Clinical Implications* (pp. 39 – 48). Edinburgh, UK: Churchill Livingstone.
- ²⁶Bösch, H., Steinkamp, F., & Boller, E. (2006). Examining psychokinesis: The interaction of human intention with random number generators – a meta-analysis. *Psychological Bulletin*, 132, 497 – 523.
- ²⁷Radin, D. (2006). *Entangled Minds: Extrasensory Experiences in a Quantum Reality*. New York: Paraview Pocket Books. (See Chapter 9)
- ²⁸Varvoglis, M., & Bancel, P. A. (2016). Micro-psychokinesis: Exceptional or universal? *Journal of Parapsychology*, 80, 37 – 44.
- ²⁹Nelson, R. D., Bradish, G. J., Dobyns, Y. H., Dunne, B. J., & Jahn, R. G. (1996). FieldREG anomalies in group situations. *Journal of Scientific Exploration*, 10, 111 – 141.
- ³⁰Nelson, R. D., Jahn, R. G., Dunne, B. J., Dobyns, Y. H., & Bradish, G. J. (1998). FieldREG II: Consciousness field effects: Replications and explorations. *Journal of Scientific Exploration*, 12, 425 – 454.
- ³¹Nelson, R. D. (2001). Correlation of global events with REG data: An Internet-based, nonlocal anomalies experiment. *Journal of Parapsychology*, 65, 247 – 271.
- ³²Nelson, R., & Bancel, P. (2011). Effects of mass consciousness: Changes in random data during global events. *Explore: The Journal of Science & Healing*, 7, 373 – 383.
- ³³The most recent combined results are also available to view on the GCP website (<http://www.global-mind.org/>).
- ³⁴Williams, B. J. (2014). *GCP Technical Note: Global Harmony 1998 – 2014*. Available on the Global Consciousness Project website: <http://www.global-mind.org/papers/pdf/global.harmony.2014-Williams.pdf>
- ³⁵Owen, I. M., & Sparrow, M. H. (1974). Generation of paranormal physical phenomena in connection with an imaginary “communicator.” *New Horizons*, 1, 6 – 13.
- ³⁶Owen, I. M., & Sparrow, M. (1976). *Conjuring Up Philip: An Adventure in Psychokinesis*. New York: Harper & Row.
- ³⁷Batcheldor, K. J. (1966). Report on a case of table levitation and associated phenomena. *Journal of the Society for Psychical Research*, 43, 339 – 356.
- ³⁸Brookes-Smith, C., & Hunt, D. W. (1970). Some experiments in psychokinesis. *Journal of the Society for Psychical Research*, 45, 265 – 281.
- ³⁹Brookes-Smith, C. (1973). Data-tape recorded experimental PK phenomena. *Journal of the Society for Psychical Research*, 47, 69 – 89.
- ⁴⁰Storm, L., & Mitchell, C. (2003). “Are you there, Spenser?” Attempts at ‘PK by committee’ in a séance-like situation. *Australian Journal of Parapsychology*, 3, 3 – 19.
- ⁴¹Campbell, F., & Murray, C. D. (2007). Poltergeists as external representations of a mental state. *Proceedings of Presented Papers: The Parapsychological Association 50th Annual Convention* (pp. 188 – 191). Petaluma, CA: Parapsychological Association, Inc.
- ⁴²Wilson, M., Williams, B. J., Harte, T. M., & Roll, W. G. (2010). The Daniel experiment: Sitter group contributions with field RNG and MESA recordings. *Journal of Scientific Exploration*, 24, 611 – 636.
- ⁴³For more details about the history of sitter groups and their use in studying PK, the interested reader should consult the book *The Spirit of Dr. Bindelof: The Enigma of Séance Phenomena* by Rosemarie Pilkington (San Antonio, TX: Anomalist Books, 2006).

- ⁴⁴To be a little more precise, the associated odds ratio is about 110 to one, based on an exact binomial p -value of .00895 for this result. See Ref. 1, Ch. 14, pp. 179 – 180, for details about this PK test with Julio.
- ⁴⁵Baumann, S., Stewart, J. L., & Roll, W. G. (1986). Preliminary results from the use of two novel detectors for psychokinesis. In D. H. Weiner & D. I. Radin (Eds.) *Research in Parapsychology 1985* (pp. 59 – 62). Metuchen, NJ: Scarecrow Press.
- ⁴⁶Stewart, J. L., Roll, W. G., & Baumann, S. (1987). Hypnotic suggestion and RSPK. In D. H. Weiner & R. D. Nelson (Eds.) *Research in Parapsychology 1986* (pp. 30 – 35). Metuchen, NJ: Scarecrow Press.
- ⁴⁷Bierman, D. J. (1996). Exploring correlations between local emotional and global emotional events and the behavior of a random number generator. *Journal of Scientific Exploration*, 10, 363 – 373.
- ⁴⁸Rogo, D. S. (1986). *On the Track of the Poltergeist*. Englewood Cliffs, NJ: Prentice-Hall.
- ⁴⁹Auerbach, L. (1996). *Mind Over Matter*. New York: Kensington Books.
- ⁵⁰Carpenter, J. (1993). Results of projective testing on Tina Resch. *Proceedings of Presented Papers: The Parapsychological Association 36th Annual Convention* (pp. 492 – 499). Durham, NC: Parapsychological Association, Inc.
- ⁵¹Broughton, R. S. (1991). *Parapsychology: The Controversial Science*. New York: Ballantine Books.
- ⁵²Solfvin, G. F., & Roll, W. G. (1976, March – April). A case of RSPK with an epileptic agent. *Parapsychology Review*, 7(2), 20 – 21.
- ⁵³Roll, W. G. (2007). Psychological and neuropsychological aspects of RSPK. *Proceedings of Presented Papers: The Parapsychological Association 50th Annual Convention* (pp. 114 – 130). Columbus, OH: Parapsychological Association, Inc.
- ⁵⁴Blasband, R. A. (2000). The ordering of random events by emotional expression. *Journal of Scientific Exploration*, 14, 195 – 216.
- ⁵⁵Lumsden-Cook, J. (2005). Mind-matter and emotion. *Journal of the Society for Psychical Research*, 69, 1 – 17.
- ⁵⁶Lumsden-Cook, J. (2005). Affect and random events: Examining the effects of induced emotion upon mind-matter interactions. *Journal of the Society for Psychical Research*, 69, 128 – 142.
- ⁵⁷Nelson, R. (2011). Detecting mass consciousness: Effects of globally shared attention and emotion. *Journal of Cosmology*, 14, 102. Online journal article available at: <http://journalofcosmology.com/Consciousness102.html>. Accessed February 28, 2017.
- ⁵⁸Rosenblum, B., & Kuttner, F. (2002). The observer in the quantum experiment. *Foundations of Physics*, 32, 1273 – 1293.
- ⁵⁹Walker, E. H. (1975). Foundations of parapsychological phenomena. In L. Oteri (Ed.) *Proceedings of an International Conference: Quantum Physics and Parapsychology* (pp. 1 – 44). New York: Parapsychology Foundation, Inc.
- ⁶⁰Schmidt, H. (1975). Toward a mathematical theory of psi. *Journal of the American Society for Psychical Research*, 69, 301 – 319.
- ⁶¹Schmidt, H. (1982). Collapse of the state vector and psychokinetic effect. *Foundations of Physics*, 12, 565 – 581.
- ⁶²Schmidt, H. (1987). The strange properties of psychokinesis. *Journal of Scientific Exploration*, 1, 103 – 118.
- ⁶³Roll, W. G., & Joines, W. T. (2013). RSPK and consciousness. *Journal of Parapsychology*, 77, 192 – 211.
- ⁶⁴Stevenson, I. (1972). Are poltergeists living or are they dead? *Journal of the American Society for Psychical Research*, 66, 233 – 252.
- ⁶⁵Roll, W. (2006). A discussion of the evidence that personal consciousness persists after death with special reference to poltergeist phenomena. *Australian Journal of Parapsychology*, 6, 5 – 20.
- ⁶⁶Kruth, J. G., & Joines, W. T. (2016). Taming the ghost within: An approach toward addressing apparent electronic poltergeist activity. *Journal of Parapsychology*, 80, 70 – 86.
- ⁶⁷Readers who might like to learn additional details about parapsychological studies and investigations relating poltergeist phenomena should consult Williams, B., & Ventola, A. (2011). *Poltergeist Phenomena: A Primer on Parapsychological Research and Perspectives*. Available on the Public Parapsychology website: <http://www.publicparapsychology.org/PublicParapsych/PoltergeistPhenomenaPrimerFinal.pdf>.
- ⁶⁸Randall, L. (2012). *Knocking on Heaven's Door: How Physics and Scientific Thinking Illuminate the Universe and the Modern World*. New York: Ecco/HarperCollins Publishers.