

## **Personality Contributions to Belief in Paranormal Phenomena**

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**ABSTRACT** - Openness to Experience (OE) and Sensation Seeking (SS) combine significantly in prediction of paranormal beliefs. Beliefs were regressed on the six facets of OE with Fantasy as the best predictor, then Feelings, Values, Actions, Aesthetics, and Ideas. Beliefs were regressed on the four subscales of the SS measure with Boredom Susceptibility as the best predictor, then Experience Seeking, Disinhibition Seeking, and Thrill and Adventure Seeking. These findings support the hypotheses that the personality constructs of OE and SS both partially predict belief in the paranormal. OE accounts for a greater portion of the unique variance in predicting such beliefs. These personality constructs are important to the understanding and explanation of divergent belief systems such as beliefs in the supernatural.

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A growing body of research has indicated that the personality concepts of both Sensation Seeking (SS: Zuckerman, 1994) and Openness to Experience (OE: Costa & McCrae, 1988) may contribute to belief in paranormal phenomena (PP). Correlates between the three variables of SS, OE, and belief in PP have been identified, though the literature is inconclusive regarding the precise relationships. The present study examined the relative contributions of SS and OE to belief in the paranormal. Further, facet level analyses of OE and subscale analyses of SS and paranormal belief were performed. Descriptive information is also provided on aspects of belief in the paranormal.

Examination of relations between SS, OE, and paranormal beliefs has resulted in a limited body of research. Kumar, Pekala, and Cummings (1993), citing Zuckerman (1979), concur with his assumption that sensation seekers naturally display an affinity for ideas that are not limited by prevailing scientific evidence. Kumar, Pekala, and Cummings (1993) and Zuckerman (1979) further theorize that belief in mysterious forces is potentially more exciting than the more dispassionate and rational view informed by the natural sciences. Along these lines, Gallagher, Kumar, and Pekala (1994) found a significant positive relationship between SS and PP beliefs. Zuckerman (1994) also notes that high sensation seekers are often attracted to ideas that are outside the realm of normal science but do not tend to be spiritual or religious. Similarly, Tobacyk and Milford (1983) theorized that increased levels of SS is connected to greater belief in PP

because such beliefs offer greater excitement and mystery and thus potential stimulation than does a more normative world view.

In support of this view, Kumar, Pekala, and Cummings (1993) found that high sensation seekers reported stronger belief in PP and more frequent paranormal experiences than those low in SS. They also found that drug use did not moderate the relationship between belief and experience (Kumar et al, 1993). Kumar, Pekala, and Cummings (1993) concluded that both drug use and experience of PP are types of SS behaviors that may arise from a desire for adventure, variety, and novel experiences. Along these lines, the PP of out-of-body experiences has been found to relate to both sensation and danger-seeking (Alvarado, 2000).

Other authors have not found a relation between SS and belief in PP (Glicksohn, 1990). Curtis and Wilson (1997) failed to find a general significant relationship between SS and belief in PP, but did find the experience-seeking subscale (ES) of Zuckerman's SS scale, Form V (Zuckerman, 1994) to be the single best predictor of extrasensory perception performance. Groth-Marnat and Pegden (1998) also failed to demonstrate a relation between SS and paranormal belief in general, or to any of the paranormal belief subscales. However, they did find a significant relation between ES, belief in psi phenomena, and superstition (Groth-Marnat & Pegden, 1998). Believers, similar to previous findings, also displayed a more external locus of control (Groth-Marnat & Pegden, 1998).

The somewhat conflicting evidence regarding the role of SS in belief in PP may be partially explained by the fact that there is considerable overlap in the definitions of the words paranormal and supernatural. It appears that paranormal beliefs are considered the more general category that encompasses supernatural beliefs. Paranormal phenomena are defined as "events or perceptions occurring without scientific explanation" (Costello, 1995, p. 981). Factor analyses of paranormal beliefs using various scales have revealed it to be a multidimensional construct (Johnston, De Groot, & Spanos, 1994-1995). For example, on the dimensions of extraversion-introversion and conservatism-radicalism, believers tend to be more extraverted and more conservative while non-believers tend towards introversion and intellectual skepticism (Thalbourne & Haraldsson, 1980, p.180). Additionally, believers have been characterized as impulsive, reflective, neurotic and even schizoid as opposed to controlled, practical, and well-adjusted (Windholz & Diamant, 1974). Believers consistently demonstrate significantly higher levels of magical ideation and neuroticism and appear more external on measures of personal efficacy or locus of control (Thalbourne, Dunbar, & Delin, 1995; Allen & Lester, 1994).

The construct of transliminality is frequently associated with belief in PP and may also possibly reflect the personality factor of OE. According to Parker (2000), "transliminality corresponds with Frederic Meyers' concept of subliminal self and can be regarded in very loose terms as an openness to the Unconscious" (p. 9). This ability can be functional and adaptive in certain situations. Based on factor loading of the scales used to measure transliminality, it seems that it is a salient feature woven throughout numerous aspects of internal perception such as dissociation, schizotypy, magical ideation, mania, fantasy proneness, and hallucination proneness (Parker, 2000). Parker (2000), citing Williams and Irwin (1991) lends his support to the existence of individuals characterized as having a "psi-prone personality" conjecturing that such individuals "would see more

meaningful connections in life and experience a greater sense of cohesion in life than individuals with a psychosis-prone personality” (p. 9). Hence, various functional and possibly even advantageous degrees of this potentially adaptive ability are conceivably attainable along its continuum. Also relevant is the finding that transliminality is likely related to hypnotizability, creativity, and fantasy proneness (Parker, 2000; Merckelbach, Horselenberg, & Muris, 2001).

Since individuals who report a particular type of PP typically also report experiences with other types of PP, Houran and Thalbourne (2001) conclude that “there is some type of encounter-prone personality that predisposes certain people to have these experiences” (p. 34; Appelle, Lynn, & Newman, 2000). It seems that it very well may be “the person and not the location that is haunted” (Houran & Thalbourne, 2001, p. 35; Teske, 1999). This strongly suggests the importance of personality in the propensity to believe in supernatural phenomena.

An investigation into entity encounter experiences provides some quantitative support for the Hilary Evans’ (2000) theory that contact with ghosts, physical poltergeists phenomena, and folklore-related entities (elves and fairies) are “ordered along a shared statistical dimension” (as cited in Houran, 2001; Houran & Thalbourne, 2001). This means that individuals who experience one type of PP are much more likely to experience another similar type of PP. Further, Malony (2002) theorized that individual differences can be observed on a normally distributed dimension of spirituality/religiousness. This notion suggests that people have a certain capacity for belief, with some displaying less and others much more, representing the two tails of the distribution, but with most falling somewhere in the middle (Malony, 2002). Given this theory one would expect to find that individuals who have a greater capacity to believe would also be more likely to believe and experience other similar phenomena. Along similar lines, individual differences in imagery ability seem to be related to imagination inflation which is potentially relevant to the ability to believe in PP (Horselenberg, Merckelbach, Muris, Rassin, Sijnsenaar, & Spaan, 2000).

Individuals identified as having unusual personality styles who experience social alienation tend to exhibit greater levels of eccentric thinking and fantasy proneness (Merritt & Waldo, 2000). Childhood trauma, a tendency toward childhood fantasy, and belief in the paranormal have been repeatedly shown to be interrelated, indicating that a “childhood factors model” needs to be developed (Lawrence, Edwards, Barraclough, Church, & Hetherington, 1995, p. 209). The formation of the personality construct of fantasy proneness is frequently connected with a childhood history of traumatic experiences, specifically physical or sexual abuse, and it is possible these factors may relate to Openness to Experience (OE) (Irwin, 1990, 1993, 1994, 1994b; Ross & Joshi, 1992). Further, the construct of fantasy proneness (one facet of OE) is correlated with almost all facets of paranormal belief (Irwin, 1990, 1993, 1994b; Ross & Joshi, 1992). However, there are no published papers on OE, its facets, and belief in the paranormal. Further, an important theoretical question remains regarding the relative contributions of SS and OE to paranormal beliefs.

It stands to reason that those who are high in both OE and SS would be more likely to endorse paranormal beliefs. However, research indicates that numerous factors impinge upon belief in paranormal phenomena. Therefore, a more global personality factor such

as Openness to Experience may better predict paranormal belief. In the present study, relative contributions of SS and OE to belief in PP will be examined. It is hypothesized that both will be significantly and positively related to belief in PP. Further, it is expected that OE will be more strongly predictive of PP than SS.

## **Method**

### ***Participants***

One hundred thirty-five total volunteers who were connected with an Institute that typically attracts individuals interested in non-traditional studies and spirituality received measurement packets. These packets were given out at three different intervals to include 30 therapeutic massage students, 70 attendees of the Christmas/New Years Renewal Conference, and 35 attendees of a Dream Awareness and Interpretation Conference. One hundred ten participants returned their completed packets. All volunteers received incentives for their participation, to include a \$10.00 gift card from either Barnes & Noble or Starbucks and their individualized NEO-PI-R feedback summary sheet. All participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 1992).

### ***Materials***

Each participant completed Zuckerman's SS scale, Form V (Zuckerman, 1994), the NEO-PI-R (Costa & McCrae, 1992), the Anomalous Experience Inventory (AEI) (Kumar, Pekala, & Gallagher, 1994), and a sociodemographic sheet. Zuckerman's SS scale has long been considered a valid measure for assessing the trait, and Form V is currently the most widely used version as it has demonstrated good internal consistency (Zuckerman, 1994). According to the Twelfth Mental Measures Yearbook, the NEO-PI-R demonstrates good psychometric reliability and validity and is useful in research that explores individual differences as conceptualized according to the five factor model of personality. Further, the NEO-PI-R provides facet level analysis of Openness to Experience (Botwin & Juni, 1995). The AEI has relatively high convergent validity as it is intercorrelated with previously valid and reliable measures such as the widely used Australian Sheep-Goat scale and the Paranormal Belief Scale (Thalbourne, 2001).

### ***Design and Procedures***

Each volunteer was informed of their ethical rights and the minimal risks of participation. At the time that they received the packet, they signed and returned one copy of the consent form along with their preference sheet, to the administrator to be filed separately from their completed measures. Included in the packet was their copy of the informed consent, detailed participant instructions, all of the assessment measures (sociodemographic sheet, NEO-PI-R question booklet and answer sheet, SS scale, and AEI) and a postage-paid self-addressed envelope to return the completed materials. Once the completed measures were returned, participants were mailed their chosen gift card along with a thank you note acknowledging receipt of their packet and notifying them of when to expect their NEO-PI-R Feedback Summary Sheet. Volunteers who had received a packet but had not yet returned it were sent reminder notes notifying them of the participation deadline. Participants' data were scored, and the debriefing form along with

their personal NEO-PI-R Summary Sheets was mailed to them. All correspondence was mailed to the addresses volunteers provided on their preference form which was completed and returned when they received the participation packet.

## Results

### *Descriptive Analyses*

Out of 135 total packets of questionnaires, 110 (82%) were completed and returned ( $N = 110$ ). Twenty-eight (26%) were male and 82 (75%) were female with a mean ( $SD = 13$ ) age of 56 (ranging between 19 and 85). Fifty-nine (54%) were currently married, with 49 (45%) single, divorced, or widowed. One hundred six (96%) identified their ethnicity as Caucasian/White, one (1%) as American Indian or Alaskan Native, two (2%) as African-American, and one (1%) as Other/Racial Blend. This information is reported in Table One.

**Table 1**  
*Descriptive Characteristics of Participants (N = 110)*

Category		N	% of Total
Gender	Male	28	26%
	Female	82	75%
Marital Status	Married	59	54%
	Single/Divorced/Widowed	49	45%
Ethnicity	Caucasian/White	106	96%
	American Indian or Alaskan Native	1	1%
	African-American	2	2%
	Other/Racial Blend	1	1%
Age	M = 56	SD = 13	Range = 19-85

Participant average annual income over the past three years is represented as follows: < \$5000, 4 (4%); \$5000 – 10,000, 4 (4%); \$11,000 – 16,000, 6 (6%); \$17,000 - 22,000, 5 (5%); \$23,000 - 28,000, 6 (6%); \$29,000 - 34,000, 11 (10%); \$35,000 - 40,000, 12 (11%); \$41,000 - 46,000, 11 (10%); \$47,000 - 52,000, 9 (8%); and 41 (37%) made \$53,000 and above. Level of education is represented as follows: < 12 years, 3 (3%); high school graduates or GED, 8 (7%); some college, 14 (13%); associates degree, 17 (16%); bachelor’s degree, 36 (33%); master’s degree, 26 (24%); and doctoral degree, 6 (6%). This information is reported in Table Two.

One hundred nine participants responded to the question: “When you were a child, were there one or more primary caregivers (e.g. parent—mother, father, grandparent who lived in the home . . .) who believed in unexplainable/supernatural events?” Fifty-seven (52 %) participants answered “yes” while 52 (47%) answered “no”.

All 110 participants chose between six age ranges when asked: “If you believe in things beyond the explainable realm of science, how old were you when you first became aware of your belief?” Participants reported first age of belief awareness as: 20 (18%) were younger than 6 years old, 34 (31%) were 6---12 years old, 21 (19%) were 13---19 years old, 14 (13%) were 20-26 years old, 5 (5%) were 27---32 years old, and 16 (15%) were 33 years old or older. This information is reported in Table Three.

**Table 2**  
***Income and Education Levels***  
***of Participants (N=110)***

<i>Category</i>	<i>N</i>	<i>% of Total</i>
Average Annual Income over the Past 3 yrs.		
< \$ 5,000	4	4%
\$5,000—10,000	4	4%
\$11,000—16,000	6	6%
\$17,000—22,000	5	5%
\$23,000—28,000	6	6%
\$29,000—34,000	11	10%
\$35,000—40,000	12	11%
\$41,000—46,000	11	10%
\$47,000—52,000	9	8%
≥ \$53,000	41	37%
Level of Education		
< 12 years	3	3%
High School Graduate/GED	8	7%
Some College	14	13%
Associates Degree	17	16%
Bachelor's Degree	36	33%
Master's Degree	26	24%
Doctoral Degree	6	6%

**Table 3**  
***Age of First Awareness of***  
***Paranormal Beliefs (N=110)***

<i>Age</i>	<i>N</i>	<i>% of Total</i>
< 6 years old	0	18%
6—12 years old	34	31%
13—19 years old	21	19%
20—26 years old	14	13%
27—32 years old	5	5%
≥ 33 years old	16	15%

One hundred eight participants responded to the question: “Have you ever personally experienced anything which you would consider outside the traditionally scientifically explainable realm of reality?” Ninety-seven individuals indicated that they had personally experienced the unexplained, while 11 (10%) had not. Of those 97 (88%) who claimed personal experience, 13 (12%) reported being younger than 6 years old, 22 (20%) were 6—12 years old, 14 (13%) were 13—19 years old, 16 (15%) were 20—26 years old, 4 (4%) were 27—32 years old, and 28 (26%) were 33 years old or older when their first experience occurred. This information is reported in Table Four.

### ***Preliminary Analyses***

It was hypothesized that both Openness to Experience (OE) and Sensation Seeking (SS) would correlate positively and significantly to belief in paranormal phenomena (PP) and this was supported ( $r = .46, p < .0001$ ) ; ( $r = .31, p < .001$ ). Further, it was predicted

that OE would more strongly relate to paranormal belief than SS and this was also supported (see below).

**Table 4**  
***Participants' Personal Paranormal Experience and First Occurrence Age (N=108)***

		N	% of Total
Response	Yes	97	88%
	No	13	12%
Age:	< 6 years old	13	12%
	6—12 years old	22	20%
	13—19 years old	14	13%
	20—26 years old	16	15%
	27—32 years old	4	4%
	≥ 33 years old	28	26%

The personality factor of Openness to Experience consists of six facets: Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values. The correlations between Openness facets, Total Sensation Seeking Score (SSS) and Total Anomalous and Paranormal Experiences and Beliefs Score (TBPP) were examined. Three Openness facets displayed significant positive correlations with SSS: Fantasy ( $r = .22, p < .021$ ), Actions ( $r = .35, p < .0001$ ), and Values ( $r = .21, p < .029$ ). OE was significantly correlated with gender ( $r = .21, p < .027$ ) but not to age, marital status, or average annual income over the last 3 years. All of the facets of OE revealed positive significant correlations to the TBPP. These correlations are reported in Table Five.

**Table 5**  
***Correlations Between Paranormal Belief (TBPP), OE, and OE Facets (N=110)***

Variable	1	2	3	4	5	6	7	8
1. TBPP	--	.464**	.390**	.337**	.347**	.239*	.271**	.243*
2. OE		--	.709**	.679**	.627**	.524**	.674**	.676**
3. OE Fantasy			--	.313**	.443**	.246**	.312**	.359**
4. OE Feelings				--	.381**	.206*	.471**	.326**
5. OE Values					--	.109*	.211*	.349**
6. OE Actions						--	.222*	.260**
7. OE Aesthetics							--	.337**
8. OE Ideas								--

\* $p < .05$ , two-tailed; \*\* $p < .01$ , two-tailed

The measure of Sensation Seeking is comprised of four subscales: Thrill and Adventure Seeking Score (TAS), Experience Seeking Score (ES), Disinhibition Seeking Score (DIS), and Boredom Susceptibility Score (BS) which together produce the SSS. SSS was not significantly correlated to gender, but was negatively correlated with age ( $r = -.26, p < .006$ ), marital status ( $r = -.19, p < .049$ ), and average annual income over the

last 3 years ( $r = -.23, p < .017$ ). All Sensation Seeking subscales, except the TAS, were significantly and positively correlated with the TBPP. These correlations are reported in Table Six.

**Table 6**  
**Correlations Between Paranormal Belief**  
**(TBPP), SSS, & SS Subscales (N=110)**

Variable	1	2	3	4	5	6
1. TBPP	---	.312**	.254**	.268**	.251**	.121
2. SSS		---	.457**	.640**	.698**	.761**
3. BS			---	.145	.218*	.134
4. ES				---	.361**	.263**
5. DIS					---	.267**
6. TAS						---

\* $p < .05$ , two-tailed; \*\* $p < .01$ , two-tailed.

### Multiple Regression Analyses

Openness to Experience and Sensation Seeking combined significantly predicted paranormal beliefs ( $R^2 = .258$ ;  $F(2,107) = 18.61, p < .0001$ ). Openness to Experience accounted for 16% ( $sr = .160$ ;  $F(1,108) = 23.07, p < .01$ ) of the unique variance in paranormal beliefs. Sensation Seeking accounted for 4% ( $sr = .043$ ;  $F(1,108) = 6.20, p < .01$ ) of the unique variance in paranormal beliefs.

Beliefs were then regressed on the six facets of Openness to Experience. The results indicate Fantasy as the best predictor ( $sr = .036$ ;  $F(5,104) = 4.87, p < .01$ ), followed by Feelings ( $sr = .016$ ;  $F(5,104) = 2.16, p < .01$ ), Values ( $sr = .017$ ;  $F(5,104) = 2.30, p < .01$ ), Actions ( $sr = .011$ ;  $F(5,104) = 1.49, p < .01$ ), Aesthetics ( $sr = .004$ ;  $F(5,104) = .54, p > .05$ ), and Ideas ( $sr = .001$ ;  $F(5,104) = .14, p > .05$ ).

Beliefs were then regressed on the four subscales of Sensation Seeking. The results indicate BS as the best predictor ( $sr = .036$ ;  $F(3,106) = 4.37, p < .01$ ), followed by ES ( $sr = .030$ ;  $F(3,106) = 3.65, p < .01$ ), DIS ( $sr = .016$ ;  $F(3,106) = 1.94, p < .01$ ), and TAS ( $sr = 0$ ;  $F(3,106) = 0, p > .05$ ).

### Discussion

These findings support the hypotheses that the personality constructs of Openness to Experience and Sensation Seeking both partially predict belief in the paranormal. Further, as expected, Openness to Experience accounts for a greater portion of the unique variance in predicting such beliefs. Thus, these personality constructs are important to the understanding and explanation of divergent belief systems such as beliefs in the supernatural.

It was found that the Openness facet of Fantasy was the most powerful predictor of paranormal beliefs, followed by Feelings and Values and then Actions. According to Costa and McCrae (1992), individuals who score high in the fantasy facet can be described as having “a vivid imagination and an active fantasy life” (p. 17). For them, daydreaming is not merely an escape but is “a way of creating for themselves an interesting inner world” (Costa & McCrae, 1992, p. 17). Further, these fantasies are developed and elaborated upon enabling them to have a richer and more creative life (Costa & McCrae, 1992; McCrae, 1993-1994).



As the literature suggests individuals who believe in paranormal phenomena (PP) have an underlying propensity to fantasize (Irwin, 1993; Wilson & Barber, 1983). This tendency may also be associated with varying degrees of childhood trauma, dissociation, and the desire to escape negative affect (Houran & Thalbourne, 2001; Parker, 2000; Lawrence, et al. 1995; Irwin, 1990; 1993; 1994b; Ross & Joshi, 1992). It seems clear that the current findings provide additional support for the hypothesis that those higher in PP belief tend to be more fantasy prone.

The next two facets of Feelings and Values each accounted for 2% of the unique variance in supernatural beliefs. Those who score higher on the Feelings Facet are described as receptive to their “own inner feelings and emotions” and intensely experience deep emotional extremes which are valued by the individual (Costa & McCrae, 1992, p. 17). Perhaps more interesting to the study of divergent beliefs is the fact that individuals who score high on Values display a “readiness to reexamine social, political, and religious values” (Costa & McCrae, 1992, p. 17). Citing Rokeach (1960), Costa and McCrae (1992) note that an “Openness to Values may be considered the opposite of dogmatism” (p. 17). Hence, those high in openness to values are more receptive to new ideas and less rigid in their belief systems. It is logical that such individuals would tend to be more receptive to unconventional beliefs as found in the present study.

The four subscales of Sensation Seeking were also examined for unique contributions to prediction of divergent beliefs. Boredom Susceptibility was the strongest predictor with Experience Seeking and Disinhibition contributing somewhat less to the prediction of unique variance in paranormal beliefs. Thrill and Adventure Seeking essentially did not contribute to the prediction. Those who score high on Sensation Seeking are “more accepting of unusual beliefs such as paranormal phenomena” (Zuckerman, 1995, p. 1487; Gallagher et al, 1994) and these findings support previous literature.

Given that Boredom Susceptibility indicates intolerance for predictable types of experiences and familiar stimulation which cannot be escaped (Zuckerman, 1995), it stands to reason that beliefs in the paranormal may provide a mental escape from the mundane. Thus, belief in the supernatural perhaps supplies the needed stimulation to elude the unbearable boredom. Previous research has demonstrated that the Sensation Seeking trait is expressed in a variety of avenues, ranging from food preference to social attitudes and mate selection (Zuckerman, 1994; Aluja-Fabregat, 2000). Present findings suggest that belief in the supernatural may also be viewed, in part, as an expression of sensation seeking.

It is important to view these findings within their context and acknowledge limitations of this study. First, the sample was predominately Caucasian and close to half indicated at least one of their primary caregivers had believed in the supernatural or unexplained. Thus, findings cannot be generalized to non-Caucasian groups and the role of modeling and familial influence was not examined in the study. Further, all of the participants were connected with an Institute that typically attracts individuals who are interested in non-traditional studies and spirituality. Future research is warranted to examine these variables in the general population. Similarly, given the unique sample characteristics of those higher in belief, it is not surprising that the majority of participants reported personal experiences with the unexplainable.

An additional consideration is that The Anomalous Experiences Inventory is limited in its ability to capture a more diverse range of spiritual beliefs. Due to time constraints and feasibility, we were unable to assess specific aspects of religious diversity or individually examine different religious beliefs and practices. Instead, all divergent spiritual beliefs were cumulatively measured by the AEI, overlooking the potential for simultaneous endorsement of more traditional religious/spiritual beliefs. Future research should examine the various nuances of different religious traditions as they apply to responses to the AEI.

First, when considering the unique personality characteristics of those who subscribe to a divergent or paranormal belief system, only 26% of the variance is accounted for by heightened sensation seeking and increased openness to experience. Therefore, a large percentage of the variance is still unaccounted for and future research efforts should be directed toward identifying the influence of other personality constructs and experiences on these types of beliefs.

Second, as noted, it would be useful for future research to examine specific “paranormal or divergent belief systems” by differentiating between the wide variety of Spiritual/Religious types of beliefs. Hopefully this preliminary research will lay the groundwork for this much more difficult task, as there is considerable variability even among “Christian denominations” and still more among individual “Christian believers.” This may be similarly true for other religious traditions, such as Buddhists, Hindus, Muslims and others.

Finally, given the current findings, future research should explore the potential degree of childhood trauma reported by those high in divergent beliefs, as this may be a key mediating factor in fantasy proneness. Additional attention may be directed to the role of environment and parental encouragement of imagination and how this relates to divergent beliefs.

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