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GHOST HUNTING GROUPS AND GHOST HUNTERS IN GERMANY: RESULTS OF TWO ONLINE SURVEYS

By Gerhard A. Mayer and Sonja Nowara

ABSTRACT

We conducted two online surveys with German ghost hunting groups (GHGs) and individual ghost hunters. The first questionnaire targeted entire teams, the second individual members. Our goals were (1) to understand the current GHG scene in Germany—their composition, investigation approaches, and exceptional experiences (ExEs)—and (2) to gain insight into the people engaged in this time- and resource-intensive hobby. We developed two questionnaires and included two established scales in the individual version to assess exceptional experiences (Fragebogen zur Phänomenologie außergewöhnlicher Erfahrungen [Questionnaire on the Phenomenology of Exceptional Experiences, PExE II]) and paranormal beliefs (Belief in the Supernatural Scale [BitSS]). We received twenty-one team responses and thirty-nine from individuals. Results from study 1 showed that GHGs exhibited similarities in site selection, investigative methods, use of technical equipment, and types of recorded anomalies. Social media now largely replaces traditional websites and local TV features. However, teams differ in documentation practices and how they handle collected data. Group sizes, founding dates, and annual investigation frequency vary widely. Study 2 found that ghost hunters reported more ExEs than student samples and hold stronger paranormal beliefs (BitSS). Surprisingly, 85% believe in a link between paranormal phenomena and the deceased, while 30% identify as atheists or agnostics—suggesting belief in spirits of the deceased is not necessarily tied to belief in God. For ghost hunters, ExEs are typically not distressing but inspire curiosity and further pursuit. Nearly two-thirds stated that prior ExEs were key motivators for taking up ghost hunting. In addition to the entertainment aspect, the possibility of 'real' contact with the supernatural plays an important role for many ghost hunters, something that cannot be found in media offerings on this topic. The motivation of ghost hunters ranges from scientific interest to the desire to confirm or question their own beliefs.

Introduction

Ghost hunting (GH) is a leisure activity that has become increasingly popular since the first decade of the new millennium (e.g., Mayer, 2013). Ghost hunters are people who get together in small groups and, in their free time, visit places that are supposedly haunted. Some groups also investigate poltergeist cases in private households in response to requests from those affected. The main objective of the activity is to detect and record alleged paranormal phenomena

in the relevant locations using various technical devices such as audio and video recorders, full-spectrum and infrared cameras, and measurement devices for ambient electromagnetic fields (EMF meters) and temperature, as well as radio-frequency motion detectors (REM pods), among others (e.g., Auerbach, 2004; Wilson, 2005).[1] The use of technical devices is considered a characteristic of a scientific approach and is associated by many ghost hunters with the idea of the 'measurability' of 'ghosts' or their physical traces (Mayer, 2010; Potts, 2004). The recordings and measurements are analysed in the follow-up, and the results are often made available to the public as research reports on their own websites, on YouTube and on Facebook.

Most of the studies published to date on the phenomenon of GH are based on the analysis of self-portrayals of GH groups (GHGs) on the internet (e.g., Hill, 2017; Mayer, 2013; Potts, 2004) and sometimes supplemented by interviews (Bartoschek & Waschkau, 2013; Mayer, 2010). The American literary scholar Alan Brown conducted guided telephone interviews with forty-three founders or leaders of GHGs, asking questions about their motives, methods, group composition, members' backgrounds, and more (Brown, 2006). He found that they had a number of things in common, for example in terms of their mission, the technical equipment they use, their experiences of the social reactions of the environment, and—surprisingly—their rejection of the TV show *Ghost Hunters*, which was very important for the development of the GH scene (Mayer, 2013). For Brown, the most important difference between the individual groups was whether they regularly use psychic mediums or dowsing rods as 'metaphysical methods' to obtain additional information, or whether they limit themselves to purely technical measuring devices that provide 'hard' data. More than half of the groups use both 'metaphysical' and 'scientific' methods (Brown, 2006, pp. 345–348).

For geologist Sharon Hill, the question of the scientific nature of the activities of amateur paranormal research groups was at the centre of her study (Hill, 2017), while anthropologist Ehler Voss focused on the quasi-religious aspects of his field research in California (Voss, 2021). In a very informative study on GHGs, cultural anthropologist Michele Hanks conducted interviews with ghost hunters and providers of 'ghost tourism' services (e.g., 'ghost walks' in cities), and got to know the work of four GHGs with membership numbers between two and twenty-five in participatory observation (Hanks, 2015, 2016a, 2016b). She elaborated the role of doubt for ghost hunters, which is intended to ensure their connection to science: Those who doubt and are critical of supposedly paranormal phenomena are acting rationally. Doubting shows that one is not gullible and easily influenced.

1. Meanwhile, there are a myriad guides to the technical side of ghost hunting, including the book *Ghost Hunting for Dummies* (Bagans, 2020), although little additional information is provided with new publications.

One of the two authors of this article (S.N.) presented her insights as a long-time insider of the GH scene. In addition to a brief historical overview and a presentation of the common methodology used by GHGs, the different self-portrayals of the groups as well as more recent developments and changes in the German GH scene are described—mainly from an emic perspective (Nowara & Mayer, 2024).

To our knowledge, systematic surveys of personal motivations, beliefs, and other personal aspects of ghost hunters have not yet been conducted. Hence, the aim of our research project was (1) to get an idea of the current scene in Germany, the composition of the GHGs, the specific approach to paranormal investigations (PIs), and the exceptional experiences (ExEs) encountered during these investigations, and (2) to better understand the people who pursue this time-consuming and resource-intensive leisure activity. GH requires a great deal of commitment to pursue it. We wanted to know what 'type of people' are attracted to it and what the individual motives are for each ghost hunter. We also wanted to get information about what kind of ExEs dominate and how pronounced paranormal and supernatural beliefs are. For this purpose, we created two questionnaires, the first of which was addressed to entire GH teams and the second to individuals. Due to the lack of comparable studies, this two-part study was purely exploratory. It was approved by the local ethics committee of the Institute for Frontier Areas of Psychology and Mental Health (IGPP-2023-02).

Survey one: GHGs in Germany

Method

Participants

The first questionnaire (see Appendix A) was addressed to entire teams. We received a total of twenty-two data sets. Two members of one group completed the survey separately for this group, meaning that the total information obtained relates to twenty-one groups. For the statistical group evaluation, we used the data provided by the team leader of this group, as she is also its founder.

Materials

The questionnaire developed for GHGs asked about the location of the group, methods used in the investigations, handling of media (television, print media, social media), etc. It was not anonymized because it did not ask for personal data subjected to data protection, but only for data that was publicly accessible in principle, i.e., on the websites of the corresponding groups. The questionnaire consisted of thirty-seven items, some of which have free-text fields for more detailed descriptions. The items were organized into five blocks, (1) general statements or information such as the number of members, number of PIs conducted, internet platforms used for publication of the cases, etc.;

(2) questions about how PIs are carried out (locations, technical equipment, cooperation with public media); (3) questions on the documentation and evaluation of PIs; (4) questions about paranormal phenomena and ExEs during PIs; and (5) relation to academic science. It also contained an introductory section in which we introduced ourselves and our research question. We used the online questionnaire tool LimeSurvey.

Procedure

The questionnaire was sent to active GHGs in Germany whose contact details were available. This was the case for thirty-five of the fifty-eight groups active at that time. The call was also posted in two WhatsApp groups (Ghosthunter-Treffen and Blabla) specifically for ghost hunters, as well as on Facebook. Data collection was carried out between October and December 2023.

Data analysis

We used the Statistical Package for the Social Sciences (SPSS, version 28) for calculations. However, most statistics are only descriptive in nature. For group comparisons, we used the Kruskal–Wallis test, as our measuring instruments are ordinal scaled. Due to the purely exploratory nature of the correlation statistics, we did not make corrections for multiple testing. We performed two-sided significance tests, and agreed to a significance level of 0.05.

Results

General questions or statements

Age and size of the groups. The average age of the GHGs was 7.7 years (SD = 5.95). The range extended from 0 years, i.e., the groups were founded in the year of the survey (three groups = 14.3%), to 19 years (one group = 4.8%). Half of the groups were no more than 7 years old, and a quarter were no more than 2.5 years old. This is an indicator that the groups tend to be short lived. However, about a quarter of the groups had been in existence for more than 12 years. The groups had an average of three members (SD = 1.8), with a minimum of one person (solo investigators) and a maximum of eight people. Dogs that are regularly worked with were not counted as members.

Number of PIs. To answer the question about the number of PIs carried out, free-text fields were provided in which a corresponding entry was to be made. This allowed respondents to differentiate where necessary, but also led to less clear-cut answers. In the case of approximate figures, the lower values were taken; in the case of a range, the mean value (rounded down) was used.

On average, the groups conducted seven to eight PIs per year (Mdn = 7, IQR = 5–11), with a range of 2–24. The median of the total number of PIs performed since the groups were established was forty (IQR = 20–95) with

TABLE 1.

Importance of public perception: "How important are viewer numbers, page views, and general awareness for the team?"

	Frequency	Percentage	Cumulative percentage
Completely unimportant (= 1)	8	38.1	38.1
Not very important (= 2)	9	42.9	81.0
Somewhat important (= 3)	3	14.3	95.2
Important (= 4)	1	4.8	100
Very important (= 5)	0	0	
Total	21	100	

a range of 7–120 PIs. These figures indicate a high variance in terms of both commitment (number of PIs per year) and longevity or consistency among the groups.

More than half of the groups had conducted a maximum of four PIs in private households ($Mdn = 4, IQR = 1–15$), which can be seen as a special type of PI (see below). However, in one group with a very large number of PIs, approximately half of the cases involved PIs in private households.

GHGs and the public. During the early years of GH, the most important way to attract the attention of the public or other groups was GHGs reporting the PIs on their own websites. Of the teams participating in the survey, 38% have their own website, and 29% used it to publish their PI reports. However, according to our data the importance of having one's own website for this purpose has decreased. At the time of the survey, Facebook (86%) was the most commonly used platform to publish investigation reports, followed by YouTube (67%) and Instagram (57%). Other platforms are used by 29%.

We asked on a five-point scale (from 'completely unimportant' [= 1] to 'very important' [= 5]) how important viewer numbers, page views, and general awareness are for the team. For most groups (81%), these aspects are 'completely unimportant' or 'not very important'. Only one team consider this aspect 'important'. None of the teams rated it as 'very important' (Table 1).

The teams' relationships with other GHGs. We asked the teams to give a general assessment of their relationship with other GHGs on a five-point scale ranging from 'mostly good' to 'mostly problematic'. Two-thirds of the teams (fourteen groups) described the relationship between their team and other teams as predominantly good, a further 14.3% (three groups) as generally good, another three teams as 'partly good/partly problematic', and only one team described the relationship with other teams as 'generally problematic'. The category 'predominantly problematic' was not used.

TABLE 2.

Role models for GHGs

	Frequency	Percentage
American TV series (e.g., *Ghost Hunters*)	0	0
Other TV series (e.g., *Geisterakten*)	2	9.5
TV documentaries	3	14.3
Websites/presentations from other teams	9	42.9
Other	16	76.2

Note: Multiple answers were possible.

Role models. We also asked which role models the team used as a guide for its investigations. Interestingly, TV series such as the influential American show *Ghost Hunters* no longer seemed to play a role. Apparently, their influence on outfits and technology has become so established that there is no need to go back to the original source. The websites of other teams are an important influence for almost 43%. However, there appear to be other role models, as around 76% ticked 'other' for this question (Table 2).

The following items deal with information on the implementation of PIs.

Conducting PIs

Location of the PIs. The reference to a specific historical event was the most important factor when choosing the location for a PI. Ninety-five per cent of groups conduct PIs in such locations that are accessible to the public,[2] and 76% in locations that are not accessible to the public.[3] Places without a specific historical reference, such as graveyards, were also of interest for GHGs: 67% conducted PIs in such locations that are publicly accessible, and 48% also in places that are not publicly accessible.

Investigating hauntings in private households can be considered a special case of publicly inaccessible locations. However, it is also a special type of PI, and it is viewed critically by some groups. No one can suffer psychological harm during a PI in a public place or an abandoned location where place-centred hauntings tied to a specific location occur (with the possible exception of the ghost hunters themselves). This is not the case with poltergeist cases in private homes. Here we usually deal with person-centred poltergeist phenomena that are associated with specific individuals and are usually the result of complex

2. Typical examples are castles or other historically significant buildings that can be visited as tourist attractions.

3. Typical examples are abandoned clinics or other 'lost places' located on private property where access is normally not permitted.

psychodynamic factors (Fach, 2022, 2024). Only 38% of the groups investigated hauntings or poltergeist cases in private households, which is still a relatively high number considering that such cases involve the risk of interfering with psychodynamic processes that require the support of professional psychotherapists.

Sixty-two per cent of teams stated that they do not follow any other specific criteria when choosing a location, while 38% do. Pragmatic aspects such as hazardous situations (e.g., risk of building collapse), known sources of disruption (e.g., busy roads), and existing (filming) permits from the owner were cited (in comment fields) as necessary prerequisites.

Preparation of PIs. All teams conduct research on the location prior to an on-site investigation. There are differing opinions on how thoroughly one should conduct historical research in advance, as this can influence perception due to the expectations created. This also applies to reading investigation reports from other GHGs that have already investigated the site. However, some groups believe that knowledge of so-called hotspots can be helpful and time saving when selecting and installing equipment. Some groups conduct targeted investigations into possible sources of interference (e.g., radio masts). In some cases, only the team leader has advance information about the location, to ensure the impartiality of the team members as much as possible.

Technical equipment and other means of detection. Audio and video recording devices and EMF meters are part of the teams' basic equipment. All teams work with such devices, although in one case where no audio recording device was used, audio recordings are available on the video track of the video recording device. Due to the darkness at the site (any light sources will be switched off during the investigation), video recordings are made in infrared or ultraviolet (full spectrum). In most cases, the video cameras and audio devices are installed at supposedly 'interesting hot spots', based on prior research. In addition to this standard equipment, which was available for all teams, other devices were also used, e.g., REM pods (radio-frequency motion detectors—these emit a sound when an object moves through the EMF generated by the devices), spirit boxes and portals (modified radio receivers used for detecting electric voice phenomena), kinects (motion-sensing input devices originally developed by Microsoft for the Xbox 360), parascopes (for visualizing changes in the surrounding EMF), and other devices (Table 3).[4]

In addition to technical measuring devices for detecting anomalies, GHGs also partly support the idea that there are 'living detectors', namely psychics, or even animals that are said to be particularly sensitive to the presence of any invisible entities (Mayer & Schetsche, 2019, pp. 96–97).

4. A brief technical explanation of such devices is provided by Dark Whimsical Art (2025, January 21).

TABLE 3.

Technical equipment used by GHGs

	Frequency (%)
EMF meter (including K2 and Mel Meter)	100
Video recording devices/cameras (including infrared and full-spectrum cameras)	100
Audio recording devices	95
REM pod	76
Spirit box	57
Kinect	43
Mobile phone apps	33
Portal	29
Parascope	24
Other	76

Note: Multiple answers were possible.

Just over half of the teams (eleven out of twenty-one) occasionally work with a psychic, and in slightly less than half of the teams (ten out of twenty-one), there were individuals who believe they have psychic powers themselves.

Cooperation with public media. The question of cooperation with television or the press during the PIs has been with the GH from the very beginning. The presence of TV crews brings public attention to the GHG, which is appreciated by some for various reasons—after all, the members of the American group The Atlantic Paranormal Society (TAPS) have become media stars thanks to the series *Ghost Hunters* (Mayer, 2013). In addition to such personal aspects, media presence can also have advantages when it comes to providing information about haunted locations ("This is the only way we can show people that we exist and that they can turn to us") or granting permission to investigate. However, it's a double-edged sword. "The press and TV have very specific ideas and wishes", which deprive the research team of freedom and spontaneity. Sensational images or footage are desired. In addition, there is always the risk of being "ridiculed and made fun of by such media" (all quotes are taken from comments on the question of cooperation with the media).

Fifty-seven per cent of the teams denied such collaborations during the PIs. Of the 43% who said they allow this, we have no information on how often this happens. A comment on this question states, "in principle, no. There are exceptions now and then … So, 'yes', but 90% of requests are turned down." Some also make cooperation dependent on the type of request, for example, whether it comes from regional media or public television. Overall, there is a tendency to reject sensationalist portrayals. This is exemplified by the following comment:

> From many years of experience and numerous TV collaborations, I can now say that such cooperation is unsatisfactory and does not do justice to the subject matter. What people want is horror and action, and it goes without saying that this cannot be delivered and that a false impression in the public eye is inevitable.

The procedure. The procedure of a PI is very similar for all teams. After an inspection of the location (getting a feel for the place, checking for possible sources of interference, walking around the site to identify and mark any hazards [if present], identifying hotspots), a consultation takes place, followed by the set-up of the equipment, in some cases combined with a 'baseline measurement' of, for example, temperature, EMF radiation, and in individual cases air quality. Some of the teams begin with meditation, often followed by a 'passive session' or 'passive sit-in', i.e., ambient noises are consciously perceived and identified (seeing/feeling/smelling/hearing). This is usually followed by an 'active session', i.e., questions are asked to establish 'contact'. This procedure is repeated at various points. In most cases, this is monitored by cameras. The questioning and measurements often continue into the early hours of the morning, lasting between 3 and 6 hours, with variations in both directions. Sometimes the team splits up, and certain areas of the investigation site are examined in a specific formation (e.g., only male or only female team members). Finally, the equipment used is dismantled.

Documentation and data evaluation

There are two aspects to consider when documenting PIs: firstly, the recording of potential anomalies such as raps, shadows, or the reaction of specific ghost detectors, i.e., devices listed in Table 3, and, secondly, the documentation of subjective perceptions of the ghost hunters, the procedure itself, and the general conditions during the PI. Most teams use video and audio recordings as well as photos for documentation purposes. Just over half of GHGs (57%) use written records in addition to technical recording devices. Two GHGs record the entire PIs with technical recording devices, while most only record individual sessions (e.g., during a phase of asking questions or during a phase of using certain GH gadgets) as part of the overall PI. Immediately after the sessions, participants are asked about their (subjective) perceptions. In many teams, participants comment on their perceptions directly during the individual sessions so that they are stored on the video and audio recordings. Basic information such as the location, date, names of those present, and weather information are also recorded using technology and/or in writing. Any special occurrences or circumstances at the location are documented. These may include noticeable background noises (cars, airplanes), disruptive factors (other people, animals), or even the documentation of self-made noises (e.g., yawning, stomach rumbling), which could lead to misinterpretation in the analysis. All recordings made on site and other forms of documentation are included in the subsequent

analysis. Two teams used a self-created questionnaire for documentation that, in addition to basic information (location name, date, time), records the individual devices and the name of the person evaluating the respective device as well as the type of possible anomaly.

The data is transferred to PCs and analysed. Each recording is viewed or listened to, and any anomalies are noted with the timecode or cut out, and then compared in context with other recordings from the same location (sometimes multiple cameras or cameras and audio devices are located in a single room or confined area). This serves to determine whether the anomaly can be seen or heard on multiple devices. An example of this would be if a visual anomaly is visible on a recording and, at the same point in time, one or more team members reported unusual (bodily) perceptions (e.g., on the audio recording). This makes it easier to assess whether these are actually anomalies or conventionally explainable phenomena.

The results of the evaluation are documented in writing and/or as video documentation and, in some cases, published on social media.

There were no differences between the teams with regard to the *type of data* (video and audio recordings, photographs) that is evaluated. This also applies to the more subjective data. Despite the ghost hunters' great affinity for technology and the associated desire for physical measurability of the phenomena, subjective perceptions, sensations, and experiences (e.g., bodily sensations, shadow sightings, touches) were documented and evaluated by all teams except one.

The question of *which team members* evaluate the data does not yield a clear picture. All options are equally common and do not depend on the size of the team. In 33% of the cases, a preliminary evaluation by specialists in the team takes place, followed by joint evaluation. Twenty-nine per cent of teams state that the group members all carry out the evaluation together. In 24% of teams, this is done exclusively by specialists, and in 14% of teams, members do this partly together. Personal preferences and interests of individual team members play a decisive role here. For some, the data collection part, i.e., conducting and experiencing a PI at the location, may be the most important part, while the evaluation part may be perceived as rather boring and gladly left to other team members. Two-thirds of the teams occasionally consult external experts for evaluation or obtain expert opinions.

Seventy-one point five per cent of the teams store and retain all raw data on a storage device or in the cloud. Nearly 10% save the raw data of interesting parts or sections in this way. In the remaining 19% of cases, the raw data is largely deleted after analysis or processing. Seventy-six per cent of GHGs state that they completely secure and store the processed material, while 19% only store the most interesting parts.

Seventy-six per cent of the GHGs make their processed data publicly available (social networks, websites, etc.), and 24% the raw data too. Sixty-four

per cent also publish their historical research on the locations, and 57% provide contextual information (e.g., directions, environment).

Potentially paranormal phenomena and ExEs during PIs

Since the central goal of GH is to measure and record assumedly paranormal phenomena whose origins cannot be explained by conventional scientific models, corresponding reports and statements are to be expected. We were interested in the nature of such phenomena and if they could be documented. Table 4 shows a list of reported phenomena and the percentages of the GHGs that experienced each phenomenon.

Some of the phenomena mentioned concern the level of emotions and inner perception and are not objectively measurable and documentable. Hence, in these cases the documentation is in the form of a written protocol or by completing a questionnaire created for this purpose. Other phenomena were not perceived during the PI but only discovered later when the recorded data is evaluated. Table 5 provides a list of such documented phenomena with the corresponding percentages.

All listed classes of perceived phenomena, with the exception of the feeling of being influenced by an alien entity, are reported by at least half of the groups (see Table 4). The setting of GH seems likely to produce unusual acoustic, visual, or haptic perceptions. This also applies to feelings of the presence of someone or something (a spirit, an energy). Four-fifths of the groups reported the latter.

The documented phenomena classified as paranormal also offer little surprises (see Table 5). All groups reported EVPs as well as other acoustic phenomena on their recordings. Reactions of ghost detectors and other specific

TABLE 4.

Perceived paranormal phenomena experienced during PIs

	Percentage
Acoustic phenomena (mimicry sounds, e.g., raps or voices)	100
Visual sightings (e.g., shadows)	95
Haptic perceptions, touch	90
Feeling of the presence of someone or something / a spirit / an energy	81
Sudden changes in temperature	71
Temporary health impairments (e.g., pain sensations)	67
Odours, special olfactory perceptions	67
Sense of threat	52
Feeling of being influenced by an alien entity	29
Other	24

Note: Multiple answers were possible.

TABLE 5.

Recorded or documented paranormal phenomena during PIs

	Percentage
Electric voice phenomena (EVPs)	100
Acoustic phenomena (e.g., mimicry sounds or raps)	95
Reactions and measurement readings of devices used for GH	90
Anomalies on photographs	81
Unusual reactions from individual team members	38
Significant changes in temperature	14
Other	24

Note: Multiple answers were possible.

devices for GH could be recorded on video. Eighty-one per cent of the groups reported anomalies on photographs. It is noteworthy, at most, that the drop in temperature, which is part of the classic narrative of ghost stories, could rarely be measured objectively.

We asked the participating groups about their most impressive paranormal experiences related to PIs. Due to the diversity of the reported phenomena, which often triggered a strong sense of subjective evidence when combined, attempting to generalize them into categories is of little use, as can be seen from the following examples. A team reported:

> RSPK [recurrent spontaneous psychokinesis] phenomenon in Scotland. Two out of five people (I was one of them) heard and felt hammer blows coming from the next room. According to the homeowner, who happened to be present and was not part of the investigation team, a device placed in the window was lifted and dropped forward. The hammer blows only stopped when the device hit the floor.[5]

Another report goes:

> I was hit by a lump of clay in the garden, at the same time we were recording an EVP in which a woman said: throw it away. I once saw a planchette fly about 3 meters in a high arc out of a metal bowl. Since this bowl was standing about 1.5 meters next to me and I could see everyone in the room, I still can't explain it to this day.

While the two examples above combine acoustic phenomena and inexplicably moving objects, the next example concerns a remarkable photographic anomaly:

> While visiting Hohenlimburg Castle during a filming session for a WDR program,[6] we were able to take two photos that still impress me to this day. The photos are of a white woman who was/is known by name. The clarity of the photos and the fact that they were taken in an almost empty room have stayed with me to this day. Even

5. All translations by the authors.
6. WDR: Westdeutscher Rundfunk is a German public-broadcasting institution.

> during the investigation, we tried to reproduce these photos to rule out the possibility that there might be a rational explanation for them, but without success. For me, as an objective skeptic, these photos are proof that ghosts do exist!

The last example presented here is about physical sensations experienced during a PI:

> A jab (with a finger?) in my back and, after I asked him to stop, [I felt] a gentle stroke across my arm and a grasp of my hand. It felt like the hand of a child—although there wasn't enough room behind me or beside me for a child to have been there.

Despite the diversity of such reported phenomena, almost all have in common that they affect the physical level. These include, for example, unexplained movements of objects or the occurrence of noises for which conventional causes have been ruled out.

The exclusion of conventional explanations is of central importance in GH. The teams find conventional explanations for about three-quarters of the phenomena ($Mdn = 75\%$, $SD = 27\%$). We asked the participating teams to briefly describe how they rule out conventional explanations for supposed paranormal phenomena. Almost all teams state that they initially use exclusion methods and measurements to search for natural causes and also involve experts in the process. For example, EMF measurements are used to check whether strong EMFs are present, whether there are power or cell phone towers nearby, whether there are natural noise sources that could be reflected in the recorded data, etc. If, for example, anomalies are detected in photographs, attempts are often made to test the phenomena for replicability on site by recreating and reconstructing them. When analysing data recorded with different devices, their temporal synchronization plays an important role in determining whether a potential anomaly can be detected only on one device or on several in some form.

In the end, there is not always a uniform assessment of the phenomena within the teams, but overall the agreement is quite large in most cases. Over 80% state that there are only 'rarely' or 'occasionally" conflicting opinions at the end of the analysis. Only two teams (10%) state that this is often the case.

GH and academic science

Three final questions in the group questionnaire concerned scientific theories and a willingness to cooperate with academic researchers. When asked whether the team also deals with scientific explanatory models or theories on the subject, 62% said they do so occasionally. Four GHGs (19%) do this intensively, and another four GHGs do not engage in it. Names that are mentioned in the accompanying comments belong to the field of transcommunication (e.g., Ernst Senkowski) and paranormal research in general (e.g., Hans Bender, Walter v. Lucadou, Alan Gould, Steve Parsons, and others), with no distinction often being made between popular science and academic literature. The majority of

teams (71%) indicated that they would be very interested in closer scientific exchange with academic researchers and would also be willing to fulfil certain requirements for cooperation with academia (e.g., completing a questionnaire before and after the PI). Twenty-four per cent (five teams) would be 'somewhat' interested; one team stated that it was 'not very' interested. Four teams stated that they were 'likely' to fulfil certain conditions for cooperation, while the remaining two responded 'rather not'.

Discussion one

We find similarities between the GHGs in many respects. This concerns the selection of locations, the type of approach, the use of technical equipment, and the nature of the anomalies experienced and recorded, but also the fact that TV series such as *Ghost Hunters* or *Most Haunted* are not considered role models. GHGs seek guidance on other teams' websites or from other sources, indicating a shift in the scene. Social media presence has largely replaced team websites and appearances on local television stations. Given the increasing commercialization of parts of the GHG scene (Nowara & Mayer, 2024), the data obtained from our questionnaire regarding the little importance of viewership and public attention is surprising. Another common feature is the reluctance of most GHGs to conduct investigations in private homes. This is positive from the perspective of professional counsellors for people who have had ExEs.

A large variance can be observed in the group size, the age of the group, and the number of PIs performed per year. This is understandable given the considerable time and financial investment required by the GH.

The analysis and interpretation of (measurement) data and the testing of various explanatory hypotheses using exclusion methods are familiar scientific approaches to understanding reality. In this respect, it is understandable that many GHGs consider their approach to be scientific and that their members describe themselves as sceptical. However, GH is a leisure activity, and only very few ghost hunters are likely to have received training in scientific methodology, although the proportion of those with an applied sciences university degree was comparatively high at 38.5% (see the results of survey two). In principle, there is a high willingness to cooperate with academic science. However, the teams have different ideas about how the PIs are to be documented and what exactly happens with the collected data.

Some limitations should be mentioned. Since the questionnaire was not anonymous, the responses are self-reported and may contain a significant degree of bias towards a positive image (e.g., relationship to other groups, largely described as good; or that media coverage and audience figures are not particularly important for the team). It is also unknown to what extent the information reflects a team or group opinion that may have been discussed beforehand, or whether it is the individual assessment of the team leader. At least on the last point, we received an indication of the different assessments

and perspectives within a GHG, since we had two questionnaires filled out by the team leader and another team member (only partly filled out). Most differences between those two, such as those relating to the storage or publication of raw data, can be attributed to insufficient communication and varying levels of information due to different basic interests and functions within the group. Different answers to the question of what was the most impressive paranormal experience in the context of PIs clearly demonstrate the varying degrees of individual impact that such experiences have. A notable difference between the statements of the team leader and the other team member was evident in the estimation of the percentage of recorded unusual phenomena for which the team finds a natural explanation. The assessment was made using a slider ranging from 0 to 100%. The team leader stated that 25% of these phenomena could ultimately be explained conventionally, while the other team member estimated the proportion at 75%. Furthermore, the two gave slightly different frequencies for how often team members had conflicting about the nature of the phenomena at the end of the analysis. While the team leader stated that this was 'rarely' the case, the team member stated that this happened 'occasionally'. These differences give the impression that the team leader is less sceptical than the team member, although it remains unclear whether this is more attributable to the team leader's external presentation of the team or to individual differences in subjective perception of evidence.

Survey two: German ghost hunters

Method

Participants

The second questionnaire was addressed to individual members of GHGs. We received thirty-nine evaluable data sets. Thirty-eight of these were completed in full, while one was partially completed, with the values on one scale ("belief in the supernatural") missing. The response rate can only be estimated as we do not know how many members were forwarded the link to the questionnaire by the group leaders. It could be around a third, assuming an average size of three people in a group. The mean age of the participants was 45 years (Mdn = 46, SD = 9.3). Fifty-six per cent were female, 44% male, and 0% diverse.

The majority (36%) felt they belonged to Christianity. However, there were also 21% atheists and 9% agnostics in the sample (Table 6).

The marital status in our sample roughly corresponded to the average German population (Statistisches Bundesamt, n.d.-a). Approximately one-quarter of participants (25.6%) were single, slightly more than half (51.3%) were married, 20.5% were divorced, and one person (2.6%) was widowed. Seventy-two per cent of the participants had a permanent life partner.

The picture regarding educational qualifications is similar to that of the general population. Thirty-eight-point five per cent had a German

TABLE 6.

Religion / spirituality of participants

	Percentage
Christianity (Catholic/Protestant)	36
Christianity (other forms)	0
Buddhism	3
Islam	0
Other	21
Unattached spirituality/religiousness	23
Atheist ("I don't believe in anything divine")	21
Agnostic ("One cannot decide whether God exists or not")	8

Note: Multiple answers were possible.

Fach-/Hochschulabschluss [higher education entrance qualification], 33.3% a German Realschulabschluss [intermediate school leaving certificate], and 28.2% a German Hauptschulabschluss [secondary school leaving certificate] and none without school leaving certificate (Statistisches Bundesamt, n.d.-b).

Eighty-nine-point seven per cent of the participants were employed at the time of the survey. This is higher than in the general population, whose employment rate in May 2023 (people aged between 25 and 74 years) was 68.1% (Statistisches Bundesamt, n.d.-c). Three people (7.7%) were housewives or househusbands, and one person selected 'other'. The high level of employment is understandable given that GH is a costly hobby.

Materials

The devised questionnaire was addressed to individual ghost hunters (see Appendix B). In addition to the parts we created ourselves, we used two existing measurement instruments in this questionnaire: the Fragebogen zur Phänomenologie außergewöhnlicher Erfahrungen (Questionnaire on the Phenomenology of Exceptional Experiences—PExE II; Fach, 2018) and the Belief in the Supernatural Scale (BitSS; Schofield et al., 2018). It also contained an introductory section in which we introduced ourselves and our research question. It consisted of four blocks, concerning (1) sociodemographic data (seven questions); (2) the motivation and attitude towards GH, including the role of previous ExEs (five questions); (3) questions on ExEs in general (PExE II, twenty questions); and (4) questions on supernatural or paranormal beliefs (BitSS, forty-four questions).

The PExE II is an instrument which asks about experiences of supposedly paranormal phenomena, such as apparitions, telepathy, clairvoyance, premonition, and precognitive dreams, but also phenomena like strange perceptions (e.g., hearing inner voices), cognitions (e.g., thought intrusions),

and automatisms (e.g., spontaneous and uncontrolled body movements). The authors created a classification scheme for ExEs allocating them into four basic categories on two dimensions, (1) external phenomena–internal phenomena, and (2) coincidence phenomena–dissociation phenomena, as well as to six typical ExE patterns (poltergeist and apparitions, internal presences and influences, extrasensory perceptions, meaningful coincidences, automatisms and mediumship, external presences and nightmare) (Belz & Fach, 2015; Fach, 2022, 2024). The items are assigned to the basic categories and measure the frequency of these experiences on a five-point scale ranging from 'never' (= 0) to 'often' (= 4). The activity of the GH itself makes an increased frequency of certain ExE likely, e.g., external presences and apparitions, but we wanted to know about the frequency of other forms of ExE.

Schofield et al. (2018) developed the BitSS in order to avoid some problems with the widely used the Revised Paranormal Belief Scale (rPBS; Tobacyk, 2004). In our opinion, it distinguishes better between religious, supernatural, and paranormal beliefs. We used a German translation of the scale (cf. Mayer & Fuhrmann, 2021). The scale has a five-factor structure composed of "mental and psychological phenomena", "religious beliefs", "psychokinesis" (psychically affecting matter), "supernatural beings", and "general paranormal perceptions". The forty-four items measure the degree of agreement with the statements ranging from 'strongly disagree' (= 1) to 'strongly agree' (= 7). Our goal in using this scale was to see how strongly the activity of GH is associated with certain personal beliefs. Although the questionnaire data does not allow any conclusions to be drawn as to whether ExEs promote paranormal beliefs or whether, conversely, belief in ghosts increases the probability of perceiving them (experiential versus cultural source hypothesis; cf. Hufford, 1982), the data promised interesting information on the relationship between the scores in the subscales. GH in itself suggests a spiritualist worldview, but one could assume cultural differences depending on the degree of secularization of a society (Mayer, 2010, 2013). By applying the BitSS, we wanted to obtain reliable data on this aspect.

Procedure

The devised questionnaire was sent to active GHGs in Germany, together with the first questionnaire addressed to the groups themselves. Group leaders were asked to forward the second, individual, questionnaire to their members. The call was also posted in two WhatsApp groups (Ghosthunter-Treffen and Blabla) specifically for ghost hunters and on Facebook as well. Data collection was carried out between October and December 2023, using the online questionnaire tool LimeSurvey. The questionnaire was anonymised in accordance with the data protection guidelines applicable in Germany. Participants provided informed consent and had the opportunity to make comments.

Data analysis

We used the SPSS (version 28) for statistical calculations. For group comparisons, we used the Kruskal–Wallis test, as our measuring instruments are ordinal scaled. Due to the purely exploratory nature of the correlation statistics, we did not make corrections for multiple testing. We performed two-sided significance tests and agreed to a significance level of 0.05.

Results

Motivation and attitude towards GH

The fascination of GH. The most intriguing part of GH for almost everyone was the contact with the paranormal or supernatural (95%), followed by the specific history of the location where the investigation was conducted (74%). Another important factor is the analysis of the data. This also holds a special fascination for three-quarters of the participants (74%). Although data analysis must be considered a tedious task, e.g., listening to or watching hours of recorded audio and video material, this process nevertheless seems to hold great appeal. Perhaps it is the fascination of the treasure hunter who sifts through the earth hoping to discover a gold nugget. The fascination of handling technical devices was mentioned by only half of the participants, the group experience by only 38%, and the publicity aspects (online presentation and popularity) played a minor role (Table 7).

Explanations or theories for paranormal or supernatural phenomena during PIs. We offered three statements for which participants had to indicate their level of (dis)agreement on a five-point scale from 'I fully disagree' (= 1) to 'I fully agree' (= 5) (see Table 8): (1) they are signs of the deceased, spirits, or other

TABLE 7.

Fascination of GH

	Percentage
Possible contact with the paranormal/supernatural	95
The history of the locations where a PI is performed	74
Evaluation (documentation, analysis, discussion)	74
The locations of the PIs	64
Working with the technical equipment used in PIs	51
Group experience	38
The presentation of the results on the website or on social networks	15
The media impact or the level of awareness that can be achieved by publishing documentaries or film presentations	5

Note: Multiple answers were possible.

TABLE 8.

Basic explanation or theory about paranormal phenomena

	Percentage				
	I fully disagree	I partly disagree	I don't know	I partly agree	I fully agree
They are signs of the deceased, spirits, or other entities ('spiritualist')	2.6	5.1	7.7	43.6	41.0
They are related to the members of the team ('team')	7.7	5.1	33.3	46.2	7.7
They are connected to the history of the location ('location')	2.6	0	7.7	79.5	10.3

Note: Multiple answers were possible.

entities ('spiritualist'); (2) they are related to the members of the team ('team'); and (3) they are connected to the history of the location ('location').

Almost 85% of participants consider explanation 1 ('spiritualist') to be partially or completely correct. Three persons (7.7%) cannot or do not want to decide, and another three reject this statement either partially or completely. Almost 90% are convinced that the phenomena are connected with the history of the location ('location'). Three people 'don't know' and one completely rejects this explanation. More than half of the participants (53.9%) partially or fully agree with the 'team' explanation. A third do not know, and just under 13% partially or completely reject this explanation.

Sceptical attitude. One item concerned the self-assessment of one's own scepticism regarding such phenomena and perceptions. The prompt was: "Please use the slider to indicate on a scale from 0 ('not at all sceptical') to 100 ('extremely sceptical') how sceptical you feel about perceptions or claims of paranormal or supernatural phenomena." The mean value of scepticism is 67.5 on a scale of 0–100 (Mdn = 70, SD = 20.8) on the side of the sceptical pole.

Ghost hunters and ExEs

A frequently discussed question is the connection between culturally determined beliefs, individual beliefs, and ExEs. According to the *cultural source hypothesis*, it is culturally transmitted ideas and narratives that promote belief in the paranormal or supernatural and lead to corresponding experiences. The *experiential source hypothesis*, on the other hand, assumes that experiences precede beliefs (Hufford, 1982). These two hypotheses are not exclusive. They explain different aspects of the relationship between direct experiences, communicated experiences, beliefs, and narratives. In any case, it is interesting to find out about the role of previous ExEs.

TABLE 9.

ExEs prior to taking up GH as a hobby

	Percentage		
	Yes, I am sure	Probably yes	No
Did you have any paranormal or supernatural experiences before you started using GH?	64.1	25.6	10.3

	Percentage	
	Yes	No
If so, did these experiences play a central role in your decision to start using GH?	61.5	28.2

We asked about ExEs prior to GH and the role these played in the decision to start GH. About 64% of participants (N = 25) had had paranormal or 'supernatural' experiences before taking up GH as a hobby. Another quarter (25.6%; N = 10) stated that they believed they had had such experiences, and only four people (10.3%) had clearly not had any preceding ExEs. Sixty-one and a half per cent of participants stated that these previous ExEs played a key role in their decision to start GH; for 28.2%, this was not the case (Table 9).

The items of the PExE II concern ExEs in general in relation to all life contexts (the prompt is "Please read the following statements carefully and mark with a cross for each statement whether you have never, almost never, rarely, occasionally, or frequently experienced the described phenomena in your life"). It was developed for clients of the counselling service of the Institute for Frontier Areas of Psychology and Mental Health (IGPP) who are suffering from psychological distress due to such experiences. There are no standard values for the questionnaire, but values from some comparison groups are available. In our case, two comparison groups are of interest: the clinical group of IGPP clients and a group of students that appears to correspond roughly to the normal population (Fach, 2024).[7] The four basis categories are 'internal phenomena', 'external phenomena', 'coincidence phenomena' and 'dissociation phenomena' (Belz & Fach, 2015; Fach, 2022, 2024). We find a clear predominance of external phenomena in PExE II data (Table 10). This distinguishes them from the typical pattern of a student sample, but also from the counselling sample, where the average maximum is found in coincidental phenomena and the minimum in dissociative phenomena or experiences. Their average scores on the four

7. There is data from a representative Swiss sample that was collected using the first version of PExE and is similar to that of a student sample. The values of a student sample collected using the second version of the PExE show comparable characteristics, so it can be assumed that they are close to the norm values (Fach, 2024).

TABLE 10.

Mean values of the PExE II subscales and the overall scale for ghost hunters, the IGPP clients sample and a student sample

	Overall	External	Internal	Coincidence	Dissociation
M ghost hunters	1.44	2.31	1.19	1.61	0.67
(Student sample)	(0.86)	(0.75)	(0.86)	(1.32)	(0.52)
(IGPP clients sample)	(1.36)	(1.32)	(1.31)	(2.05)	(0.75)
SD ghost hunters	0.66	0.83	0.82	0.88	0.62
(Student sample)	(0.53)	(0.67)	(0.69)	(0.76)	(0.60)
(IGPP clients sample)	(0.82)	(1.15)	(1.11)	(1.08)	(0.89)

Note: Five-point scale ranging from 'never' (= 0), 'almost never' (= 1), 'rarely' (= 2), 'occasionally' (= 3) to 'often' (= 4). Comparison values of a student sample (N = 450) and an IGPP clients sample (N = 193) in brackets (Fach et al., 2024, p. 58).

TABLE 11.

Mean values of the BitSS subscales and the overall scale for ghost hunters and a UK validation sample

	Overall	Mental and psychic phenomena	Religious belief	Psychokinesis	Supernatural entities	Common paranormal perceptions
M ghost hunters	3.90	5.02	2.43	3.48	3.73	3.83
(UK validation sample)	(3.24)	(3.80)	(2.72)	(2.56)	(3.38)	(2.96)
SD ghost hunters	1.21	1.46	1.29	1.36	1.46	1.41
(UK validation sample)	(1.41)	(1.64)	(1.64)	(1.57)	(1.77)	(1.51)

Note: Seven-point scale ranging from 'strongly disagree' (= 1) to 'strongly agree' (= 7). Comparison values of the British validation sample (N = 700) in brackets.

PExE II subscales are consistently higher than the comparison values of the student sample (Fach et al., 2024, p. 58).

The belief in the supernatural or paranormal

The 'belief in the supernatural', measured with the BitSS (Schofield et al., 2018) among the ghost hunters is higher than among a sample (N = 700) from a British university used for the validation of the BitSS.[8] This applies to all subscales except the subscale Religious Belief (see Table 11).

Exploratory correlation statistics and group difference statistics

Sociodemographic data and religion. We examined the data exploratively for correlations and group differences that can provide clues to hypotheses for further research. We were particularly interested in the relationship between socio-demographic data, religious affiliation, paranormal or supernatural beliefs, ExEs and the fascination with GH as well as the explanatory models for unusual phenomena in the context of GH.

The sociodemographic data did not prove to be meaningful for distinguishing between subgroups, and no significant correlations were found between the variables listed above, which may be partly due to the small N.

We also found no significant group differences with regard to religious or spiritual orientation in the mean scores of the BitSS scales, with one exception: those who identify as Christians have significantly higher scores on the BitSS subscale 'religious belief', which concerns traditional religious beliefs (H [1, N = 39] = 5,034, p = 0.025, η^2 = 0.08).

ExEs prior to GH. Significant group differences were found with regard to ExEs prior to taking up GH. We found a highly significant group difference between previous ExEs and the fascination of contact with the paranormal or supernatural through GH (H [2, N = 39] = 17.973, $p < 0.001$, η^2 = 0.44). In order to get a clearer picture, we excluded those who were not sure if they had had ExEs before taking up GH (see Table 9). The remaining two groups for comparison included individuals who were certain that they had had paranormal experiences prior to the GH (N = 25) and those who were certain that they had not had such experiences (N = 4). The group difference regarding the above-mentioned fascination was significant: (H [1, N = 29] = 12.963, $p < 0.001$, η^2 = 0.44) (Table 12).

We compared these two groups regarding self-assessed scepticism toward paranormal phenomena. The difference is close to the level of significance: H [1, N = 29] = 3.753, p = 0.053, η^2 = 0.10.

8. Malcolm Schofield (email, personal communication, 1 February 2022) provided the data from the samples of two validation studies. The values of both studies (N = 382, N = 312) were combined and averaged here.

The difference between these two groups in acceptance of the 'spiritualist' explanatory model for paranormal phenomena in PIs is H [1, N = 29] = 7.872, p = 0.005, η^2 = 0.25; the difference in acceptance of the 'location' explanation is H [1, N = 29] = 10.947, p < 0.001, η^2 = 0.37. We did not find a significant difference in the third, the 'team' explanation. However, the median values differ.

PExE. We found two significant correlations between two PExE II subscales and the agreement with the 'spiritualist' explanation and 'location' explanation (Table 13), a significant correlation between the PExE II subscale 'dissociation phenomena' and the agreement to the explanation 'location' (r_s = 0.396; p = 0.013), and another significant correlation between the PExE II subscale 'coincidence phenomena' and the agreement to the 'spiritualist' explanation (r_s = 0.393; p = 0.013).

BitSS. The degree of agreement with the 'spiritualist' explanation correlates significantly with the BitSS overall scale and four subscales; the degree of agreement with the 'location' explanation correlates with the BitSS overall scale and two subscales (Table 14).

Discussion two

GH is a costly hobby. An above-average level of employment of about 90%, compared with 68% in the general population (aged between 25 and 74 years), is therefore not surprising. It is also higher than the average PExE sample of the

TABLE 12.

Median scores for scepticism and the acceptance of explanation models for ghost hunters with and without ExEs previous to GH

Scepticism	Ghost hunters with ExEs previous to GH	Ghost hunters without ExEs previous to GH
Self-assessed scepticism towards paranormal phenomena	60.00	86.50
Explanation		
Acceptance of 'spiritualist' explanation	4.0	3.0
Acceptance of 'location' explanation	4.0	3.0
Acceptance of 'team' explanation	4.0	3.0

Note: Scepticism was measured on a slider scale ranging from 0 ('not at all') to 100 ('extremely sceptical'). The acceptance of the explanation models was measured with a five-point scale (1 = 'I totally disagree', 5 = 'I totally agree').

TABLE 13.

Correlations between agreement to explanation models or theories and the PExE II subscales and the overall scale

Explanation	Overall	External	Internal	Coincidence	Dissociation
They are signs of the deceased, spirits or other entities ('spiritualist')	0.286	0.293	0.066	0.393*	0.244
They are related to the members of the team ('team')	0.079	0.044	0.095	0.097	0.080
They are connected to the history of the location ('location')	0.231	0.018	0.161	0.186	0.396*

Note: Spearman's r; * $p < 0.05$.

TABLE 14.

Correlations between agreement to explanation models or theories and the BitSS subscales and the overall scale

Explanation	Overall	Mental and psychic phenomena	Religious belief	Psychokinesis	Supernatural entities	Common paranormal perceptions
They are signs of the deceased, spirits or other entities ('spiritualist')	0.547***	0.548***	0.345*	0.108	0.433**	0.552***
They are related to the members of the team ('team')	0.007	0.084	–0.199	0.109	–0.192	0.081
They are connected to the history of the location ('location')	0.357*	0.382*	0.028	0.126	0.414**	0.292

Note: Spearman's r; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

IGPP clientele[9] with 49% (Fach, 2022). The proportion of those with a steady relationship is higher among ghost hunters than in the general population, with 72% of participants having a steady partner. The figure for the average for the general population is around 50% (Statistisches Bundesamt, n.d.-a). This could be interpreted as an indication that GH is not particularly well suited as a hobby for people in precarious social situations.

The term 'ghost hunter' actually implies a belief in the existence of spirits of deceased persons or other 'supernatural' beings that can be 'hunted'. However, on closer inspection, this turns out to be not quite so simple. The term for this leisure activity was taken from English-speaking cultures and is used untranslated without necessarily adopting the associated beliefs. The proportion of the population which believes in "supernatural spirits (e.g., angels, demons, fairies, ghosts, etc.)" differs remarkably between the United States (61%) and Germany (33%) (Ipsos Global Advisor, 2023).[10] Overall, the German GH scene seems to reflect the secularized state of German society. The proportion of Christians (36%) is lower than in the general population, which, according to the Religion Monitor, is 50% (Müke et al., 2023, p. 16). The finding that 21% said they do not believe in anything divine is surprising. Apparently, GH and atheism are not necessarily contradictory. The proportion of 'other' religious affiliation is also surprisingly high. Twenty-one per cent of participants ticked this option in the questionnaire. This could mean that a large proportion of these people do not feel they belong to any religious community and are not particularly spiritually oriented, but still believe in a divine principle. Taking the values of 'atheist', 'agnostic', and 'other' together, one gets 50%. The combined figure of this group in the general population is 40% (Müke et al., 2023, p. 16).[11] There, we find a proportion of 8.5% who belong to Islamic religious communities. This is completely missing in our sample.

One might think that ghost hunters believe more strongly than average in the existence of ghosts, demons, and other supernatural entities and that they therefore tend to have a more religious worldview, but the connection does not seem to be that simple, as we can see from comparison of the figures of the

9. 'IGPP clientele' are individuals who contacted the counselling service of the IGPP.

10. These figures are from an online survey with 19,731 respondents from 26 countries. It is not representative. Other figures from representative surveys in the US and Germany are not directly comparable, as the survey periods differ and the questions were not identical. However, the overall picture remains consistent. According to a representative survey conducted by Ipsos in 2019, 46% of Americans believe that ghosts are real (Ipsos, 2019), while according to a representative survey conducted in 2002, this was only the case for 8% of the German population (Institut für Demoskopie Allensbach, 2002). The figure for Germany may have risen in the meantime, but it is certainly considerably lower than that for the US.

11. However, the values are not exactly comparable and should only be understood as guidelines, since in the population survey of the Religion Monitor, no multiple answers were possible, as was the case with us. In addition, the Religion Monitor did not include the categories 'unattached spirituality/ religiousness', 'atheist' and 'agnostic' as response options, but instead 'other religious community' and 'no religious community' (Müke et al., 2023, p. 16).

BitSS subscales Religious Belief and Supernatural Entities of the ghost hunter sample and the British test sample (see Table 11). Religious Belief stands out especially. Here, the British validation sample shows a higher mean value, although, according to an Ipsos survey from 2023, religiosity in the UK is even slightly lower than in Germany (Ipsos Global Advisor, 2023).

The biggest difference between the two samples is in the subscale Mental and Psychic Phenomena, but the difference is also considerable in the two subscales Psychokinesis and Common Paranormal Perceptions (see Table 11). These three subscales relate to phenomena that can be experienced during GH, whereby the Common Paranormal Perception factor includes items for haunting as well as a number of items for fortune telling (astrology, card reading). We can therefore say with some certainty that ghost hunters are more strongly convinced than average about paranormal or supernatural phenomena. This is to be expected, since GH is geared towards experiencing paranormal phenomena.

It is now well known that the idea that people's individual belief systems and worldviews must be consistent and free of contradictions is wrong (e.g., Luhrmann, 1989), and this is also clearly evident in the sample of ghost hunters. It is reflected in their explanations of paranormal phenomena. About 85% see them as signs of deceased persons or of supernatural entities, despite the rather high percentage of atheists or agnostics among them. As expected, a strong connection between the phenomena and the history of the locations is assumed, as this is the basic narrative of GH itself. Ghost hunters visit certain places because they believe that such phenomena are likely to occur there, or because other people have had ExEs there that they associate with the location. The majority assume at least a kind of 'memory of place' or 'living history of a place'. This is consistent with the high proportion of those who are fascinated by the history of PI locations (see Table 7). However, from a psychodynamic perspective, paranormal phenomena can be interpreted as an externalization of psychological or emotional tensions (Belz & Fach, 2015). More than half of the participants (53.9%) also partially or fully agree with this explanation ('team'). Despite this strong belief in the paranormal, the majority of people are sceptical about the phenomena they have experienced. This can be seen as an expression of the self-image of a scientific approach. It is consistent with previous findings from interviews with German ghost hunters (Bartoschek & Waschkau, 2013).

ExEs are crucial for becoming a ghost hunter and to pursue this leisure activity. Ghost hunters have made it their hobby to have ExEs at selected locations that are primarily thought of and experienced as external. It is therefore hardly surprising that we find a clear predominance of external phenomena in PExE II data (see Table 10). This distinguishes this group from other samples in which PExE II had been applied (Fach, 2024). Another difference between the IGPP clientele (see footnote 8) and the ghost hunters is in the area of social bonding (social situation, relationship). Forty-five per cent

of the IGPP clientele are without any stable partnership (Fach, 2024, p. 354), while 72% of the participants of our study have a permanent life partner. If Wolfgang Fach rightly relates the question of the quality of attachment, social integration, and also the employment situation to the frequency of experiencing ExEs and has found significant correlations, the small and special sample of ghost hunters relativizes the generalizability of his findings. With ghost hunters, the experience of ExEs is obviously not associated with suffering, but rather awakens in many the desire to deepen and actively seek out such experiences. After all, almost two-thirds of our participants stated that previous ExEs had played a key role in their turning to GH as a leisure activity.

It is therefore obvious that almost all ghost hunters state that the possible contact with the paranormal or supernatural is what particularly fascinates them about their hobby. Given the importance of ExEs prior to GH, a closer examination of the four participants (10.3%) who did not experience paranormal phenomena prior to GH could be promising. A group comparison in which one group is so small is obviously problematic. All findings obtained from this are therefore highly speculative. Nevertheless, we have made some statistical group comparisons, and the picture that emerges is relatively consistent. The most interesting statistical findings were related to the reasons for the fascination with GH, the theories or explanations for the paranormal phenomena during the PIs, and to paranormal or supernatural beliefs (BitSS scales). We found a highly significant group difference between previous paranormal experiences and the fascination of contact with the paranormal or supernatural through GH. For the four people without ExEs before GH, any paranormal phenomena that may occur during the PIs account for a significantly lower proportion of the fascination than for the vast majority of ghost hunters. It is reasonable to assume a connection to scepticism, and, in fact, these four have a higher average value when it comes to assessing their own scepticism towards paranormal phenomena (see Table 12).

A similar picture can be seen in the explanatory models for paranormal phenomena in PIs. The highly significant correlations between the level of agreement with two of the three explanatory models offered and paranormal or supernatural beliefs are not surprising as they are related to fundamental ideas of GH. However, both the 'spiritualist' explanation and the 'location' explanation are virtually out of the question for the four people with no previous paranormal experience. The difference between the two groups with and without ExEs before GH disappears in the third, the 'team' explanatory model, according to which the phenomena are related to the members of the team, which, in addition to the animistic–psychological explanation, can also be interpreted as a conventional explanation, namely that they could be deceptions or self-deceptions. The picture that emerges is that even some people who are generally sceptical about the existence of paranormal phenomena nonetheless enjoy the GH (see Table 12).

Regarding the results of the statistics of the BitSS scales and the agreement to the three explanatory models, the non-significant correlations are of greater interest than the expected significant ones (see Table 13). There is no significant correlation between agreement with the 'spiritualist' explanation and the 'location' explanation and belief in psychokinetic phenomena. This is interesting because GH also uses so-called move tests, in which objects are supposed to move without any visible cause. If this is actually observed, then from an external perspective it could be interpreted as a psychokinetic phenomenon, i.e., as a result of the interaction of a human consciousness (effort of will) with an external physical object. However, this view does not fit in with the basic narratives of GH. Although the term 'paranormal activity' is often used in a neutral way, it is generally assumed that external actors are the cause and not the ghost hunters themselves, as would be suggested by the questionnaire items of the BitSS Psychokinesis scale. This is also reflected in a significantly lower level of agreement with the explanation that the paranormal phenomena during GH could be related to members of the team. To put it shortly: if objects move by themselves, then it is the spirits and not psychokinesis.[12]

The two significant correlations between two PExE II subscales and the agreement with the 'spiritualist' explanation and 'location' explanation are difficult to interpret (see Table 14). We found a significant correlation between the PExE II subscale Dissociation Phenomena and the agreement to the explanation 'location', and another significant correlation between the PExE II subscale Coincidence Phenomena and the agreement to the 'spiritualist' explanation. A main problem with the interpretation is that the PExE II measures experiences, but the explanatory models concern beliefs or theoretical assumptions about the world.[13] Another important point can easily be overlooked if one only looks at the significant correlations. The highest mean difference between the GH sample and the comparison samples is on the PExE II subscale External Phenomena. This was to be expected due to the objective of the GH. However, there is only a weak correlation with the spiritualist hypothesis, which does not quite reach the selected significance level of 5% ($r_s = 0.293$; $p = 0.071$). If one considers that the GH attempts to make the invisible visible with various technical aids and to establish meaningful connections between the spiritual and material phenomena, then a significant correlation between the frequency of experiencing 'coincidence phenomena' and agreement with a spiritualist

12. In a German population survey from 2025, which, among other things, asked about the possibility of psi phenomena, psychokinesis achieved the lowest approval rating, with 17%. Extrasensory perception in connection with death and crises received the highest score, with 71% approval (Schmied-Knittel et al., 2026).

13. Although one must assume a strong interdependence between beliefs and experiences—perception and thus also experiences are significantly influenced by beliefs and culturally mediated concepts, and experiences in turn can create or reinforce beliefs—the extent and direction are rarely clearly identifiable and are likely to vary greatly from individual to individual.

explanatory model becomes understandable.[14] We were unable to find such a comprehensible explanation for the significant correlation found between the frequency of experiencing 'dissociation phenomena' and agreement with the 'location' explanation.

Conclusion

This study was exploratory, as to our knowledge there are no comparable studies with which the data could be compared, and which would have allowed data-based hypotheses. The evaluation was primarily descriptive due to the small size of the sample. Some of the results were expected, such as ghost hunters seem to experience more ExEs on average than a student sample because they actively search for them. They also believe more in the paranormal or the supernatural than the test sample of the BitSS scale. Other results are rather unexpected, such as the fact that 85% believe in a connection between the suspected paranormal phenomena and the deceased or ghosts, while 30% describe themselves as atheists or agnostics. This speaks for a high acceptance of the survival hypothesis, which is apparently not tied to a belief in God or the divine. GH, or belief in spirits of the deceased, and atheism are not necessarily contradictory.

The fascination with the uncanny, the occult, the paranormal, and the supernatural is reflected in myths, legends, works of literature, and film art, but also in 'ghost tours' as tourist attractions (e.g., Houran et al., 2020; Pedreño-Peñalver et al., 2023), on the internet, and in social networks. A recent variant could be seen in 'virtual dark tourism' on YouTube, i.e., virtually participating in GH activities as a form of 'armchair travel' (Basaraba, 2024). The pleasant horror, the thrill of fear (*angstlust*), can be enjoyed in the safe environment of the living room. This is an aspect that can be intensified by GH at supposedly haunted locations, i.e., doing the 'real thing' and not only participating virtually by watching seemingly authentic PIs. However, it would certainly not do justice to the ghost hunters if GH were to be reduced to this alone. Virtually everyone mentions the possible contact with the paranormal or supernatural as an aspect of the GH that fascinates them. In GH, the quality of authenticity comes into play as an element, which is missing from media-mediated reception of the paranormal.[15] Whether the impulse to explore the paranormal in a more or less scientific sense is the central motivation or the desire to find confirmation for or challenge one's own belief system may vary from person to person.

14. Coincidence phenomena are connections between ordinarily disconnected elements of the self-model and the world-model and often experienced as meaningful links between mental and material events" (Belz & Fach, 2015, p. 371).

15. This even applies to 'paranormal tourism'. Houran et al. (2020, p. 17) write: "Overall, we speculate that paranormal-like experiences are appealing to many people, in part, because they are *unique* and *elusive*".

Corresponding author GERHARD A. MAYER
The Institute for Frontier Areas of Psychology and Mental Health (IGPP)
Germany
Email: mayer@igpp.de
ORCID ID: https://orcid.org/0000-0002-0300-8417

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APPENDIX A

Questionnaire: GHGs in Germany

(1) General questions

1. Name of the team/name of the person completing the form
2. Location of the group (city, state)
3. Year the group was founded
4. Number of members
5. How many paranormal investigations (PI) does the team conduct on average per year?
6. How many cases has the team investigated in total so far?
7. How many cases have involved hauntings in private homes?
8. Does the team have its own website?
9. On which internet platforms does the team publish reports or material on PI?
   - Own homepage
   - YouTube
   - Facebook
   - Instagram
   - Others
10. How important are viewer numbers, page views and general awareness for the team? (completely unimportant; not very important; somewhat important; important; very important)
11. What is your team's relationship with other Ghosthunter teams? (mostly problematic; tends to be problematic; partly problematic/ partly good; tends to be good; mostly good)
12. Which role models does the team use for its investigations?
    - American television series (e.g., *Ghost Hunters*)
    - Other television series (e.g., *Geisterakten* [German pay-TV show])
    - Television documentaries
    - Websites/presentations of other teams
    - Other sources

(2) Questions about conducting PI

1. At which locations does the team conduct PI?
   - Publicly accessible locations *with* a historical reference
   - Publicly accessible locations *without* a specific historical reference (e.g., cemeteries)
   - Locations not open to the public *with* a historical reference
   - Locations not open to the public *without* a specific historical reference
   - Hauntings in private households
2. How does the team prepare for a PI? (e.g., prior research on the location)
3. Does a location have to fulfil certain requirements?
   - Yes, namely (free-text field)
   - No specific requirements need to be met
4. What technical equipment do you use?
   - KII
   - EMF meter
   - Melmeter
   - Rem-Pod
   - Kinect
   - Portal
   - Spirit box
   - Infrared cameras
   - Recording devices, e.g., H2
   - Full spectrum cameras
   - Mobile phone apps
   - Parascope
   - Other (free-text field for additions)
5. Does the team work (occasionally) with a psychic (medium)?
6. Is there one (or more) person(s) in your team who believe to have psychic powers?
7. Does the team co-operate with the press/TV during the PIs? If yes: Why? If no: Why not?
8. Please describe briefly or in keywords how a PI is organised in your group.

(3) Questions on the documentation and evaluation of PIs

1. Please describe briefly or in keywords how a PI is documented in your group.
2. What types of data are analysed?
   - Film recordings
   - Sound recordings

- Photographs
- Perceptions during the PI, e.g., body sensations, shadow sightings, touching

3. Who carries out the evaluation?
   - All together
   - Partly together
   - Pre-evaluation by specialists in the group, then jointly
   - By specialists in the group
4. Do you occasionally call in external experts for evaluation or obtain external expert opinions?
5. What happens to the raw data material after it has been analysed? The data material
   - is completely saved and stored on a data carrier (cloud, computer hard drive, USB stick, etc.)
   - is partially saved and stored on a data carrier (only the interesting parts or excerpts)
   - is largely deleted after being analysed or processed
   - is completely deleted after being analysed and processed
6. What happens to the processed material after it has been analysed? The data material
   - is saved and stored completely on a data carrier (cloud, computer hard drive, USB stick, etc.)
   - is partially saved and stored on a data carrier (only the interesting parts or excerpts)
   - is mostly deleted after the analysis
7. Which data material is made publicly accessible online?
   - Processed recorded data material
   - Raw data
   - Recordings or texts on the context (directions, etc.)
   - Historical research
   - Other data

(4) Paranormal phenomena

1. What potentially paranormal phenomena has the team experienced so far during the PI?
   - Visual sightings, e.g., shadows
   - Mimicry sounds, e.g., knocking or voices
   - Haptic perceptions, touches
   - Temporary health impairments, e.g., sensations of pain
   - Feeling of being influenced by a foreign entity
   - Feeling of the presence of a presence/energy/spirit
   - Feeling of threat
   - Olfactory perceptions, odours

   - Sudden differences in temperature
   - Other (free-text field)
2. What possible paranormal phenomena has the team been able to capture/record so far?
   - Acoustic phenomena (mimicry noises such as knocking)
   - EVP
   - Photographic anomalies
   - Unusual reactions of individual team members
   - Significant temperature differences
   - Reaction of certain devices used for ghost hunting
   - Other (free-text field)
3. Are there any unedited recordings of this?
4. What was your most impressive paranormal experience in the context of PI? (free-text field)
5. How do you or the team rule out natural causes? Briefly describe the procedure (free-text field)
6. How often are there contradictory opinions in the team after the analysis? (always; very often; often; occasionally; rarely; never)
7. For what percentage of the recorded unusual phenomena does the team find a conventional explanation?

(5) Ghost hunting and science

1. Does the team also deal with scientific explanatory models or theories on the topic? Please give examples (e.g., book titles)?
2. How interested would you or the team be in a closer scientific exchange? (very, somewhat, not very, not at all)
3. Would the team be willing to fulfil certain requirements for a collaboration with academic researchers? (e.g., completing a questionnaire before and after the PU)

APPENDIX B

Questionnaire: German ghost hunters

(1) Questions about yourself

1. Gender (female; male; diverse)
2. Age in years
3. Which religion or form of spirituality do you feel you belong to? (Tick the answer options that apply to you)
   - Christianity (Catholic, Protestant)
   - Christianity (other forms: free church, charismatic, evangelical movements, etc.)

   - Islam
   - Buddhism
   - Other (please specify)
   - Unaffiliated spirituality/religiosity
   - I do not believe in anything divine (atheist)
   - you cannot decide whether God exists or not (agnostic)
4. Marital status
5. Do you currently have a steady (married) partner?
6. School-leaving qualification (Hauptschule [secondary school]; Mittlere Reife [GCSE]; Fach-/Hochschulreife [A-levels]; other qualification; no qualification)
7. Current main occupation (school/training; employed; homemaker; retiree; unemployed/incapacitated; other)

(2) WHY DO YOU ENGAGE IN GHOST HUNTING (GH)?

1. Did you have any paranormal or supernatural experiences before you started GH?
2. If yes: Did these experiences play a central role in you starting GH?
3. What fascinates or interests you most about GH?
   - Group experience
   - The places where PI are held
   - The history of the places where PI are held
   - The possible contact with the paranormal / supernatural
   - The handling of the technical equipment used in PI
   - The evaluation (documentation, analysis, discussion)
   - The presentation of the results on the website
   - The media impact or the level of awareness that can be achieved by publishing documentaries/film presentations
4. What basic explanation/theory do you have about paranormal phenomena?
5. Would you describe yourself as sceptical? (Please use the slider to indicate on a scale of 0 to 100 how sceptical you are about perceptions or claims of paranormal or supernatural phenomena)

(3) QUESTIONS ABOUT EXCEPTIONAL EXPERIENCES (PExE II)

The PExE II questionnaire is unpublished so far. Interested parties should contact the author, Wolfgang Fach (fach@igpp.de).

(4) QUESTIONS ABOUT SPECIFIC BELIEFS (BITSS)

See Schofield et al. (2018), The Creation and Validation of the Belief in the Supernatural Scale, *Journal of Parapsychology*, *82*(1), 41–64 (the questionnaire items are on pp. 59–63).