The supernatural in adolescents: Dealing with a contested feature

Josefa Torralba, José Luis Ripoll and Lluís Oviedo

Abstract:

Some uneasy and dissatisfaction with current research on perceptions of supernatural in certain stages of children and youth development has motivated a search for an alternative approach that could be built on new empirical data and a method that could help to better assess how pre- and adolescents relate to extraordinary and supernatural phenomena. An exploratory survey has been designed on an ad hoc instrument, fitted for that age span and the research goals. The outcomes point to the persistence of these perceptions and interests in that age, their close relatedness with indicators of religiosity, and their slowly vanishing when growing up. More research is needed to better ascertain the role this factor still plays in religious and spiritual development despite the very secular context in which often those beliefs are held.

It is commonplace to claim that adolescents are very avid of weird stories, of extraordinary phenomena, and for whatever falls beyond the too normal and boring daily course of life. This interest is reflected in popular cultural products that often exploit that curiosity giving rise to a recognisable industry. Surely they are not alone; we are talking perhaps about a personality trait or a cultural niche that can be traced back to many adult individuals more prone to believe and look for strange and hard to explain events, or – still more – to conspiracy theories and the like, instead of assuming reality in its trivial appearance.

The psychological and developmental issue about how much the extraordinary and somehow counterintuitive aspects draw more attention and are transmitted more easily and eagerly, crosses another realm: the new scientific study of religion. Here, the focus is placed somewhere else: in assessing to what extent supernatural or extraordinary features constitute a defining dimension of religious mind and behaviour, which are believed, celebrated or enacted, and tried or searched. We can get a different kind of religion depending on how much the supernatural dimension is present and assumes a leading position; or, in contrast, when it fades away to leave place to more naturalistic, abstract, and moral expression. Indeed, it is still an open question to what extent belief in supernatural phenomena and related rituals is a necessary component of the religious mind, and how much evolved religious forms can get rid of all these ancestral elements. Indeed, that question becomes more pressing when an evolutive model is assumed to better understand how such dimensions could develop towards more enlightened and immanent views, as they may be perceived in several religious traditions moving along the centuries towards more rationalistic and less magical forms. This process was already proposed in the great theoretical view of Max Weber, at the beginning of XX century. According to him, what he called *Entzauberung* or ‘disenchantment’ was a historical process moving from a more magical way of seeing and explaining reality, towards one that resorted more to immanent and even scientific explanations, that at the end displaced completely the supernatural dimension from centre to a marginal stage in modern societies and cultures.

As we can appreciate, different theoretical strands converge in the study of supernatural: the psychological and developmental that tries to assess how children and youth change their perception of religious and spiritual dimensions; the cognitive science of religion, which explores the mental structures that channel religious beliefs and experiences; the social and cultural theories that follow the evolution of religious ideas

and representations for entire populations; and we could even add theories on wellbeing, life satisfaction, meaning building and coping, which try to discern which beliefs, values or factors better contribute to improve one's own life's quality.

Trying to make sense of adolescents' perceptions of supernatural or extraordinary phenomena, like miracles, apparitions, revelations or mysterious events that blow the boundaries between the living and the death, all the quoted theories need to be considered and should inform an updated research. However, religious developmental studies do not pay usually too much attention to this intriguing aspect. Indeed, that issue – greater or lesser interest in supernatural features – could be associated to some extent with or predict that development. Recent theories in the field of cognitive study of religion have provided some new insight to get access to this intriguing feature, but the impression we get is that a mismatch arises between the theoretical framework and the empirical arena in which real adolescents show interest for many supernatural singularities. Other theories appear as less relevant for an attempt to better deal with this tendency, which persists at least in that stage of human development, despite the insistence since Max Weber and the ulterior secularization theories about the progressive vanishing of such curiosity or perceptions. Indeed, that feature is surely not restricted to just adolescents and young adults, but it appears as quite more pervasive and occupying a cultural niche, being nourished by a media industry unceasingly providing stories, images, and testimonies about supernatural, extraordinary and weird events or experiences beyond the boundaries of standard science or rationality.

When all that is considered, it becomes quite necessary to undertake more empirical research that could assist us in settling this issue and in finding out to what extent the supernatural dimension is more or less related to religious development and to other variables – like gender, levels of studies or religious affiliation – and could help us to review the big theories available, adding nuances and clarifying aspects neglected in those too broad views. Our team has undertaken an exploratory survey with a limited number of pre- and adolescents (12-16 years old), in which we have tried to better assess their perceptions and interests in supernatural stories or facts. Our aim is to clarify the present state of such experience and the reactions they raise, and so to add some more piece to the complex mosaic of the scientific study of religion, beyond current reductionism.

1. Where we are now regarding the study of supernatural

As anticipated in the introductory remarks, research into curiosity on the supernatural by adolescents is rather poor and has provided to the date few relevant studies, however several exceptions are noteworthy.

To start with, it is striking that most theories and studies on religious or spiritual development, like the classics of Fowler, Oser and Reich, do not pay too much attention to that aspect in their reconstruction of processes that bring from childhood to adulthood in the perception and representation of religious ideas or spiritual experience (Fowler 1981; Moore 1988; Oser & Gmunder 1991; Reich 1997; Benson, Roehlkepartain & Rude 2003; King & Boyatzis 2004). The impression reading more recent studies in this area is that a consistent trend tries to minimize that aspect and to focus more on broader experiences and views that underpin search for meaning and purpose, or affective and relational connections, or a very fuzzy sense of transcending and hope (Roehlkepartain e.a. 2006). From this point of view, the supernatural would be vanishing from the study of religious development, which at most could be identified in an early stage of more mythological and magical views but destined to disappear when adolescence follows its

course of more critical and systematic thinking, or when religious development becomes more linked to the moral dimension.

This is not the only possible approach. Many studies have documented in the last 20 years the persistence in different – even not very religious – environments of beliefs in adolescents and young people. For instance, a study on a limited sample of Czech adolescents showed their interest on supernatural phenomena despite belonging to a very secularized cultural milieu, or even to atheist families (Klůzová Kráčmarová, Dutková, & Tavel, 2019). A former article from 2007 has controlled for paranormal beliefs, including those regarding animistic phenomena – life after death and ghosts – and personality traits in a limited sample; the paper quotes several studies with big samples in different countries that offer always a significant amount of supernatural beliefs in adolescents, even when levels of traditional religion are very low (Williams, Francis & Robbins, 2007). Other study points to the influence of supernatural and paranormal themes in movies in the configuration of adolescent religious ideas, showing its greater than expected effect (Clark 2002). However, the question still looms unsolved about why adolescents, more than other age cohorts, show that interest, and to what extent such interest is linked to their religious and spiritual development.

Some hint to that pending issue is offered in a different theoretical context: the cognitive science of religion. Since its inception, this new brand in the study of religion has claimed that minimal counterintuitive beliefs or ideas are easier to retain and to transmit, and that such trait would explain the success of religious concepts about supernatural agents (Boyer 2001; Barrett 2004). This point builds on an analysis of elementary mental structures that would be crucial in the formation and retention of religious beliefs, like agency detection, theory of mind, and their minimal counterintuitiveness. Later research has shown that – according to empirical and experimental data – this trait is characteristic only of pre- and adolescents, in what is called a “window of opportunity” to acquire religious views, in the sense that younger people were better than adults at remembering counterintuitive stories (Gregory & Greenway 2017). This is something, but not enough. A different attempt in the same theoretical field is the discussion on why other fantastic or imaginary personages do not give raise to a religion. It is the so called “Santa Claus problem (Barrett 2008); it has been contested or complemented with other similar question: “the Zeus problem” (Gervais & Henrich 2009), or the little success that those mythical divinities could gather in later ages, despite meeting the 5 traits needed for a supernatural agent to be believed in a religious way. The discussion moved around issues of content and context, as better explanations about such deficit. To some extent, this issue could find a reflection in our attempt to better explain the relative success of supernatural and weird events or stories, but this theory fails short to explain in a convincing way that affinity. A possible cause is that the game that cognitive science of religion plays is too limited, and do not manage to get into some issues or dimensions present in that experience. Probably the question has less to do with the relative counterintuitiveness of such appearances – which could play a role in any case – and more with some interest in other dimensions of reality which are invested with a promise of power, or providing some assistance and empowerment to those that hold such beliefs or were lucky enough to be involved in such extraordinary experiences. The salience due to extraordinary and supernatural visions or encounters invests young people with some special quality, something more attuned with a traditional phenomenology of the sacred, as Mircea Eliade has shown, and hence, to the possibility to experience an alternative dimension as a force or indication that raises expectations and opens the doors to new and much better life opportunities.

In any case, it can be broadly assumed that a significant proportion of adolescents pay considerable attention to extraordinary and supernatural phenomena, quite independently of their religious background or actual religious beliefs; and that such interest is constrained by age. No much more can be said regarding possible explanations, since the minimal counterintuitive thesis provides a very limited explanation, and in any case, we still need to better assess how such beliefs are more or less related with spiritual beliefs and with institutional religion. How dependent such beliefs are from a system of religious beliefs appears as crucial, even if it can not be excluded that secularized populations might cultivate a similar curiosity.

3. The present survey

a. Questionnaire design and data collection

The present survey was designed to assess the beliefs, interests, and appreciations that adolescents develop regarding supernatural stories or testimonies. After a quick search, no former instruments or scales were found that could be fitting for that scope and this age cohort, and hence our team has built a new ad hoc instrument based on our own experience with those young people – two team researchers are religion teachers in schools – and our empathic attempts to represent their mind and interests regarding such topics. To that end, as a first step, we looked in internet for short videos dealing with supernatural phenomena that could raise interest at these ages, but avoiding extreme and risky issues. After a long selection process, we choose 3 videos that appeared as more appropriate and respectful to their sensitivity, or that avoided in any moment to scare the youngsters, as a condition required in the endorsed ethical protocols. Those videos became the main material to be proposed and tested before the students.

The instrument we built has two main parts. The first proposes the three selected videos in a short exhibition and asks the students about their feelings and reactions: how far they believe that these stories are true and how they react before them: fear, trust, likeness or indifference (see in appendix the references). The second part proposes 4 short stories, about a crying Virgin Mary image; about angels helping somebody lost; about a healing miracle; and about experiencing the presence of a beloved death person. The students were asked again their evaluations about those stories or imagined testimonies: whether they found them sincere, or the result of shocks, or other naturalistic available explanations. Demographic data and about religious practice completed this short instrument.

This questionnaire has been proposed, after strict application of the ethical protocols in the Schools and by the Antonianum University assessment board, and after a first test to a pilot group, to the courses of so called ESO levels (4 courses about 12 to 16 years old) in two Spanish schools in the same region (Murcia), one Catholic and other secular, to a total of 421 students, distributed almost equally into these four levels (males 50,2%; females 46%; not specified 2,6%; age mean: 13,68; S.D. 1,26). The questionnaire has been built as a Google Drive Form and distributed through electronic platforms; the resulting spreadsheet has been analysed applying usual statistical methods.

It is worthy to remind that the social context in the area where the survey has been proposed is quite secularized, but nevertheless, the Murcia region is placed over the average regarding indicators of religiosity in Spain. In any case, adolescents go often through religious crises and a process that frequently brings to diminished interest on religious beliefs and very low practice.

b. Relevant results: Descriptive analysis

As a standard procedure, we have applied a factorial analysis with Varimax rotation to the obtained data. The following table reports on the main factors that resulted from this procedure.

<i>Factors</i>	<i>Items</i>	<i>Variance</i>	<i>Alpha</i>	<i>Mean</i>
F1 Religious affinity with supernatural	9	27,05 %	,893	3,48
F2 Distaste	5	9,28	,812	1,42
F3 Indifference	4	6,40	,862	1,45
F4 Fear	6	5,91	,730	1,39
F5 Curiosity	5	4,85	,843	3,91
F6 Uncertainty	3	4,22	,783	1,80

The first factor reveals an affinity with religious beliefs, indeed it is highly correlated with religious practice. The items collected are: “The phenomenon described in this video is related to your religious beliefs?”; “Do you think this phenomenon can influence your life?”; or “Such a phenomenon gives me hope”. The mean is quite high (scale from 1 to 5). It is – as could be expected – the factor that explains most the variance inside this sample: religious affinity is indeed usually quite discriminating among young people in this context.

The second factor expresses distaste regarding the proposed videos; the scoring reveals less than average levels of distaste (scale between 1 and 3, less to more). Again this can be considered a quite discriminating factor for that age cohort.

The third factor reveals indifference, and the means are again placed below the average (again 1 is less, and 3 more). The same can be told about the fourth factor, i.e. fear; few students were feeling fear before the proposed testimonies; and for the fifth, revealing curiosity, the ranking is higher (now scale between 1 and 5). The sixth factor we extracted, showing uncertainty or feeling disconcerted before such proposed videos, collects reactions close to the average.

Frequencies regarding the true nature of the proposed testimonies is revealing. Regarding the first, the miracle story, 73,2% were very convinced or quite convinced about the truth of that story. Regarding the second video, 67 % answered that they were sure or quite sure about the reliability of the story about life after death. Regarding the third, about experiencing the presence of angels, 57,7% accepted it as true or were quite convinced about its truth.

Other descriptive data are interesting for our research. Looking at the next part of the survey, when 4 stories were proposed, the data show that 43,4% consider sincere a testimony of somebody who claims to have been helped by an angel when lost in the mountains. The story about a miraculous healing is believed as a sincere testimony by 50,5%; while the story about somebody who encountered his/her defunct grandfather scores higher, at a 59,7%. The other story, about an image of a mysterious crying Virgin Mary, did not raise so much interest in the students; indeed, only 19,4% would prefer to pray before that image, against a 26,1% before the traditional dry image; 37% answered that they would pray before both images.

Those more sceptics regarding such stories choose as an explanation that possibly those people were under shock (25,4% in the case of angels), or it was just product of their imagination (10%). In the case of ghosts, these naturalist explanations are somehow

reduced (respectively 14,9 and 9,5%). The pattern is always similar: animistic experiences are felt as more credible and bear a higher recognition level.

c. Comparing variables

More interesting outcomes emerge from comparing means and from the analysis of correlations. Indeed, the table of correlations (see in appendix) clearly shows that religious practice, measured through indicators of religious service attendance and personal prayer, highly correlates with the first factor, or positive estimation of supernatural phenomena ($R = ,445^{**}$) and less with the fifth factor, i.e. curiosity before those phenomena ($R = ,286^{**}$). Sex is not related to any of these factors or to religious practice, an outcome quite frequently attested in many surveys on teenagers and young people; it seems that gender is no longer an issue for religious or spiritual perception at that developmental stage. Age becomes clearly relevant, in the sense that older students show less interest or likeness towards those phenomena. A similar pattern emerges when codifying the answers on the item that asked about who has lived or has listened from somebody who has lived similar experiences. Those who answered in a positive way are clearly holding a positive meaning on the supernatural ($R = ,214^{**}$) and feel less distaste toward such events ($R = -129^{**}$).

Comparing means we can bring to similar outcomes. For instance, regarding age and the stories from the second part, those who choose more sceptical or naturalistic answers are slightly older when confronted with a story about being helped by an angel (13,8 against 13,5 of mean age). This happens more in the case of ghosts (13,95 against 13,55 mean age that considers reliable such story). This pattern emerges too when comparing with means of personal prayer: those praying more believe as more reliable the story about an angel (2,83 against 1,91); the story about a ghost (2,64 against 1,87-2); or the case for miraculous healing (2,79 against 2-2,2). The pattern is always the same: more religious people hold a more positive attitude towards supernatural events, as confirms comparing the means of religious and non-religious people regarding the credibility of miracles (4,5 in Catholics against 3,63 in non-believers).

However, taking the item that asked for interest to know more on the first video – a perceived miracle – and comparing means, the contrasts are not too high. In general, 60,6% of the surveyed students stated that they would like very much or quite to learn more about that ($M = 3,93$, $S.D. = 1,05$). Those belonging to the first year showed more interest ($M = 4,18$), the second year less ($M = 3,79$) and the third and fourth year collected very similar outcomes ($M = 3,80$ and $M = 3,89$). A similar pattern repeats regarding the video that reports on an experience of encountering a defunct person. In all 65% would like to know more about these cases ($M = 3,96$; $S.D. = 1,136$). The youngest showed more curiosity. and so those of the first year scored higher ($M = 4,14$), those of second year lower ($M = 3,77$), but then those of the third and fourth year scored a little bit higher ($M = 3,91$ and $M = 3,94$). These outcomes invite to consider how much adolescents continue to nourish an interest on these phenomena, even if they find them less related to religious beliefs.

4. What have we learned?

This is just an exploratory survey, but one that reveals some interesting patterns that can help to better assess the extent of supernatural beliefs in that critical development stage. We can summarize as follows under bullets our most relevant findings:

- Above all, the interest in supernatural phenomena in pre-adolescents and adolescents is somehow limited; it confirms to some extent the view in cognitive sciences of religion that “minimally counterintuitive” beliefs raise more interest or draw the attention and credibility at least for this age. Indeed, the realm of extraordinary and supernatural events can be considered as belonging to that class and enjoying a similar cognitive privilege. There is a broad acceptance of animistic phenomena and of miracles. Curiosity or interest, nevertheless, is rather limited, and hardly exceeds 50% among those surveyed. A different question is whether the counterintuitiveness is the better available explanation for such interest, and indeed a sense of empowerment needs to be taken into account too.
- Gender does not influence these perceptions, except a little bit in the case of factor 6, that is, uncertainty or the item “I don’t know what to think”. This data invites us to review a central tenet in cognitive science of religion that claims for the incidence of the theory of mind or empathy in the perception of the supernatural. If we assume that girls are on average more empathetic – as it has been empirically tested – then we can infer that such faculty does not play a role in the perception and evaluation of supernatural experiences, a result in line with several other studies (Ekblad & Oviedo 2017).
- Age becomes a better predictor of perception and interest for the supernatural, in the opposite direction: when adolescents grow older, belief and interest on these phenomena seem to fade away, at least in some features. This point converges with the studies of Gregory, which clearly imply that the minimally counterintuitive effect slowly vanishes with the age, after peaking at 12-14 years. However, the present approach is much simpler and straightforward than the complicated experimental study about recalling stories with more or less counterintuitive elements. Nevertheless our data could not ascertain such effect in a clear way, since adolescents apparently keep a quite constant interest for some phenomena, like those linked to animistic experiences
- The indicators of religiosity – personal prayer and mass attendance – clearly affect the positive and hopeful perception of supernatural phenomena, raising questions about how much religious beliefs are still linked to such a sensitivity.
- Among these phenomena, it seems that the one referred to perceptions or encounters with deceased persons gathers the greatest credibility, probably being more popular or more supported by the media and cultural context. Possibly the miracle story told in the first proposed video was very credible too as a result of its excellent presentation and narrative form.

5. Some discussion and concluding remarks

This is clearly an exploratory and limited study, using a convenience sample. It is absolutely needed to extend the sample and the age spectrum to better assess the extent of supernatural beliefs and interests in adolescents, spanning towards young adults. Some data suggest that such curiosity diminishes with the age, to become a kind of subcultural niche. In any case, more data are needed to assess that point. The same might be suggested regarding traits that could be associated to those beliefs or interest, for instance whether some personality traits are more closely linked or predispose for such beliefs, as the quoted study by Francis and colleagues has pointed out. From the collected data, the impression is that if about half the sample are more prone to endorse such beliefs, then hardly a personality trait would be more exclusively involved.

A different issue concerns the implication of religiosity, spirituality, and supernatural believing. The collected data point to some affinity between such dimensions or features, and to a kind of feedback between them, in the sense of mutual reinforcement, at least at that age. A different issue is to what extent a mature religious faith or spiritual sense still depends upon or builds on such extraordinary experiences or perceptions, and to what extent such dimensions belong to just a minor niche, or become resistant even in very secularized milieus, becoming a distinctive feature of religious mentality or spiritual sensitivity, despite the rationalizing trends that since Max Weber have been spotted in religious cultural evolution, or in theories about de-mythologization, like those exposed by the theologian Rudolf Bultmann and his followers since the middle of XX century. Our study showed the resistance and even importance of supernatural beliefs for religious beliefs and practice.

The study of supernatural beliefs in adolescents needs to expand using the tools recently provided by the new scientific study of believing process, which could assist in better clarifying how such beliefs are formed, acquire their great plausibility, and eventually vanish. In our opinion this theoretical framework could offer a better platform than the cognitive science of religion when trying to make sense of such beliefs (Angel e.a. 2017).

And last, the present study finds some practical application in some related fields, like the therapeutic one, dealing with religious coping strategies, and still more the religious education, which needs to take into account the available data when trying to help in the development of spiritual and religious views in that age, beyond the dominant model that stresses rationalization as a clue for spiritual or religious development.

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Appendix

Visión del vídeo 1: Milagros del cielo (3,20 min.)

<https://www.youtube.com/watch?v=M3jdMJm9Vd0>

Visión video 2: Experiencias de encuentro con difuntos:

<https://www.youtube.com/watch?v=L7YARUYMC3Y>

Visión video 3: 4 Casos reales de ángeles

https://www.youtube.com/watch?v=ZC_y3yyQ6YA

Correlations table

	1	F2	F3	F4	F5	F6	Exper	Pray	Mass	Age	Sex
F1	1	-,395(**)	-,521(**)	,025	,712(*)	-,191(**)	,214(**)	,445(**)	,386(**)	-,164(**)	,018
		,000	,000	,662	,000	,001	,000	,000	,000	,004	,749
	315	295	300	298	312	294	302	315	304	310	304
F2	-,395(**)	1	,435(**)	,183(**)	,511(*)	,312(**)	-,129(*)	-,143(*)	-,184(**)	,098	-,001
	,000		,000	,001	,000	,000	,024	,011	,001	,084	,979
	295	319	319	313	311	310	303	319	305	314	308
F3	-,521(**)	,435(**)	1	-,004	,555(*)	,241(**)	-,105	-,211(**)	-,248(**)	,101	-,066
	,000	,000		,943	,000	,000	,063	,000	,000	,070	,243
	300	319	331	322	322	317	313	330	315	325	318
F4	,025	,183(**)	-,004	1	,120(*)	,221(**)	,070	-,066	,008	-,051	-,009
	,662	,001	,943		,033	,000	,224	,234	,894	,363	,881
	298	313	322	324	316	311	306	323	309	318	311
F5	,712(**)	,511(**)	,555(**)	-,120(*)	1	,235(**)	,118(*)	,286(**)	,280(**)	,151(**)	-,085
	,000	,000	,000	,033		,000	,022	,000	,000	,003	,095
	312	311	322	316	399	314	375	398	376	392	387
F6	-,191(**)	,312(**)	,241(**)	,221(**)	,235(*)	1	,015	-,068	-,159(**)	-,069	-,107
	,001	,000	,000	,000	,000		,791	,221	,005	,218	,059
	294	310	317	311	314	323	306	322	311	318	311
Exper	,214(**)	-,129(*)	-,105	,070	,118(*)	,015	1	,131(**)	,080	,006	,040
	,000	,024	,063	,224	,022	,791		,010	,121	,914	,443
	302	303	313	306	375	306	391	391	373	387	379
Pray	,445(**)	-,143(*)	-,211(**)	-,066	,286(*)	-,068	,131(**)	1	,486(**)	-,097(*)	,047
	,000	,011	,000	,234	,000	,221	,010		,000	,050	,340
	315	319	330	323	398	322	391	418	395	411	406
Mass	,386(**)	-,184(**)	-,248(**)	,008	,280(*)	-,159(**)	,080	,486(**)	1	-,062	,034
	,000	,001	,000	,894	,000	,005	,121	,000		,223	,506
	304	305	315	309	376	311	373	395	395	389	385
Age	-,164(**)	,098	,101	-,051	,151(*)	-,069	,006	-,097(*)	-,062	1	,029
	,004	,084	,070	,363	,003	,218	,914	,050	,223		,563
	310	314	325	318	392	318	387	411	389	411	400
Sex	,018	-,001	-,066	-,009	-,085	-,107	,040	,047	,034	,029	1
	,749	,979	,243	,881	,095	,059	,443	,340	,506	,563	
	304	308	318	311	387	311	379	406	385	400	406