

A Correlational Study of Religious and Paranormal Beliefs among Indians

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Abstract:

Beliefs happen to be the most significant indicators of a person's overall personality and provide us a window on his mental constructs. The study of the paranormal activities and phenomena has been riddled with controversy since its conception and previous researches revealed mixed and contradictory findings. The present study focuses to study correlation between paranormal beliefs and the religious beliefs across different religious groups, among individuals of different age groups and socio-economic status. Significant positive correlation was found between religious beliefs and paranormal beliefs as well as between religious beliefs and the traditional religious beliefs, psi and witchcraft subscales of the paranormal beliefs scale. Muslims scored higher on the traditional religious beliefs subscale in comparison with the Hindus. On the other hand, among the Hindus a higher degree of endorsement of witch-craft was observed. However, so far as the Christians are concerned no significant differences were observed either on global paranormal beliefs or any of the subscales of the paranormal beliefs. Socially marginal groups were found to be more susceptible to paranormal beliefs. They scored higher on psi, witchcraft, superstition, spiritualism, precognition as well as the total-paranormal beliefs scale.

Keywords: Paranormal Beliefs, Religious beliefs, religious groups.

I. INTRODUCTION

Beliefs happen to be the most significant indicators of a person's overall personality and provide us a window on his mental constructs. Yet there is little agreement as to what they are; or how they should be construed. They are basic to our understanding of a wide range of central phenomena in modern psychology. Beliefs are the key components of our personalities and sense of identity, and our expression of beliefs often defines us to others. The topic of beliefs is vast and diverse. It crosses many disciplinary boundaries both within psychology and across many traditional disciplines. It has an extensive coverage ranging from traditional beliefs to anomalous or paranormal beliefs. While on one hand a great deal of research has been carried out on traditional beliefs and they have been discussed at length, anomalous beliefs, on the other hand, are the beliefs in powers and phenomena that lie outside the realm of normal science; and as such this field has been generally left under-investigated. Anomalous or paranormal beliefs account for the emphasis on Extrasensory perception (ESP), astrology, witchcraft, ghosts, un-identified flying objects (UFO) abductions and the like. In order to account for people's real experiences in these areas, one has to deal with the topics about which much has been read and heard, but haven't had an easy relationship with mainstream psychology.

Nearly every culture throughout history has reported beliefs and experiences with paranormal phenomena. Paranormal phenomena are defined as events that violate the boundaries of current scientific belief. In spite of having no definitive proof to substantiate these beliefs more than 90 percent of American adults profess to believe in at least one phenomenon (Gallup, 1997). Research indicates that the rise in paranormal phenomena beliefs began in the 1960's with the massive sale of parapsychology books. Ouija boards were outselling monopoly games (Truzzi, 1972). Over the last

three decades or so, scholars from a spectrum of disciplines have lent their expertise in trying to understand the increasing beliefs in paranormal phenomena. Despite the fact that thousands of people are reporting paranormal events each year, the majority of research is in the form of public opinion polls, that encompass a yes/no answer format, leaving the reader to fill in the rest.

The study of the paranormal activities and phenomena has been riddled with controversy since its conception. It is claimed that some people, utilizing sense beyond the ordinary, exhibit powers that cannot be explained by traditional science. Many wondrous or anomalous experiences support belief in spiritual powers or forces; and as such, play an important role in the development of religious ideologies. Scientific interest in the subject is of a relatively recent origin, but belief in the reality of such phenomena has been widespread since the earliest recorded times. Before the rise of modern science, the causation of all the complex phenomena was very proudly understood and hence appeals to non-material agencies (ghosts, sorcerers, demons and mythological beings) took the place of a causal scientific explanation. In order to explain why people believe in "unbelievable" things, one must first ascertain what the levels of belief are. Results from a United States survey, conducted by Schmeidler (1985) indicated that 51 percent of respondents reported an experience with ESP. A poll conducted in 1990, stated that 49 percent of the respondents believed in ESP, 38 percent believed in ghosts, and 33 percent believed in aliens (Newport & Strausberg 2001). Another study conducted in 1997, supports these findings and shows that over 50 percent of respondents indicated a belief in ghosts, while one-third responded they have had an experience with extrasensory perception (ESP) (Sparks, Glenn, Nelson, & Leigh, 1997). Another survey revealed that

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59 percent of respondents were believers in the paranormal (Blackmore, 1997). Another study found that 49 percent of the participants believed that the extraterrestrial life exists, and 33 percent believed UFOs exist (Biasco & Nunn, 2000). Patry and Pelletier (2001) found that when participants were asked whether they personally knew someone who had allegedly seen a UFO, 24 percent answered yes, and 48 percent believed UFOs were real, as opposed to 35 percent who did not. Patry and Pelletier also found men were significantly more likely to believe in UFOs than females. Researchers have been searching for evidence that may distinguish believers of paranormal phenomena from non-believers. One area of great interest is the possible relationship between religiosity/ spirituality and belief in paranormal phenomena. Numerous researchers have found that religious preference (Fox 1992) and religious orientation (MacDonald 1992) are not correlated to reported paranormal experiences. A study in (2001) investigated the correlation between religiosity and belief in paranormal phenomena, researchers found that religiosity was not significantly correlated with belief in the paranormal (Beck & Miller, 2001). However, Beck & Miller found that experiences of negative affect over the preceding year were positively correlated with belief in the paranormal. (Sparks, et al).

Numerous researchers have looked toward demographics such as age, sex, and education level to explain differences in beliefs. Studies indicate that there is a significant difference in beliefs in the paranormal between genders (Irwin, 1993). Females have expressed stronger beliefs in the paranormal than males. Females were higher in their beliefs of ESP, and ghosts, while men had higher beliefs in UFOs and the Loch Ness Monster (Irwin, 1993). Blackmore (1997) found that there was a large significant sex difference between believers and non-believers. Blackmore found that over 70 percent of the female respondents were believers, compared to 48 percent of the males. The education level of participants is also considered when investigating belief systems. Henri Broch (2000) reports that a French opinion poll demonstrated a positive relationship between the respondent's education level and their belief in paranormal phenomena. The Princeton Research Association reported survey results that found no significant differences in beliefs in paranormal phenomena between high school dropouts and non-dropouts (Goode, 2002). A Yankelovick poll found no significant differences between education level and belief in UFOs (Goode, 2002). The Pew research center found that approximately 20-30 percent more of the least educated respondents reported beliefs in angels (Goode, 2002).

It is perhaps due to the widespread existence of these beliefs, that the investigation of the correlation of the paranormal with the religious beliefs has received considerable attention in the recent years. Moreover, it has also been observed that most of the studies concerning paranormal beliefs conducted so far, were being carried out on the student populations. It, therefore, seems relevant here to study the correlation of paranormal beliefs with religious beliefs among the adults and the elderly among whom these two factors are expected to be highly endorsed. It would also be relevant to take into account certain other demographic variables, such as, age, socio-economic status and the level of education for a more informed research on the correlation of the religious beliefs and the paranormal beliefs.

II. PURPOSES OF THE INVESTIGATION

The present study seeks to confirm the literature findings and to extend the boundaries of the previous researches by investigating the relationship between religious and paranormal beliefs. In the light of the aims of the study and the previous researches reported, the following hypothesis will be tested:

Hypothesis 1

- There will be some relationship between paranormal beliefs and personality factors.

Hypothesis 2

- Socially marginal groups and those low on education will be more susceptible to paranormal beliefs.

Hypothesis 3

- Women will endorse greater global paranormal beliefs.

Hypothesis 4

- There will be a higher degree of endorsement of the paranormal beliefs among the adults and elderly.

Hypothesis 5

- There will be a higher degree of endorsement of the paranormal beliefs among the adults and elderly.

III. METHODOLOGY

Participants

The participants of the present study comprised of 300 people; a hundred each from the three major religious groups viz. Hindus, Muslims and Christians. The research population consisted of individuals, exclusively of Indian origin and belonged to the states of Uttar Pradesh, Bihar and Rajasthan. The selection of the participants as per the requirements of the present study was done randomly from the three major religious groups. The age of the participants ranged from 15 to 71 years, with a mean age of 21.5 years. The participants were categorized into three age groups as, young, adults and elderly, those in the age group of 15- 19 years were categorized as young; those in the age group of 20-40 years were categorized as adults and finally those in the age group of 41 years and above were categorized as elderly. The entire group of participants of the present research was also divided in terms of gender (females and males). Further categorization of the participants was done on the basis of their socio-economic status. The selection of the participants for this particular category was done on the basis of their monthly income and level of education. The low socio-economic status group of participants comprised of individuals whose monthly income was very low (i.e. up to Rs.2000 per month) and they were either illiterate or very low on education (slum-dwellers, rickshaw-pullers or daily-waged employees). So far as the participants of a high socio-economic status are concerned, these included individuals who have had a decent monthly income (i.e. from Rs.10, 000 to 40,000 per month). The participants in this category were mostly, school teachers, doctors, bank-employees and University Professors and Lecturers.

Measures

The following inventories were used to assess the constructs of paranormal beliefs, religious beliefs.

RELIGIOSITY SCALE (Decker and Broota, 1985)

The Religiosity Scale (Decker and Broota, 1985) was used to measure the extent of an individual's dependency on the supernatural being adherence to the doctrines of one's faith. The final scale consisted of 44 items out of which 25 were positive and 19 were negative. The presence of both positively and negatively worded items is essential, for it avoids the tendency of the respondents to develop a response set, that might occur, were the items are only positive or only negative. The reliability of the final scale was established using the split-half technique. The items of the scale were split into two equivalent forms using the odd-even methods. The reliability co-efficient of the half tests was 0.91 (using Pearson's product moment). The obtained values were corrected for length using Spearman Brown formula and were 0.96. Thus, the reliability co-efficient for the religiosity scale was found to be 0.96 for an adult sample of subjects.

REVISED PARANORMAL BELIEF SCALE (RBPS) (Tobayck, 1988)

The Revised Paranormal Belief Scale (RPBS), (Tobayck, 1988) was used to measure paranormal beliefs. It is a 26 item self report scale, measuring the following seven forms of paranormal beliefs: traditional religious beliefs, Psi beliefs, witchcraft, superstition, spiritualism, extraordinary life forms and precognition. The extraordinary life forms subscale was modified slightly by replacing two items. Item 6, i.e., the abdominal snowman of Tibet exists, was replaced with: the UFOs exist. Also item 13, i.e., the Loch Ness monster of Scotland exists was replaced with: the extraterrestrial objects exist. Responses to each item are scored on a seven point Likert Scale. The Cronbach-Alpha coefficient for the Revised Paranormal Belief Scale is 0.91.

PROCEDURE

The set of questionnaire, which included the two scales measuring paranormal beliefs, religious beliefs, was distributed to the participants using the opportunity method. Participants were informed that their responses would remain confidential and would be used exclusively for research purpose. They were also informed that they could choose not to complete the questionnaire, if they wished. In the case of the participants from socially marginal groups, individual items of each of the inventories were explained in their regional languages.

Ethics

Because of the involvement of the human participants in the research process, the ethical principles for conducting research, as stated by the BPS (1992), were closely followed. It was made clear to all the participants both verbally and in writing that participation was entirely voluntary and that they were free to withdraw consent for their completed questionnaires at any time, and for whatever reason.

IV. DATA ANALYSIS

Var 1	TRB	PSI	WC	ST	SP	EOLF	PR	Total P
Var 2								

The responses given by the participants of the present study were systematized and analyzed using appropriate statistical techniques. One way analysis of variance, t-test, product moment coefficient of correlation and multiple regression analysis were used to analyze the data.

V. RESULTS AND DISCUSSION

For testing Hypothesis - 1: there will be significant relationship between paranormal beliefs and religious beliefs, Pearson product moment correlation is used as follows:

Table 1: Pearson Product Moment Correlation Coefficients between Paranormal beliefs including its subscales and Religious beliefs.

	r=0.628**	0.199**	0.294**	0.081	-0.088	-0.051	-0.056	0.236**
Religiosity	P=0.000	0.001	0.000	0.159	0.127	0.380	0.335	0.000
	N=300	300	300	300	300	300	300	300

Note: TRB=Traditional religious beliefs, PSI=Psychokinesis, WC=Witchcraft, ST=Superstition, SP=Spiritualism, EOLF=Extra ordinary life forms, PR=Precognition, Total p=Global paranormal beliefs.

** Correlation is significant at 0.01 level.

Table 1 shows that there is significant correlation between religious beliefs and paranormal beliefs at 0.01 level of significance ($r=0.236$, $p=0.000$). The table also shows that there is significant correlation between religious beliefs and TRB ($r=0.682$, $p=0.00$), Psi ($r=0.199$, $p=0.001$) and WC ($r=0.294$, $p=0.000$) subscales of the paranormal belief scale.

For testing Hypothesis-2: Socially marginal groups will be more susceptible to paranormal beliefs, independent t-test is used as follows:

Table 2: Descriptive statistics of the low and high socioeconomic status individuals with regard to Paranormal belief and its subscales.

Paranormal Beliefs	SES	N	Mean	SD	Std.error of mean
Traditional religious beliefs (TRB)	Low	37	13.7838	3.11033	0.51134
	High	263	11.9696	3.03023	0.18685
Psycho kinesia (Psi)	Low	37	17.2432	1.87684	0.30855
	High	263	16.3308	3.09285	0.19071
Witchcraft (WC)	Low	37	12.5946	3.27838	0.53896
	High	263	10.9772	3.56502	0.21983

Superstition (ST)	Low	37	8.1892	2.92345	0.48061
	High	263	6.0114	2.02745	0.12502
Spiritualism (SP)	Low	37	12.6757	3.39161	0.55758
	High	263	10.2167	3.25192	0.20052
Extraordinary life forms (EOLF)	Low	37	10.1351	3.62217	0.59548
	High	263	9.5475	3.66183	0.22580
Precognition (PR)	Low	37	13.5676	3.56324	0.58579
	High	263	10.2776	3.73386	0.23024
Total paranormal beliefs (Total P)	Low	37	88.1892	13.12512	2.15776
	High	263	75.3308	11.97934	0.73868

Table- 3: Independent t-test showing a comparison between the subjects of high and low Socio-economic status on Paranormal beliefs.

Paranormal Beliefs	t	df	P	Mean diff.	Std.error of diff.
Traditional religious beliefs	1.748	298	0.081	0.91244	0.52192
Psi	3.399	298	0.001	1.81420	0.53377
Witchcraft	2.608	298	0.010	1.61741	0.62009
Superstition	4.385	298	0.0005	2.17778	0.49661
Spiritualism	4.150	298	0.0005	2.45895	0.59254
Extraordinary life forms	0.915	298	0.361	0.58761	0.64212
Precognition	5.227	298	0.0005	3.29000	0.62942
Total P	5.638	298	0.0005	12.85839	2.28069

Table- 3 shows that subjects of a low socioeconomic status have greater scores on Psi in comparison with their high socioeconomic status counterparts with 99% confidence, $t(298) = 3.399$, $p < 0.01$. Also, subjects of a low socioeconomic status have scored higher than those of a high socioeconomic status on Witchcraft, $t(298) = 2.608$, $p = 0.01$. Hence there is significant difference between the two groups. The table also shows that there is significant difference between the two groups of subjects on Superstition subscale, $t(298) = 4.385$, $p < 0.01$. Again, low socioeconomic status subjects have scored significantly higher than the high socioeconomic status subjects with 99% confidence on the Spiritualism, $t(298) = 4.150$, $p < 0.001$ and Precognition subscale, $t(298) = 5.227$, $p < 0.001$ as also the total paranormal belief scale, $t(298) = 5.638$, $p < 0.01$. The table also reports significant differences between the two groups of subjects with 95% confidence on the traditional religious belief subscale. However, it is seen that there is no significant difference between the two groups with regard to the extraordinary life forms subscale, $t(298) = 0.915$, $p > 0.05$.

For examining Hypothesis-3: Women will endorse greater global paranormal beliefs than men, independent t-test is used as follows:

Table -4: Descriptive statistics of the males and females on Paranormal belief and its subscales.

Paranormal Beliefs	Gender	N	Mean	SD	Std.error of mean
Traditional religious beliefs (TRB)	Female	150	16.4733	2.93257	0.23944
	Male	150	16.4133	3.04152	0.24834
Psycho kinesisis (Psi)	Female	150	12.4000	3.03005	0.25733
	Male	150	11.9867	3.15162	0.24740
Witchcraft (WC)	Female	150	11.6733	3.69018	0.30130
	Male	150	10.6800	3.37643	0.27568
Superstition (ST)	Female	150	6.4933	2.43230	0.16966
	Male	150	6.0667	2.07790	0.19860
Spiritualism (SP)	Female	150	10.9533	3.41598	0.26638
	Male	150	10.0867	3.26243	0.27891
Extraordinary life forms (EOLF)	Female	150	9.9867	3.53123	0.28832
	Male	150	9.2533	3.75274	0.30641
Precognition (PR)	Female	150	10.6933	3.70913	0.30285
	Male	150	10.6733	4.02258	0.32844
Total paranormal beliefs (Total P)	Female	150	76.9667	12.85824	1.04987
	Male	150	76.8667	12.83016	1.04758

Table -5: Independent t-test showing comparison between males and females on paranormal beliefs.

Paranormal beliefs	t	Df	P	Mean diff.	Std.error of diff.
Traditional religious beliefs (TRB)	0.174	298	0.862	0.06000	0.34497
Psycho kinesisis (Psi)	1.158	298	0.248	0.41333	0.35697
Witchcraft (WC)	2.432	298	0.016	0.99222	0.40839
Superstition (ST)	1.633	298	0.103	0.42667	0.26120
Spiritualism (SP)	2.247	298	0.025	0.86667	0.38567
Extraordinary life forms (EOLF)	1.743	298	0.082	0.73333	0.42073
Precognition (PR)	0.045	298	0.964	0.02000	0.44676
Total paranormal beliefs (Total P)	0.067	298	0.946	0.10000	1.48312

Table 5 shows that females have greater scores on witchcraft in comparison to males with 99% confidence, $t(298) = 2.432$, $p = 0.01$. Also, on the spiritualism subscales females have scored higher than the males, $t(298) = 2.247$, $p < 0.05$. Hence there is significant difference between the two groups. The table also shows that there is no significant difference between the two groups of subjects on TRB, $t(298) = 0.174$, $p > 0.01$; ST, $t(298) = 1.633$, $p > 0.01$; Psi, $t(298) = 1.158$, $p > 0.01$; EOLF, $t(298) = 1.743$, $p > 0.01$ and PR subscales $t(298) = 0.045$, $p > 0.01$.

For testing Hypothesis-4: There will be a higher degree of endorsement of the paranormal beliefs among the adults and elderly, One-way ANOVA is used as follows:

Table- 6: Descriptive statistics of the three age groups of individuals on Paranormal beliefs

Paranormal beliefs	Groups	N	Mean	SD	Std.error of mean
Traditional religious beliefs	Young	101	16.4059	2.94339	0.29288
	Adult	133	16.6015	3.05490	0.26489
	Elderly	66	16.1818	2.91895	0.35930
	Total	300	16.4433	2.98269	0.17221
Psi	Young	101	12.1683	2.82513	0.28111
	Adult	133	11.8120	3.03802	0.26343
	Elderly	66	13.0000	3.46854	0.42695
	Total	300	12.1933	3.09319	0.17859
Witchcraft	Young	101	10.8020	2.93946	0.29249
	Adult	133	11.5489	3.84248	0.33319
	Elderly	66	11.0000	3.83105	0.47157
	Total	300	11.1767	3.56574	0.20587
Superstition	Young	101	6.2277	2.27983	0.22685
	Adult	133	6.1429	2.23316	0.19364
	Elderly	66	6.6364	2.31807	0.28533
	Total	300	6.2800	2.26835	0.13096
Spiritualism	Young	101	11.0594	3.66011	0.36419
	Adult	133	10.1805	3.41084	0.29576
	Elderly	66	10.3788	2.65889	0.32729
	Total	300	10.5200	3.36263	0.19414
Extraordinary life forms	Young	101	9.0396	3.49834	0.34810
	Adult	133	9.7218	3.82051	0.33128
	Elderly	66	10.3030	3.46397	0.42638
	Total	300	9.6200	3.65607	0.21108
Precognition	Young	101	10.3465	4.30914	0.42878
	Adult	133	10.4511	3.68549	0.31957
	Elderly	66	11.6667	3.34817	0.41213
	Total	300	10.6833	3.86257	0.22301
Total paranormal beliefs	Young	101	76.0495	11.65965	1.16018
	Adult	133	76.4586	13.42968	1.16450
	Elderly	66	79.1667	13.19858	1.62463
	Total	300	76.9167	12.82281	0.74033

Table- 7: Summary of One-way analysis of variance for Paranormal beliefs and its subscales with regard to age. Number of groups =3

Paranormal beliefs	Sources of variance	Sum of squares	df	Mean square	F	p
Traditional religious beliefs	Between groups	7.982	2	3.991	0.447	0.640
	Within groups	2652.054	297	8.929		
	Total	2660.037	299			
Psi	Between groups	62.347	2	31.174	3.308	0.038
	Within groups	2798.439	297	9.422		
	Total	2860.787	299			
Witchcraft	Between groups	34.665	2	17.332	1.367	0.257
	Within groups	3766.972	297	12.683		
	Total	3801.637	299			
Superstition	Between groups	11.159	2	5.580	1.085	0.339
	Within groups	1527.321	297	5.142		
	Total	1538.480	299			
Spiritualism	Between groups	46.037	2	23.018	2.050	0.131
	Within groups	3334.843	297	11.228		
	Total	3380.880	299			
Extraordinary life forms	Between groups	66.192	2	33.096	2.501	0.084
	Within groups	3930.488	297	13.234		
	Total	3996.680	299			
Precognition	Between groups	82.446	2	41.223	2.796	0.063
	Within groups	4378.470	297	14.742		
	Total	4460.917	299			
Total paranormal beliefs	Between groups	437.975	2	218.987	1.335	0.265
	Within groups	48724.942	297	164.057		
	Total	49162.917	299			

As seen in the Table 7, on the Psi subscale ($F_{2,297} = 3.308$, $p < 0.05$) there is significant difference between the mean scores of at least two groups on Psi.

For the clarification of differences on this subscale, Tukey's Post hoc is used as follows:

Table -8: Tukey's Post hoc on Psi subscale.

Group (i)	Group (j)	Mean.diff (i - j)	Std.error	p
Elderly	Adult	1.188	0.462	0.029

Table -8 reports that the elderly subjects have greater scores on Psi subscale in comparison to adult subjects with 95% confidence ($p < 0.05$).

For testing Hypothesis - 5: There will be difference in the degree of endorsement of paranormal beliefs across different religions, one-way analysis of variance is used as follows:

Table 9: Descriptive statistics of the individuals of three religious groups on Paranormal beliefs and its subscales

Paranormal beliefs	Groups	N	Mean	SD	Std.error of mean
Traditional religious beliefs	Muslim	100	17.3700	2.49304	0.24930
	Hindu	100	15.4900	2.99324	0.29932
	Christian	100	16.4700	3.14773	0.31477
	Total	300	16.4433	2.98269	0.17221
Psi	Muslim	100	11.7500	3.02306	0.30231
	Hindu	100	12.3300	3.30917	0.33092
	Christian	100	12.5000	2.91461	0.29146
	Total	300	12.1933	3.09319	0.17859
Witchcraft	Muslim	100	11.8900	3.74946	0.37495
	Hindu	100	10.2500	3.49133	0.34913
	Christian	100	11.3900	3.27493	0.32749
	Total	300	11.1767	3.56574	0.20587
Superstition	Muslim	100	6.1300	1.93665	0.19366
	Hindu	100	6.4400	2.67921	0.26792
	Christian	100	6.2700	2.13605	0.21361
	Total	300	6.2800	2.26835	0.13096
Spiritualism	Muslim	100	9.9200	3.57793	0.35779
	Hindu	100	11.0100	3.27369	0.32737
	Christian	100	10.6300	3.16437	0.31644
	Total	300	10.5200	3.36263	0.19414
Extraordinary life forms	Muslim	100	8.9500	3.57990	0.35799
	Hindu	100	10.1600	3.72467	0.37247
	Christian	100	9.7500	3.59398	0.35940
	Total	300	9.6200	3.65607	0.21108
Precognition	Muslim	100	9.7800	3.47162	0.34716
	Hindu	100	11.8200	4.17395	0.41739
	Christian	100	10.4500	3.66081	0.36608
	Total	300	10.6833	3.86257	0.22301
Total paranormal beliefs	Muslim	100	75.7900	11.99435	1.19944
	Hindu	100	77.5000	14.46591	1.44659
	Christian	100	77.4600	11.89722	1.18972
	Total	300	76.9167	12.82281	0.74033

Table 10: Summary of one-way analysis of variance for paranormal beliefs and its subscales with regard to religion. Number of groups = 3..

Paranormal beliefs	Sources of variance	Sum of squares	df	Mean square	F	P
Traditional religious beliefs	Between groups	176.827	2	88.413	10.575	0.0005
	Within groups	2483.210	297	8.361		
	Total	2660.037	299			
Psi	Between groups	30.927	2	15.463	1.623	0.199
	Within groups	2829.860	297	9.528		
	Total	2860.787	299			
Witchcraft	Between groups	141.307	2	70.653	5.733	0.004
	Within groups	3660.330	297	12.324		
	Total	3801.637	299			
Superstition	Between groups	4.820	2	2.410	0.467	0.628
	Within groups	1533.660	297	5.164		
	Total	1538.480	299			
Spiritualism	Between groups	61.220	2	30.610	2.739	0.066
	Within groups	3319.660	297	11.177		
	Total	3380.880	299			
Extra-ordinary life forms	Between groups	75.740	2	37.870	2.869	0.058
	Within groups	3920.940	297	13.202		
	Total	3996.680	299			
Precognition	Between groups	216.247	2	108.123	7.565	0.001
	Within groups	4244.670	297	14.292		
	Total	4460.917	299			
Total paranormal beliefs	Between groups	190.487	2	95.243	0.578	0.562
	Within groups	48972.430	297	164.890		
	Total	49162.917	299			

As seen in table - 10, there is significant difference between the mean scores on TRB at least in two groups with regard to religiosity, ($F_{2,297} = 10.575$, $p < 0.01$). Also, there is significant difference between at least two groups on WC ($F_{2,297} = 5.733$, $p < 0.01$). The table also reports significant difference on PR at least between two groups with regard to religiosity ($F_{2,297} = 7.565$, $p < 0.01$).

For the clarification of these differences Tukey's Post-Hoc is used as follows:

Table 11: Tukey's Post-hoc in (TRB) with regard to Religiosity.

Group(i)	Group(j)	Mean diff. (i-j)	Std.error	P
Muslim	Hindu	1.88	0.409	0.0005

As seen in table- 11, Muslim subjects have higher scores on (TRB) in comparison with Hindu subjects.

Table 12: Tukey's Post-hoc in (WC) with regard to Religiosity.

Group(i)	Group(j)	Mean diff. (i-j)	Std.error	p
Muslim	Hindu	1.64	0.496	0.003

As seen in table- 12, Muslim subjects have higher scores on (WC) in comparison with Hindu subjects.

Table 13: Tukey's Post-hoc in (PR) with regard to Religiosity.

Group(i)	Group(j)	Mean diff. (i-j)	Std.error	p
Muslim	Hindu	-2.04	0.535	0.0005

As seen in table-13, Hindu subjects have higher scores on (PR) in comparison with Muslim subjects.

VI. DISCUSSION

The present research investigated the correlation of religious and paranormal beliefs. The findings proved heterogeneous with a number of significant relations emerging. Each finding and possible implications is discussed in the following sections.

The researcher sought to investigate the relationship between the paranormal beliefs and religiosity. As seen in (table1), significant correlation was found between the two constructs. The findings of the present study suggest that there was a significant positive correlation between religiosity and paranormal beliefs as well as between religiosity and the traditional religious beliefs, psi and witchcraft subscales of the paranormal beliefs scale. The findings of the present research also report a negative correlation between religious beliefs and the spiritualism, extraordinary-life-forms and precognition subscales of the paranormal beliefs scale. The findings of the present research provide supporting evidence for the relationship between the two constructs that was initially suggested by Goode (2000). The results are also consistent with the findings of yet another study which reported a negative correlation between religiosity and beliefs in telepathy, precognition and psi (Hillstrom and Strachan, 2000).

The present research also sought to find out, whether the socially marginal groups were more susceptible to paranormal beliefs. The results revealed that the subjects of a

low socio-economic status are more susceptible to paranormal beliefs. They scored higher on psi, witchcraft, superstition, spiritualism, precognition as well as the total-paranormal beliefs scale (see table 5). These results therefore provide supporting evidence for the social-marginality hypothesis, according to which people more susceptible to paranormal beliefs are members of socially marginal groups, such as the poorly educated or the un-employed that possess characteristics or roles that rank low among dominant social values (Bainbridge, 1978; & Wuthnow, 1976). The deprivation and alienation associated with marginal status in the society is held to encourage such appeal to magical and religious beliefs, presumably because these beliefs bring various compensations to the lives of their adherents.

A large body of previous researches has reported that the endorsement of most, but certainly not all paranormal beliefs is stronger among women than men (Irwin, 1985; McGarry and Newberry; 1981). The results of the present study revealed that women scored higher than men on the witchcraft and spiritualism (see table 5). These results were inconsistent with the findings of Tobacyk and Pirttila-Backman (1992), who reported the belief in witchcraft to be higher among men than women. The present study reported no gender differences on global paranormal beliefs as well as traditional religious beliefs, superstition, psi, extraordinary life forms and precognition subscales (see table 5). Hence the results of the present study were inconsistent with the previous researches, suggesting women to score higher on global paranormal beliefs (Clarke, 1991; Rice, 2003; Tobayck and Milford, 1983; Wolfradt, 1997).

Gender differences may however be attributed to cultural differences. It has been found, via "top-down purification", that the revised paranormal belief scale can yield systematically biased results with respect to gender differences in paranormal beliefs.

The present study also sought to find out, if there was any difference in the degree of endorsement of the paranormal beliefs across different age-groups. The results reported no significant differences between the three groups of subjects either on the global paranormal beliefs or the traditional religious beliefs, witchcraft, superstition, spiritualism, extraordinary life forms and precognition subscales of the paranormal beliefs scale (see table 7). However significant differences were found between the elderly and the adult subjects on the psi subscale, with elderly subjects scoring higher than the adults (see table 8). Hence the findings of the present research were not supportive of the earlier researches which suggested that most of the paranormal beliefs, with the major exception of traditional religious beliefs appear to be stronger in adults than in elderly people (Emmons and Sobal, 1981). So far as the young participants are concerned no significant differences were found either on the global paranormal beliefs or on any of the seven subscales of the paranormal beliefs. The present study sought to find out, if there are any differences in the degree of endorsement of the paranormal beliefs across different religions. The findings suggest that Muslims scored higher on the traditional religious beliefs subscale in comparison with the Hindus (see table 11). Muslims also scored higher on witchcraft (see table-12). On the other hand, among the Hindus a higher degree of endorsement of precognition was observed

(see table 13). However, so far as the Christians are concerned no significant differences were observed either on global paranormal beliefs or any of the subscales of the paranormal beliefs. The investigator did not find any previous researches being conducted on the personality correlates of religiosity and paranormal beliefs across three religious groups. Hence the present research is the first substantial exploratory investigation of its type.

VII. CONCLUSIONS

The present research investigation of the correlation of religiosity and paranormal beliefs showed that paranormal beliefs and religiosity are indeed associated, confirming previous researches that suggested some kind of a relationship between the two (Goode, 2000; Haraldsson, 1981). With regards to the different religious groups, the results of the present study showed that there are higher endorsements of traditional religious beliefs and witch-craft among the Muslims, while as the Hindus endorse a higher degree of precognition. These findings were the results of the first exploratory study of its type; hence further research is required to confirm the findings of the present research. The results also showed that the individuals of low socio-economic status were highly susceptible to paranormal beliefs. The results of the present research therefore provided supporting evidence for the social-marginality hypothesis, according to which people more susceptible to paranormal beliefs are members of socially marginal groups, such as the poorly educated or the un-employed that possess characteristics or roles that rank low among dominant social values (Bainbridge, 1978) and Wuthnow, 1976). With regard to gender significant differences were found on witch-craft and spiritualism. However, no significant differences were found on the global paranormal beliefs, thus the results of the present research provide partial support to the findings of the previous researches that showed women to endorse greater global paranormal beliefs (Clark, 1991; Rice, 2003; Tobayck and Milford, 1983; Wolfradt, 1997). With regard to age the results of the present research revealed there were significant differences between the adults and the elderly on the psi subscale, the elderly scored higher than the adults. These findings were not supportive of the previous researches which suggested that most of the paranormal beliefs, with the major exception of the traditional religious beliefs appear to be stronger in adults than the elderly people (Emmons and Sobal, 1981).

VIII. SUGGESTIONS FOR FUTURE RESEARCH

The present study was conducted exclusively on Indians; although the sample was fairly representative of the demographic areas sampled, the racial homogeneity of the sample limited the generalizability of the findings to other populations. Cultural differences are also seen to influence the results by a great degree; hence it would be better if this study is conducted in a cross-cultural context. There are also certain doubts regarding the dimensionality of the Revised Paranormal Beliefs Scale; nonlinear research methods must therefore be used to capture the wholeness of the paranormal phenomena. It would also be relevant to take into account the

phenomenon of spirituality for a more informed research. Finally, all measures employed the self-report method, as is characteristic of this research (Kane & Kane, 2000). A multi-method approach would limit the shortcomings associated with any one assessment method, and could be considered for future research.

IX. REFERENCES

- Aarnio, Kia and Lindeman, Marjaana. (2006). Paranormal beliefs, education and thinking styles. *Personality and individual differences*, 39(7), 1227-1236.
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th Ed.). Washington DC: Author.
- Blackmore, S. J. (1994). Are women more sheepish? Gender differences in belief in the paranormal. In L. Coley and R. A. White (Eds.), *Women and parapsychology*. New York: Parapsychology Foundation.
- Boshier, R. (1973). Conservatism and superstitious behaviour. In G. D. Wilson (Ed.), *The psychology of conservatism*, London: Academic Press.
- Bourke, Rosamund and Francis, Leslie, J. (2000). Personality and religion among music students. *Pastoral psychology*, 48(6), 437-444.
- Broad, C. D. (1949). The relevance of psychical research to philosophy. *Philosophy*, 24, 291-309.
- Clarke, D. (1991). Belief in the paranormal: a New Zealand survey. *Journal of the Society for Psychical Research*, 57, 412-425.
- Clark, D. (1996). Experience and other reasons given for belief and disbelief in paranormal and religious phenomena. *Journal of the society for psychical research*, 60(841), 371-384.
- Davies, M. F. & Kirkby, H. E. (1985). Multidimensionality of the relationship between perceived control and belief in the paranormal: spheres of control and types of paranormal phenomena. *Personality and Individual Differences*, 6, 661-663.
- Desimpelaere, P., Sulas, F., Duriez, B., & Hutsebaut, D. (1999). Psycho-epistemological styles and religious beliefs. *The International Journal for the Psychology of Religion*, 9, 125-137.
- D'Onofrio, B. M., Eaves, L. J., Murrelle, L., Maes, H. H. & Spilka, B. (1999). Understanding biological and social influences on religious affiliation, attitudes, and behaviours: a behaviour genetic perspective. *Journal of Personality*, 67, 953-984.
- Dudley, R. Thomas. (2000). Social acceptability of paranormal and religious beliefs. *Psychological reports*, 85(1), 255-256.
- Dunne, Michael, P., Martin, Nicholas, G., Pangan, Theresa and Heath, Andrew, C. (1997). Personality and change in the frequency of religious observance. *Personality and individual differences*, 23(3), 527-530.
- Duriez, B. (2002a). Vivisecting the religious mind. Religiosity and need for closure. *Manuscript submitted for publication*.

- Duriez, B. (2002b). People are strange when you're a stranger. A research note on the relation between religiosity and racism. *Manuscript submitted for publication*.
- Duriez, B., Fontaine, J.R.J. & Hutsebaut, D. (2000). A further elaboration of the Post-Critical Belief scale: evidence for the existence of four different approaches to religion in Flanders – Belgium. *Psychologica Belgica*, 40, 153-181.
- Duriez, B. & Hutsebaut, D. (2000). The relation between religion and racism: the role of post critical beliefs. *Mental Health, Religion and Culture*, 3, 85-102.
- Duriez, B., Luyten, P., Snauwaert, B. & Hutsebaut, D. (2002). The relative importance of religiosity and values in predicting political attitudes. Evidence for the continuing importance of religion in Flanders (Belgium). *Mental Health, Religion and Culture*, 5, 35-54.
- Eliade, M. (Ed.) (1990). The encyclopaedia of religion. London: MacMillan Publishing Co.
- Emme, E. E. (1940). Modification and origin of certain beliefs in superstition among 96 college students. *Journal of Psychology*, 10, 279-291.
- Flori, K. L., Brown, E. E., Cortina, K. S. and Antonucci, Toni, C. (2006). "Locus of control as a mediator of the relationship between religiosity and life satisfaction: age, race, and gender differences." Erratum. *Mental health, religion and culture*. 9(4), 409.
- Fontaine, J. R. J., Duriez, B., Luyten, P. & Hutsebaut, D. (2003). The internal structure of the Post-Critical Belief scale. *Personality and Individual Differences*, 35, 501-518.
- Francis, L. J. (1992a). Is psychoticism really a dimension of personality fundamental to religiosity? *Personality and Individual Differences*, 13, 645-652.
- Francis, L. J. (1992b). Religion, neuroticism, and psychoticism. In J. F. Schumaker (Ed.), *Religion and mental health* (pp. 149-160). New York: Oxford University Press.
- Francis, L. J. (1993). Personality and religion among college students in the U.K. *Personality and Individual Differences*, 14, 619-622.
- Francis, L. J. & Katz, Y. J. (1992). The relationship between personality and religiosity in an Israeli sample. *Journal for the Scientific Study of Religion*, 31, 153-162.
- Francis, Leslie, J. and Jones, Susan, H. (1999). Personality and Christian beliefs among adult churchgoers. *Journal of psychological type*. 47, 5-11.
- Francis, Leslie, J. and Jackson, Chris, J. (2003). Eysenck's dimensional model of personality and religion: are religious people more neurotic? *Mental health, religion and culture*. 6(1), 87-10.
- French, C. (1992). Factors underlying belief in the paranormal: do sheep and goats think differently? *Bulletin of the British Psychological Society*, 5, 295-299.
- Gallup, G. Jr., (1997). Public Opinion 1996. Wilmington, DE: Scholarly Resources.
- Gallup, G. Jr. & Newport, F. (1991). Belief in paranormal phenomena among adult Americans. *Skeptical Enquirer*, 15, 137-146.
- Goode, E. (2000). Two paranormalisms or two and half? An empirical exploration. *Skeptical Enquirer*, 24 (1), 29-35.
- Gow, Kathryn, Lang, Tracey and Chant, David. (2005). Fantasy proneness, paranormal beliefs and personality features in out-of-body experiences. *Contemporary Hypnosis*. 21(3), 107-125.
- Greene, F. Gordon. (1999). A projection geometry for separation experiences. *Journal of Near-Death studies*. 17(3), 151-191.
- Groth- Marnat, Gary and Pegden, Julie- Ann.(1998). Personality correlates of paranormal beliefs: Locus of control and sensation seeking. *Social behavior and personality*. 26(3), 291-296.
- Haraldson, Erlender and Houtkooper, Joop, M. (1997). Traditional Christian beliefs, spiritualism and the paranormal: An Icelandic-American comparison. *International journal for the psychology of religion*. 6(1), 51-64.
- Harvey, J. Irwin. (1993). Belief in the Paranormal: A Review of the Empirical Literature. *The Journal of the American Society For Psychical Research*, 1, 83.
- Heaven, P. C. (1990). Religious values and personality dimensions. *Personality and Individual Difference*, 11, 953-956.
- Hills, Peter, Francis, Leslie, J., Argyle, Michael and Jackson, Chris, J. (2004). Primary personality trait correlates of religious practice and orientation. *Personality and individual differences*. 36(1), 61-73.
- Hillstrom, E. L. & Strachan, M. (2000). Strong commitment to traditional Protestant religious beliefs is negatively related to beliefs in paranormal phenomena. *Psychological Reports*, 86, 183-189.
- Houran, James. (1997). Preliminary study of death anxiety of believers versus percipients of the paranormal. *Psychological reports*. 80(1), 345-346.
- Hutsebaut, D. (1996). Post-critical belief: a new approach to the religious attitude problem. *Journal of Empirical Theology*, 9 (2), 48-66.
- Hutsebaut, D. (1999). *Cursus Godsdienstpsychologie. Cursusdiens Psychologische Kring*. Unpublished manuscript: K. U. Leuven.
- Hutsebaut, D. (2000). Post-Critical Belief scales. Exploration of a possible developmental process. *Journal of Empirical Theology*, 13(2), 19-28.
- Irwin, H. J. (1990). Fantasy proneness and paranormal beliefs. *Psychological Reports*, 66, 655-658.
- Irwin, H. J. (1993). Belief in the paranormal: a review of empirical literature. *Journal of the Society for Psychical Research*, 87, 1-39.
- Irwin, H. J. (1994). Paranormal beliefs and proneness to dissociation. *Psychological Reports*, 75, 1344-1346.

- Jorm, Anthony, F. and Christensen, Helen. (2004). Religiosity and personality: Evidence for non- linear association. *Personality and individual differences*. 36(6), 1433-1441.
- Kia, A. and Marjaana, L. (2007). Religious people and paranormal believers: Alike or Different? *Journal of individual difference*, 28 (1), 1-9.
- Knox, David, Langehough, Steven, O, Walters, Connor and Rowley, Michael. (1999). Religiosity and spirituality among college students. *College student journal*. 32(3), 430-432.
- Kosek, R. B. (1999). Adaptation of the Big Five as a hermeneutic instrument for religious constructs. *Personality and Individual Differences*, 27, 229-237.
- Kosek, R. B. (2000). The desire for God: an assessment of seminarians' spirituality through the lens of the "Big Five". *Pastoral Psychology*, 49, 43-50.
- Lewis, Christopher Alan, Francis, Leslie, J. and Enger, Trond. (2006). Personality, prayer and church-attendance among a sample of 11 to 18 year olds in Norway. *Mental health, Religion and Culture*. 7(3), 269-274.
- Lucadou, Walter, V. (2001). Hans in luck: The currency of evidence in parapsychology. *Journal of parapsychology*. 65(1), 3-16.
- Lukey, Nicole and Baruss, Imants. (2006). Intelligence correlates of transcendent beliefs: A preliminary study. *Imagination, cognition and personality*. 24(3), 259-270.
- Lundeen, G.E., & Caldwell, O.W. (1930). A study of unfounded beliefs among high-school seniors. *Journal of Educational Research*, 22, 257-273.
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32, 311-328.
- Lawrence, T. R. (1995). How many factors of paranormal belief are there? A critique of the Paranormal Belief Scale. *Journal of Parapsychology*, 59, 3-25.
- Lester, D. & Monaghan, K. (1995). Belief in the paranormal and personality. *Perceptual and Motor Skills*, 81, 114.
- Lester, D., Thinschmidt, J. & Trautman, L. (1987). Paranormal belief and Jungian dimensions of personality. *Psychological Reports*, 61, 182.
- Lewis, C. A. & Joseph, S. (1994). Religiosity: psychoticism and obsessionality in Northern Irish university students. *Personality and Individual Differences*, 17, 685-687.
- Lewis, C. A. & Maltby, J. (1995). Religiosity and personality among U. S. adults. *Personality and Individual Differences*, 18, 293-295.
- Lewis, C. A. & Maltby, J. (1996). Personality, prayer, and church attendance in a sample of male college students in the USA. *Psychological Reports*, 78, 976-978.
- Malinowski, B. (1948). *Magic, science and religion*. New York: Doubleday.
- Maltby, J. (1998). Personality correlates of religiosity among adults in the Republic of Ireland. *Psychological Reports*. 81(3, pt 1), 827-831.
- Maltby, J. (1999a). Religious orientation and Eysenck's personality dimensions: the use of the amended religious orientation scale to examine the relationship between religiosity, psychoticism, neuroticism and extraversion. *Personality and Individual Differences*, 26, 79-84.
- Maltby, J. (1999b). Personality dimensions of religious orientation. *Journal of Psychology*, 133, 631-640.
- Maria, E., Aguilar, V., Mahnaz, Moghauloo. (2007). Domain & facet personality correlates of religiosity among Iranian college students. *Mental health, Religion & culture*, 23(1).
- Mc Creery, Charles and Claridge, Gordon. (1996). Out-of-the-body experiences and personality. *Journal of the society for psychical research*. 60(838), 129-148.
- McCrae, R. R. (1996a). Social consequence of experiential openness. *Psychological Bulletin*, 120, 323-337.
- McCrae, R. R. (1996b). Towards a new generation of personality theories: theoretical contexts for the five-factor model. In J. S. Wiggins (Ed.), *The five-factor model of personality: theoretical perspectives* (pp. 51-87). New York: Guilford Press.
- McCrae, R. R. (1999). Mainstream personality psychology and the study of religion. *Journal of Personality*, 67, 1208-1212.
- McCrae, R. R. & Costa, P. T., Jr. (1997). Conceptions and correlates of Openness to Experience. In R. Hogan, J. A. Johnson & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 269-290). Orlando, FL: Academic Press.
- McCrae, R. R., Zonderman, A. B., Costa, P. T., Jr., & Bond, M. H. (1996). Evaluating replicability of factors in the revised NEO Personality Inventory: confirmatory analysis versus Procustes rotation. *Journal of Personality and Social Psychology*, 70, 552-566.
- McGarry, J. J. & Newberry, B. H. (1981). Beliefs in paranormal phenomena and locus of control: a field study. *Journal of Personality and Social Psychology*, 41, 725-736.
- Messer, W. S. & Griggs, R. A. (1989). Student belief and involvement in the paranormal and performance in introductory psychology. *Teaching of Psychology*, 16, 187-191.
- Michel, E. McCullough, Tsang, J.A, & Sharion, B. (2003). Personality traits in adolescents as predictors of religiousness in early adulthood: Findings from the Terman longitudinal study. *Personality and Social Psychology Bulletin*, 29; 980.
- Musgrave, Cassandra. (1998). The Near-death experience: A study of spiritual transformation. *Journal of Near-Death studies*. 15(3), 187-201.
- Norenzayan, Ara and H ansen, Ian, G. (2006). Beliefs in the supernatural agents in the face of Death. *Personality and social psychological Bulletin*. 32(2), 174-187.
- Okebukola, P. A. (1986). Relationship between anxiety, belief system, and creativity. *Journal of Social Psychology*, 126, 815-816.

- Pekala, R.J., Kumar, V.K. & Marcano, G. (1995). Anomalous paranormal experiences, hypnotic-susceptibility, and dissociation. *Journal of the Society for Physical Research*, 89, 313-332.
- Peltzer, Karl. (2002). Paranormal beliefs and personality among black south African students. *Social behavior and personality*. 30 (4), 391-398.
- Peter, H. and Paul, R. (2007-2008). Individuals who report themselves to be abducted by Aliens: investigating the differences in Fantasy proneness, Emotional intelligence and the Big-Five personality factors. *Imagination, cognition and personality*. 27(2), 139-161.
- Phillip, J. R. (1996). Inquiry into the Paranormal. *Nursing Science Quarterly*, 9;89.
- Rattet, S. L. & Bursik, K. (2001). Investigating the personality correlates of paranormal belief and pre-cognitive experience. *Personality and Individual Differences*, 31, 433-444.
- Rice, T. W. (2003). Believe it or not: religious and other paranormal beliefs in the United States. *Journal for the Scientific Study of Religion*, 42, 95-106.
- Ricoeur, P. (1970). *Symbolen van het kwaad*. Rotterdam: Lemniscat. Roberts, B. W., Caspi, A. & Moffitt, T. E. (2001). The kids are alright: growth and stability in personality development from adolescence to adulthood. *Journal of Personality and Social Psychology*, 81, 670-683.
- Robinson, T. N. (1990). Eysenck personality measures and religious orientation. *Personality and Individual Differences*, 11, 915-921.
- Roig, M., Bridges, K. R., Renner, C. H. & Jackson, C. R. (1998). Belief in the paranormal and its association with irrational thinking controlled for context effects. *Personality and Individual Differences*, 24 (2), 229-236.
- Rudski, Jeffrey. (2004). What does a superstitious person believe? Impressions of participants. *Journal of general psychology*. 130(4), 431-445.
- Saroglou, V. (2002). Religion and the five factors of personality: a meta-analytic review. *Personality and Individual Differences*, 32, 15-25.
- Saucier, G. (2000). Isms and the structure of social attitudes. *Journal of Personality and Social Psychology*, 78, 366-385.
- Saucier, G. & Goldberg, L. R. (1998). What is beyond the Big Five? *Journal of Personality*, 66, 495-524.
- Schmeidler, G. R. (1945). Separating the sheep from the goats. *Journal of the American Society for Psychical Research*, 39, 47-49.
- Schouten, S. A. (1983). Attitude about technology and belief in ESP. *Psychological Reports*, 53, 358.
- Schriever, F. (2000). Are there different cognitive structures behind paranormal beliefs? *European Journal of Parapsychology*, 15, 46-47.
- Sebastian, K.A. and Mathew, V. Goerge.(2004). Personality correlates of Psi beliefs. *Journal of Indian psychology*. 21(2), 61-66.
- Shutle, James, W. and Hosch, Harmon, M. (1996). Optimism, religiosity and neuroticism: A cross-cultural study. *Personality and individual differences*. 20(2), 239-244.
- Streiffeler, L. L. & McNally, R. J. (1998). Fundamentalists and liberals: personality characteristics of Protestant Christians. *Personality and Individual Differences*, 24, 579-580.
- Stuart-Hamilton, Ian, Nayak, Laxman and Priest, Lee.(2006). Intelligence, beliefs in the paranormal, knowledge of personality and aging. *Educational Gerontology*. 32(3), 173-184.
- Sobal, J., & Emmons, C.F. (1982). Patterns of belief in religious, psychic, and other paranormal phenomena. *Zetetic Scholar*, 9,7-17.
- Taylor, A. & McDonald, D. A. (1999). Religion and the five-factor model of personality: an exploratory investigation using a Canadian university sample. *Personality and Individual Differences*, 27, 1243-1259.
- Ter Keurst, A.J. (1939). Comparative differences between superstitious and non- superstitious children. *Journal of Experimental Education*, 7,261-267.
- Thalbourne, M. A. (1981). Extraversion and the sheep-goat variable: a conceptual replication. *Journal of the American Society for Psychical Research*, 75, 105-119.
- Thalbourne, M. A. (1994). Belief in the paranormal and its relationship to schizophrenia-related measures: a confirmatory study. *British Journal of Clinical Psychology*, 33, 78-80.
- Thalbourne, Michael, A. (1996). Further studies of the measurement and correlates of beliefs in the paranormal. *Journal of the American society for psychic research*. 89(3), 233-247.
- Thalbourne, M. A. (1997). Paranormal belief and superstition – how large is the association? *Journal of the American Society for Psychical Research*, 91, 221-226.
- Thalbourne, Michael, A. Dunbar, Kelly, A. and Delin, Peter, S. (1996). An investigation into correlates of beliefs in the paranormal. *Journal of the American society for psychical research*. 89(3), 215-231.
- Thalbourne, M. A., Dunbar, K. A. & Delin, P. S. (1995). An investigation into correlates of belief in the paranormal. *Journal of the Society for Physical Research*, 89, 215-231.
- Thalbourne, M. A. & French, C. C. (1995). Paranormal belief, manic-depressiveness, and magical ideation: a replication. *Personality and Individual Differences*, 18, 291-292.
- Thalbourne, M. A. & Haraldsson, E. (1980). Personality characteristics and sheep and goats. *Personality and Individual Differences*, 1, 180-185.
- Thalbourne, Michael, A. and Delin, Peter, S. (1999). Transliminality: its relation to dream life, religiosity and mystical experience. *International journal for the psychology of religion*. 9(1), 45-61.

- Thalbourne, Michael, A. (1999). Personality characteristics of students who believe themselves to be psychic. *Journal of the society for psychical research*. 63(856), 203-212.
- Thalbourne, Michael, A. and Houtkooper, Joop, M. (2002). Religiosity/ Spirituality and beliefs in the paranormal: A German replication. *Journal of the society for psychical research*. 66(867), 113-115.
- Thalbourne, M. A. (2007). Potential psychological predictors of religiosity. *International journal of psychology of religion*. 17(4), 333-336.
- Thorson, J. A., Powell, F.C., Abdel- Khalek, A. M. and Beshai, J. A.(1998). Constructions of religiosity and death anxiety in two cultures: the united states and Kuwait. *Journal of psychology and theology*. 25(3), 374-383.
- Tobacyk, J. J. (1982). Paranormal belief and trait anxiety. *Psychological Reports*, 51, 861-862.
- Tobayck, J. J. (1995). Final thoughts on issues in the measurement of paranormal beliefs. *The Journal of Parapsychology*, 59, 141-145.
- Tobayck, J. & Milford, G. (1983). Belief in paranormal phenomena: assessment instrument development and implications for personality functioning. *Journal of Personality and Social Psychology*, 44, 1029-1037.
- Tobayck, J. J. & Pirtilla-Backman, A. M. (1992). Paranormal beliefs and there implications in university students from Finland and the United States. *Journal of Cross-Cultural Psychology*, 23, 59-71.
- Truzzi, M. (1972). The occult revival as popular culture: Some random o bservations on the old and nouveau witch. *The sociological Quaterly*, 13, 16-36.
- Verhoeven, D.& Hutsebaut, D. (1995). Identity statuses and religiosity. A research among Flemish university students. *Journal of Empirical Theology*, 8(1), 46-64.
- Vitulli, William, F. (1998). Beliefs in parapsychological events or experiences among college students in a course in experimental parapsychology. *Perceptual and motor skills*. 85(1), 273-274.
- Wagner, M. W. & Ratzeburg, F. H. (1987). Hypnotic suggestibility and paranormal belief. *Psychological Reports*, 60, 1069-1070.
- Wallace, M. I. (1990). The second naivet  in Barth and Ricoeur. In M. I. Wallace (Ed.), *The second naivet : Barth, Ricoeur and the New Yale Theology* (pp. 51- 87). Macon, GA. : Mercer University Press.
- White, Josphine, Joseph, Stephen and Neil, Alastair. (1996). Religiosity, psychoticism and Schizotypal traits. *Personality and individual differences*. 19(6), 847-851.
- Wilde, Alex and Joseph, Stephen.(1998). Religiosity and personality in a Moslem context. *Personality and individual differences*. 23(5), 899-900.
- Willging, Brian, J. and Lester, David. (1998). Paranormal beliefs and personality scores of high school students. *Perceptual and motor skills*. 85(3, pt 1), 938.
- Willing, B. T. & Lester, D. (1997). Paranormal beliefs and personality scores of high school students. *Perceptual and Motor Skills*, 85, 938.
- Windholz, G. & Diamant, L. (1974). Some personality traits of believers in extraordinary phenomena. *Bulletin of the Psychonomic Society*, 3, 125-126.
- Wolfradt, U. (1997). Dissociative experiences, trait anxiety and paranormal beliefs. *Personality and Individual Differences*, 23, 15-19.
- Wulff, D. M. (1991). Psychology of religion: classic and contemporary views. New York: Wiley.
- Wulff, D. M. (1997). Psychology of religion: classic and contemporary views. New York: Wiley.
- Wuthnow, R. (1976). Astrology and marginality. *Journal of the Scientific Study of Religion*, 15, 157-168.
- Zusne, L. , & Jones, W.H. (1982). *Anomalistic Psychology: A Study of Extraordinary phenomena of behavior and experience*. Hillsdale, NJ: Lawrence Earlbaum.