



RESEARCH ARTICLE

Psychological aspects in unidentified anomalous phenomena (UAP) witnesses

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Abstract

In this study, we surveyed a total of 245 people about unidentified anomalous phenomena (UAP), 93 who directly witnessed UAP. Paying special attention to the psychological impact of UAP, our study survey covered different aspects, including opinions on official UAP releases, the scientific approach to the phenomena and the search for extra-terrestrial intelligence. This study found that UAP had a clear psychological impact on witnesses, with a transformative effect, and a benign form of a non-pathological obsessive-like interest in the topic we defined as the UAP deep psychological engagement triad. This deep psychological engagement triad is characterized by UAP topic being present in a witness's mind daily, with a self-recognized interest and appreciation for the topic and a need to talk about UAP topic, not necessarily the event they experienced. UAP appear to have a very specific impact focused on extra-terrestrial aspects and the phenomena itself, which is experienced as a life-changing event by direct witnesses. These psychological aspects are quantitatively and qualitatively objectifiable, and further research is needed in this direction since all research efforts appear currently focused on the physical aspects of these phenomena.

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Introduction

Despite past and current efforts to explain the nature of unidentified aerial phenomena or unidentified anomalous phenomena (UAP), otherwise known as unidentified flying objects (UFOs), we have had no remarkable success. Maybe this is because the scientific community has rejected with some specific exceptions, e.g. the Hessdalen Project in Norway (Teodorani, 2004) the study of these phenomena for many years, and only more recently scientists from different disciplines have started to do more scientific research on this topic. However, government agencies have shown greater interest in UAP for decades, initiating official and secret investigation programmes, including Project Sign (1949), Project Grudge – Air Force Declassification Office (1949), Unidentified Flying Objects and Air Force Project Blue Book (1952–1969) and the Advanced Aerospace Weapons Special Application Program (AAWSAP; 2007), even sometimes funding additional private research efforts in this direction. Most efforts by the scientific community nowadays are focused on the physical aspects of

UAP, including acceleration, speed, manoeuvrability, etc. Several private initiatives have started systematic observation and analysis procedures and programmes to try to identify the exact physical characteristics of UAP. Notorious effort has been put by the Scientific Coalition for UAP Studies (SCU; <https://www.explorescu.org/>) into the analysis of results from the alleged US Defence Intelligence Agency-released Advanced Targeting Forward Looking Infrared (ATFLIR) videos of UAP during the Nimitz encounters in 2004 (Knuth *et al.*, 2019), first popularized by *The New York Times* (Cooper *et al.*, 2017). The Galileo Project is another recent initiative by professor of Science Avi Loeb (Harvard University), intended for the scientific study of extraterrestrial technological signatures including UAP using an extensive signal detectors method under the standard physics model interpretation approach (Loeb, 2022). The Galileo Project seems a complementary effort to traditional Search for extraterrestrial Intelligence (SETI).

If scientific studies on the phenomena are not numerous and relatively recent and serious when trying to understand the physics and aerodynamics of UAP, the psychological research on UAP is even more scarce. Regarding psychological aspects, some research has been done in the past, mostly vague studies trying to explain observers' accounts, or stories alluding to psychology-related issues, such as sleep paralysis, mass hysteria, hallucinations, etc. (Olmos, 1994; Swami *et al.*, 2010; Dagnall *et al.*, 2011; Escolà-Gascón, 2020; Yingling *et al.*, 2023). Some research exists on psychological aspects and witnesses who reported closed encounters with UFOs or their alleged occupants (Jung, 1959; Ring, 1993; Mack, 2000).

UAP phenomena represent a challenge, not only to science but to our own perceptions, reasoning and psyches; they do not fit our system of beliefs, standards or expectations. The ground-breaking nature of UAP is very interesting, indeed, especially in the psychological domain. In many cases, witnesses are left in shock and disbelief, with unsettled feelings, and this may have a life-changing effect on some. In the present study, our goal was to look into these psychological effects of UAP, to analyse and compare the results obtained by means of a Likert scale survey with questions related to UAP and the search for extra-terrestrial intelligence (EI) in general.

Methods

A sample of 245 participants (68.15% male, 18.15% female) participated in a survey voluntarily and anonymously. Of the sample, 37.10% had completed or reported some college-level education, while 15.73% reported unfinished university studies, and 25.41% had a postgraduate level of education. The survey was available, in English, online distributed and accessible to people interested in the topics of UAP and SETI around the world.

The survey consisted of 72 questions, divided into four sections. The first section contained questions regarding the publicized videos of UAP by the US Pentagon, including the Nimitz encounters. These questions were intended to both assess whether participants were aware of these videos and to gather their opinion on them and potential implications for future research. The second section of the survey contained questions related to participants' opinions about the scientific research on the search for EI, in general. Here questions pertained to the best instruments or approaches to do this search, the outcomes of search, social implications and the involvement of respondents in these activities or scientific communities. The third section assessed general demographic information and psychological aspects, including cognitive skills and styles, general personality trait, religious beliefs, spirituality, etc. Finally, a fourth section was dedicated to UAP witnesses, and was only available to respondents who also confirmed being direct witnesses of UAP. In this section, we gathered information about the incident and post-incident consequences, both in physiological and psychological domains. Ninety-three (37.5%) of the participants reported being direct witnesses to UAP. Most questions presented a Likert scale form, where participants had to respond using a 1–5 scale of 'totally disagree' with the question or statement, or 'totally agree' with it. Less frequent were questions that requested 'yes/no', short-text, or multiple-choice responses.

While we primarily focused on psychological aspects in this study, it is worth noting some answers from other sections of our survey. For example, 45.56% of participants reported not knowing what the

UAP in the Pentagon videos could be. Although participants acknowledged they could not identify or explain what these UAP may be, they mostly agreed that UAP showed non-conventional characteristics in terms of speed, manoeuvrability, and capabilities, and they also considered that the scientific community and governments should conduct more research on UAP to try to clarify their origin (91.90%). Overall, participants' psychological aspects were measured with several questions that covered cognitive styles (primarily intuitive versus rational), attention and memory skills, sleep quality, perception, personality traits and thoughts.

Results

The UAP psychological effect on witnesses and also in interested people was clearly transformative, based on the results of our survey. It is also interesting to note some specific profiles of witnesses and some psychological aspects, such as a clear engagement behaviour/thinking trend towards the topic. We will now further analyse these results.

In general, participants in the survey included direct witnesses and non-witnesses. The characteristics of the global sample who responded to our general psychological questions are very standard, with only a couple of particularities worth mentioning, such as that most of them described themselves as spiritual, but not religious (Mdn 3, Mode 5, *SD* 1.44). Also, people reported a mostly intuitive cognitive profile (Mdn 4, Mode 4, *SD* 0.82), versus rational. Participants reported no sleep problems, no predominance of introversion versus extroversion and good attention skills, in general (Table 1). However, 45.5% of participants reported they had been victims of bullying at school in the past and/or suffered from psychological trauma and similar percentage showed that members of their family were also interested in the topic.

In the general/global sample, for questions related to UAP in general, some results clearly supported arguments such that governments (Mdn 5, Mode 5, *SD* 0.76) and scientists (Mdn 5, Mode 5, *SD* 0.70) should pay more attention to the phenomena and study them; also, respondents thought we are being visited by non-terrestrial intelligence (Mdn 4, Mode 5, *SD* 1.14). However, divided opinions existed regarding the extra-terrestrial origin of UAP and the potential outcomes or risks of contacts with EI (Table 2).

Ninety-three participants reported being direct witnesses to UAP, and they were re-directed to a special section with questions only available to UAP witnesses. These questions were intended to gather information about potential effects, consequences and characteristics of the UAP. It was very interesting to observe some patterns in the responses of participants in this section. The most relevant aspect was what we have identified as *the UAP-DPET*, where three very interrelated and statistically correlated conditions as Spearman correlation test confirmed, seemed characteristic of UAP witnesses. These three conditions or aspects refer to a particular form of deep psychological engagement or psychological trait, including that the UAP topic is present almost every day in their minds; they recognize being very interested or sometimes obsessed with the topic; and they feel the need to talk about it (Tables 3 and 4).

The obtained results from the witness sample did not show changes in other domains evaluated after the UAP event, despite respondents reporting a change in their lives after the incident(s) (Mdn 4, Mode 4, *SD* 1.35; Table 5).

Discussion and conclusions

UAP has strong psychological components that have obviously been neglected to this date. While great effort has been made and is currently underway to understand the physics of UAP, very little attention has been paid to witnesses of them, assessing the psychological impact that UAP have on people, and their potential sociological implications. Reality is a construct of our mind; our brains define what we understand as reality and perception is the mechanism for apprehending the physical realm by our mind through transduction processes. However, individual perception and previous sensations are easily misinterpreted and *attention* – which is the process that directs this knowledge or information processing –

Table 1. Descriptive results for general psychological aspects questions (global sample)

	N	Median	Mode	SD	Variance	Minimum	Maximum
I am a spiritual person.	193	3.00	5.00	1.443	2.083	1	5
I am a religious person	194	1.00	1.00	1.155	1.334	1	5
I consider that my attention/focus skill is good. (1 is totally disagree, 5 totally agree)	195	4.00	4.00	0.843	0.711	1	5
How do you consider yourself in a scale from 1 to 5?: 1 being introvert; 5 extrovert	195	3.00	3.00	0.949	0.900	1	5
I take my decisions based on rational/intuition analysis of situations most of the times.	195	4.00	4.00	0.825	0.680	1	5
My sleep quality in general is: (1 is totally bad, 5 totally good)	195	4.00	4.00	1.128	1.272	1	5

Table 2. Results for general questions about UAP (global sample)

	N	Median	Mode	SD	Minimum	Maximum
Government should officially study again UAPs due to its potential consequences. (1 is totally disagree, 5 totally agree)	202	5.00	5.00	0.765	1	5
UAP incidents or episodes are on the rise. (1 is totally disagree, 5 totally agree)	202	3.00	3.00	1.164	1	5
Do you think scientists need to pay more attention and do research on UAPs? (1 is totally disagree, 5 totally agree)	202	5.00	5.00	0.709	1	5
These UAP videos changed my mind regarding UAPs. (1 is totally disagree, 5 totally agree)	202	3.00	3.00	1.384	1	5
Do you think there is evidence that extraterrestrials are visiting us today? (1 is totally disagree, 5 totally agree)	187	4.00	5.00	1.245	1	5
Do you agree that UAPs are of extraterrestrial origin? (1 is totally disagree, 5 totally agree):	187	3.00	3.00	1.147	1	5
Contact with an extraterrestrial civilization can be dangerous for our society, since we are not ready for it (1 is totally disagree, 5 totally agree)	187	3.00	3.00	1.236	1	5

is also very limited and gets easily distracted or confused, as magicians know well. The limitations of our attention systems or abilities to detect reality have been studied before by psychologists and it has been compared to artificial intelligence systems and even in regard of the topic of SETI research (Simons and Chabris, 1999; De la Torre and Garcia, 2018; De la Torre, 2020). UAP pushes these processes to their limits, to unknown territories, creating cognitive dissonance in witnesses because of their properties; pre-formed perceptions and physical or existential ideas simply do not fit. Cognition is the by-product of top-down and bottom-up processes, while the former are those dominant in new-information processing, whereas the latter are strongly held in our memories, experiences and

Table 3. Descriptive data for UAP-DPET (witness sample; n = 80)

	Median	Mode	SD	Variance	Min.	Max.
The UAP or extraterrestrial intelligence topic and its implications are present in my mind almost every day *	4.00	5.00	1.230	1.514	1	5
I think I am somehow obsessed with the extraterrestrial topic. (1 is totally disagree, 5 totally agree) *	4.00	4.00	1.308	1.712	1	5
I feel the need to talk about UAP phenomena in general, not necessarily my incident. (1 is totally disagree, 5 totally agree) *	4.00	5.00	1.322	1.748	1	5

Table 4. Correlation matrix of UAP-DPET and spirituality/religion components (witness sample, n = 80)

	Spirituality	Religion	UAP in mind	UAP obsession	Need to talk about UAP
Spirituality	Spearman's rho — p-value —				
Religion	Spearman's rho 0.527*** p-value <0.001	— —			
UAP in mind	Spearman's rho 0.225** p-value 0.002	-0.037 0.610	— —		
UAP obsession	Spearman's rho 0.207** p-value 0.005	-0.020 0.785	0.565*** <0.001	— —	
Need to talk about UAP	Spearman's rho 0.157 p-value 0.178	0.136 0.245	0.291* 0.011	0.248* 0.032	— —

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 5. Descriptive results for changes after UAP event (witness sample) n = 80.

	Median	Mode	SD	Minimum	Maximum
Please indicate how much the UAP/UFO incident you had changed your life since having the encounter. (1 is absolutely nothing, 5 totally)	4.00	4	1.35	1	5
Are you a more spiritual person since your UAP incident? (1 is absolutely no, 5 totally)	2.50	1	1.43	1	5
Are you more committed to the cause of Nature, planet or global warming since your UAP incident? (1 is absolutely no, 5 totally)	3.00	1	1.54	1	5
The UAP episode changed my opinion about UAPs (1 is totally disagree, 5 totally agree)	3.00	1	1.54	1	5

banks of previous knowledge. UAP can make it impossible to find precedents in personally pre-processed information, which creates strong internal dissonance or a feeling of disbelief that has a strong impact on the observer.

In this research, we studied the psychological impact of UAP, and results showed some interesting trends and characteristics. UAP topic seems to hover in witness's minds after an incident on a daily basis and promote a receptive attitude towards them. This effect can be referred to as 'transformative' but specifically focused on the phenomenon itself, since it does not necessarily change other aspects of the daily life of the witness, except for knowledge of the UAP, with a mostly non-terrestrial focus. Witnesses share trends in the specific direction of a kind of non-pathological obsessive thinking about UAP, a deep mental engagement with the phenomena post-event. As we mentioned before, we have called this trend the *UAP deep psychological engagement triad (UAP-DPET)*, per the above, but whether this profile is present before the UAP event or as a consequence of interacting with the phenomena it is something to be elucidated. This *UAP-DPET* in general does not have a negative effect on the witness's overall life (family, work or friends), although it is clearly something that gets the witness involved in activities related to the topic, and there is a need to talk about it with others.

Whether this triad has an underlying neuroanatomic correlate is currently unknown since no relevant studies exist to this date. In obsessive-compulsive disorder, imbalances and other abnormalities, both neuroanatomic and in connectivity between the putamen and caudate nucleus, have been reported (Nakao *et al.*, 2014; Peng *et al.*, 2022). It feels relevant to mention here also that some recent research has also shown involvement of these brain areas in intuition, high cognitive level individuals (Koch, 2015; Weerasekera *et al.*, 2023), learning and memory (Foerde and Shohamy, 2011). Future research might use a combination of psychological, neuropsychological and potentially physiological assessment measures, if possible, determining whether these trends or psychological profiles pre-exist or are consequences of interacting with UAP, with any resulting physical correlates or entrainment in the human nervous system.

Competing interests. None.

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