

A study of paranormal belief, personality factors, religiosity and spirituality among young adults

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ABSTRACT

Parapsychology, in a restricted sense, is defined as the scientific, statistical, the experimental approach to extrasensory phenomena. It is placed within the framework of science (Banks, H.N., 1989). Those who believe in paranormal or psychical phenomenon are said to be paranormal believers. Their beliefs in paranormal activities are associated with their personality, spiritual belief and religious belief but this association is not significant as is reflected in the results of this study. There was a negative non-significant correlation between conscientiousness and agreeableness and paranormal belief. There was a positive non-significant correlation between openness, neuroticism, extraversion and spirituality and paranormal belief. Religiosity was significantly positively correlated with paranormal belief. Males and females also showed difference in paranormal belief. Gender difference was observed where females were found to be more religious and spiritual than males. Religiosity was significantly positively correlated with spirituality.

Keywords: Parapsychology, paranormal belief, personality, spirituality, religiosity, gender.

Parapsychology is an emerging branch of psychology. It is the scientific study of experiences which are in principle outside the realm of human capabilities (Irwin & Watt, 2007).

It would appear a self-evident fact that there are many people out there who would claim, with varying degrees of conviction, to believe in the existence of phenomena that would be widely considered as fairly extraordinary. The scientific literatures available tend to refer to such phenomena as paranormal, and operationalize beliefs as paranormal belief (PB). Only recently has the term 'paranormal beliefs' come to be broadly accepted as the nomenclature of choice for what Danziger (2001) has called the psychological object. Research into certain areas such as belief in superstition or ESP is commonly considered under this classification (Irwin, 2009).

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Spiritualism is a term that has been widely associated with parapsychology. Spirituality can be very broadly defined as those things which give meaning and purpose and/or connection to one's life and may or may not contain a religious component. It could be your familial relationships, your friendships, your work, your faith in yourself, a connection to nature, your faith in the God, your connection to the existential, humble deeds done by you, and such beliefs. Religious is narrowly defined as one who adheres to a religion. In a study to develop a measurement scale for spirituality (Wheat, 1991), the definition of spirituality was defined as: the personal valuing, experiencing or expression of (a) a larger context or structure in which to view one's life, (b) an awareness of and connection to life itself and other living things, and (c) a reverent compassion for the welfare of others. Religiosity is a perception of how strongly one adheres to their religious beliefs. Most of the religious individuals define their spirituality in terms of their religious beliefs, customs and practices. Most often we hear people say "I'm spiritual but not religious." Those who are religious would also consider themselves spiritual but that their religious faith is a strong component or the only component of their spirituality.

Personality refers to an individual's characteristic patterns of thought, emotion, and behaviour, together with the psychological mechanisms (Funder, 2004, p. 5). There are some proven traits that make up a person's personality, but still the individual differences prevail. Thus, personality can be broadly defined as "the characteristic, stable patterns of behaviour and patterns of thinking and feeling that determine a person's unique way of adjusting and interacting with the environment."

Psychologists studying religion have long claimed that a belief in the paranormal can be a kind of shield from the even harsher truths of the world. The idea is that when something unexpected happens such as a death, natural disaster, or job loss, the brain searches around for answers, looking for meaning in the chaos. According to Jennifer Whitson at the University of Texas, it is such an aversive state that if it can't gain control objectively, people will get it by perceiving more structures around them, even if they don't exist (Robson, 2014). Thus, belief in paranormal contributes in prediction of many other psychological attributions.

Various correlates of paranormal belief have been recognized, the most studied being personality. It is an established fact that people who believe in paranormal exhibit certain characteristic personality traits.

Religiosity as a correlate of belief in paranormal has also been studied but only in a very few researches. Nonetheless an issue has always remained; spirituality and religiosity have been treated as same in a majority of researches. Though they are comparatively different, still the similarity has prevailed in the researches. The findings of an analysis done by Saucier and Skrzypińska (2006) indicate that scientists who treat religious/spiritual tendencies as a unitary phenomenon do so in error.

This study is an attempt to establish the relationship between paranormal belief, personality, spirituality and religiosity. Gender differences in paranormal belief, personality factors, religiosity and spirituality are also examined.

REVIEW OF LITERATURE

Paranormal belief and personality

Some suggest that the personality constructs of Openness to Experience and Sensation Seeking both partially predict belief in the paranormal. These personality constructs are

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important to the understanding and explanation of divergent belief systems such as beliefs in the supernatural (Smith, Johnson, & Hathaway, 2009). Conscientiousness was found to be the only personality factor significantly predicting paranormal beliefs and it was negatively correlated to it (Huntley & Peeters, 2005).

Miklousic, Mlacic, & Milas (2012) performed a study to assess the relationship between the Five Factor Model of personality and the belief in the paranormal. Results to an extent suggested that open individuals accept more General paranormal beliefs, while rejecting Traditional religious belief. Conscientiousness displayed an opposite trend being positively related to Traditional religious beliefs and negatively to General paranormal beliefs. Finally, Neuroticism was related to Rituals and practices, i.e. superstitions, divinations and occult control of life outcomes.

Paranormal belief and spirituality

Belief in paranormal phenomena may be greatest among those who are spiritual but reject organized religion. In an analysis of the Canadian data, Orenstein (2002) reported that belief in the paranormal is positively related to religious belief but negatively related to religious participation.

A survey found significant, positive correlations between overall meaning in life and psychic and/or transcendent experiences (Kennedy, Kanthamani & Palmer, 1994).

In his paper “Meaningful Coincidences and Near-Death Experiences” published in *Psychiatric Annals*, Greyson (2011) stated, “Perception of coincidences and attribution of meaning to them have been associated with belief in and experience of paranormal phenomena, faith in intuitive modes of thinking, a spiritual interest, and a more experiential, rather than rational, information processing style.”

Paranormal belief and religiosity

In a study to investigate about paranormal belief correlates, religious belief showed a significant positive correlation with paranormal beliefs (Eder et.al, 2011).

The findings of an Indian study suggest that there is 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 (Ara, 2016).

The results of a study showed that the relationship between religious and paranormal beliefs was positive among paranormal believers and sceptics but negative among religious people. High intuitive thinking, low analytical thinking, mystical experiences, and close others' positive attitude toward the supernatural distinguished both kinds of believers from the sceptics, while conservation and self-transcendence values distinguished religious people from paranormal believers (Aarnio & Lindeman, 2007).

A moderate positive relationship was found between paranormal belief and religiosity. The relationship was much stronger for indices such as intrinsic religiosity or self-reported religiosity than for measures of extrinsic religiosity (which show no correlations with paranormal belief). If one compares the different religious affiliations, the relationship between paranormal belief and religiosity is much higher for participants without religious affiliation than for Catholics and Protestants. For these participants, intrinsic religiosity and self-reported religiosity were, above all, strongly related to paranormal belief (Hergovich, Schott, & Arendasy, 2005).

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Religious beliefs and practice have a curvilinear effect on belief in the paranormal, and those most likely to believe in the paranormal are people who are religiously moderate and nonexclusive in their spiritual outlook (Baker & Draper, 2010). Wain and Spinella (2007) conducted a study in which religious beliefs were found positively related to both moral attitudes and paranormal beliefs.

Spirituality and religiosity

Religion is focused on the search for the sacred within formal institutional structures and spirituality refers to the more experiential dynamics of personal meaning and transcendence (Hill et al., 2000).

An empirical study compared religiousness and spirituality. Spirituality was most often described in personal or experiential terms, such as belief in God or a higher power, or having a relationship with God or a higher power. Definitions of religiousness included both personal beliefs, such as a belief in God or a higher power, and organizational or institutional beliefs and practices such as church membership, church attendance, and commitment to the beliefs system of a church or organized religion (Kadar et al., 2015).

In an attempt to distinguish between the definitions of spirituality and religiosity (Schlehofer, Omoto & Adelman, 2008), 64 older adults were examined on the basis of their conceptualization of these two terms. In the study it was found that the participants were more likely to associate religion than spirituality with personal beliefs, community affiliation, and organized practices.

METHODOLOGY

Purpose: to study the relationship between paranormal belief, personality factors, spirituality and religiosity.

Hypothesis 1: Conscientiousness will negatively correlate with paranormal belief.

Hypothesis 2: Openness to experience will positively correlate with paranormal belief.

Hypothesis 3: Neuroticism will positively correlate with paranormal belief.

Hypothesis 4: Religiosity will positively correlate with paranormal belief.

Hypothesis 5: Spirituality will positively correlate with paranormal belief.

Hypothesis 6: Males and females will show difference in paranormal belief.

Sample characteristics

Sample consisted of 100 college students (Males-50, Female-50). The age ranged between 18-25 years. Demographic details were also recorded to gain a more comprehensive insight of the sample. Sampling method used was purposive random sampling. It was purely an urban sample pursuing some academic degree.

Research design

Cross-sectional research design was employed as adults from diverse ages (18-25) were assessed at the same time.

Tools

Revised paranormal belief scale- the scale by Tobayck measures the paranormal belief of the individuals. The scale consists of 26 items. It has a 7-point rating scale for each statement (1=strongly disagree to 7=strongly agree). Responses are taken at face value. Only item 23 is reversed, and added together to determine the score. The revised version of this scale has

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higher reliability and validity than its predecessor and also an increased cross-cultural validity (Tobacyk, 2004). The Revised Paranormal Belief Scale measures 7 aspects of paranormal belief: traditional religious belief, psi, witchcraft, superstition, spiritualism, extraordinary life forms, and precognition. The maximum score that can be achieved is 182. Scores above 137 are high and scores below 91 are low. The scores between the range of 91-136 are average.

NEO-FFI- the scale is based on the Five Factor model of personality. It is a revised 60 item version of the NEO-PI-R designed by Costa and McCrae. It consists of 12 items for each dimension namely, Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The items are measured on a 5-point Likert scale. Estimates of internal consistency (Cronbach alpha's) are 0.81, 0.70, 0.79, 0.85, 0.71 for Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience, respectively.

Religiosity and Spirituality Scale for Youth- This scale was developed by Hernandez. Because of its multidimensional nature, the measure is useful for assessing coping, but also for measuring the frequency of socially-based and general religious activities (Hernandez, 2011). In this study, the scale is used to assess the religiosity of the sample because the items in the scale are majorly associated with religiosity. The maximum score that can be obtained is 111. Scores above 83 are high, scores below 56 are low and the scores in between are average.

Spirituality Assessment Scale- The Spirituality Assessment Scale was developed by Howden (1992). There are four domains in SAS- Purpose and Meaning in Life, Innerness or Inner Resources, Unifying Interconnectedness and Transcendence. The SAS has high internal consistency ($\alpha=0.9164$). Each subscale was also found to have reasonably high internal consistency: 1) Purpose and Meaning in life (4 items), $\alpha=0.9117$; 2) Innerness or Inner resources (9 items), $\alpha=0.7944$; 3) Unifying Interconnectedness (9 items), $\alpha=0.8017$; and 4) Transcendence (6 items), $\alpha=0.7091$. The maximum score that can be obtained is 168. Scores above 126 are high, scores below 84 are low and the scores in between are average.

Data collection

The questionnaires were administered to the sample individually and data was collected. Each participant was asked for his/her consent before questionnaires were given. They were debriefed about the topic and were given instructions regarding how they are supposed to provide their responses. A token of thanks was given after the data was collected from each participant.

Statistical Analysis

To test for correlation, Pearson r correlation was calculated. To test for significant difference, mean was calculated and t-testing was done.

RESULTS

Figure 3.1 shows the paranormal belief level of the sample. Only 8% of the sample was high on paranormal belief. 56% sample was average on paranormal belief and 36% was low on paranormal belief.

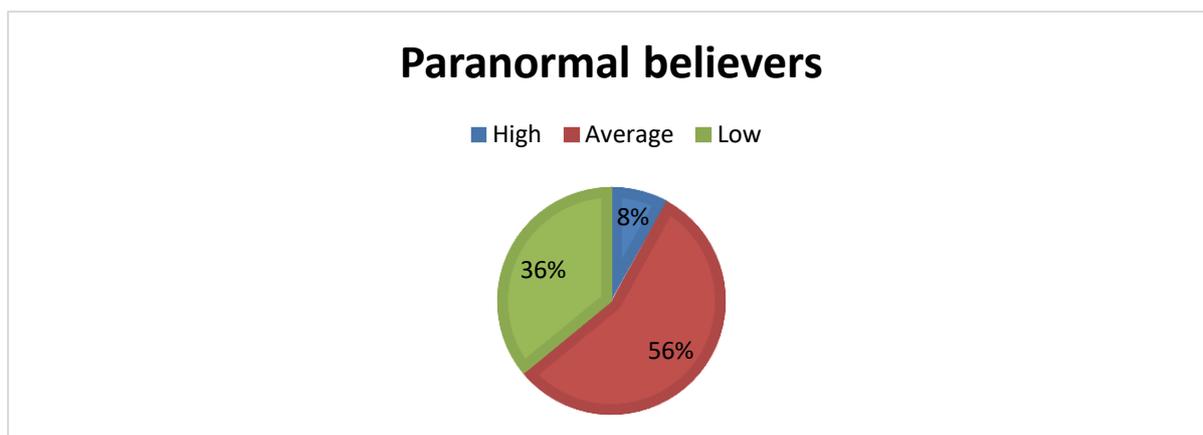


Figure 3.1: Paranormal belief level of the sample.

Figure 3.2 shows the percentage of theist and atheist in the sample. 60% of the sample mentioned that they were theist which means 20 males and 40 females were theist. 40% of the sample mentioned that they were atheist which means 30 males and 10 females were atheist.

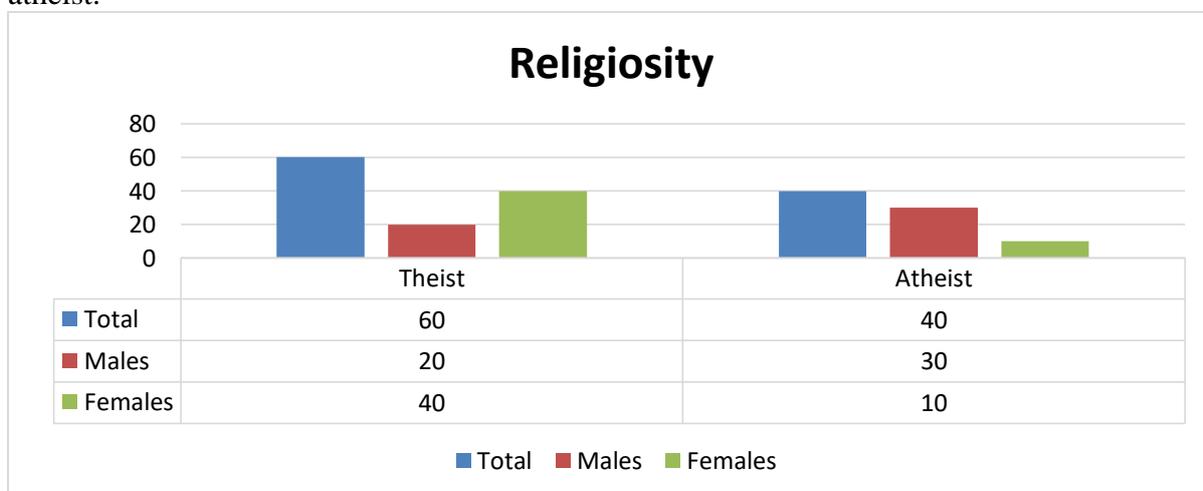


Figure 3.2: Percentage of theist and atheist in the sample.

Figure 3.3 shows the percentage of spirituality level of the sample. 66% of the sample was high on spirituality, 30% was average and 4% of the sample was low on spirituality.

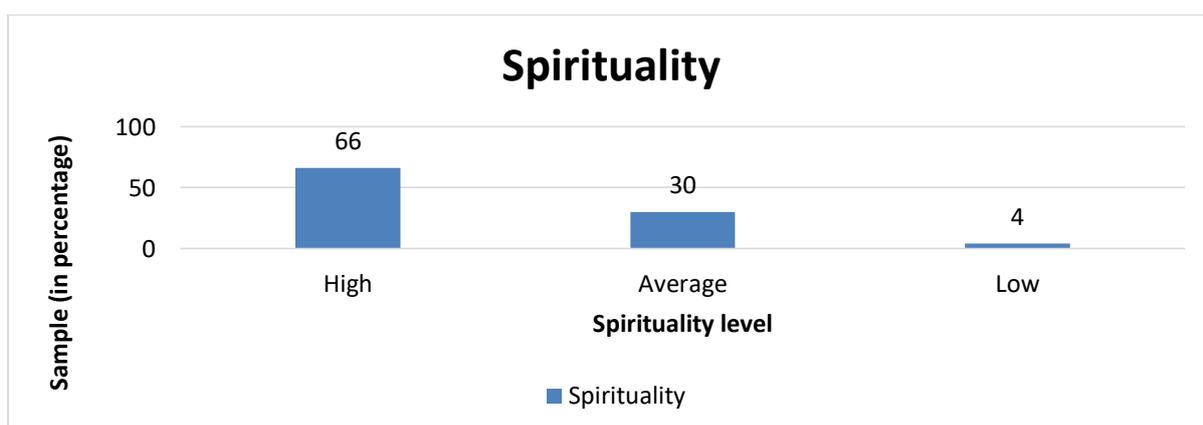


Figure 3.3: Percentage of spirituality level of the sample.

Figure 3.4 shows religiosity level of the sample. 5% of the sample was high on religiosity, 28% was average and 67% of the sample was low on religiosity.

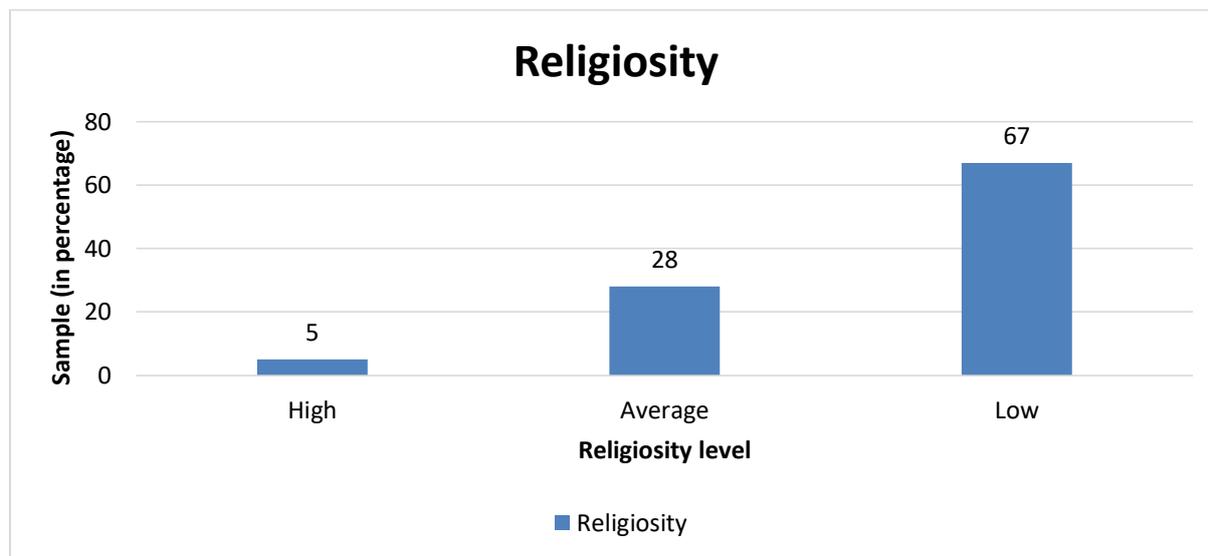


Figure 3.4: Percentage of religiosity level of the sample.

To describe the relationship between paranormal belief, personality factors, religiosity and spirituality, Pearson r correlation was calculated. Table 3.1 shows the calculated value of r and its significance at 0.05 and 0.01 level. Openness to Experience was found to be positively correlated with paranormal belief ($r=0.14$) but the correlation was not significant. Conscientiousness was found to be negatively correlated with paranormal belief ($r=-0.02$) but the correlation was not significant. Extraversion was positively correlated with paranormal belief ($r=0.15$) but the correlation was not significant. Agreeableness was negatively correlated with paranormal belief ($r=-0.04$) but the correlation was not significant. Neuroticism was positively correlated with paranormal belief ($r=0.12$) but the correlation was not significant. Religiosity was found to be significantly positively correlated with paranormal belief ($r=0.35$). Spirituality was positively correlated with paranormal belief ($r=0.06$) but the correlation was not significant. Neuroticism was negatively significantly correlated with extraversion ($r=-0.38^{**}$), positively significantly correlated with openness ($r=0.21^*$), negatively significantly correlated with agreeableness ($r=-0.25^{**}$), negatively significantly correlated with conscientiousness ($r=-0.55^{**}$), positively non-significantly correlated with religiosity ($r=0.04$) and negatively significantly correlated with spirituality ($r=0.24^*$). Extraversion was negatively non-significantly correlated with openness ($r=-0.12$), positively non-significantly correlated with agreeableness ($r=0.10$), positively significantly correlated with conscientiousness ($r=0.33^{**}$), positively significantly correlated with religiosity ($r=0.26^*$) and positively significantly correlated with spirituality ($r=0.34^{**}$). Openness to experience was positively significantly correlated with agreeableness ($r=0.27^{**}$), positively non-significantly correlated with conscientiousness ($r=0.07$), positively non-significantly correlated with religiosity ($r=0.11$) and positively non-significantly correlated with spirituality ($r=0.15$). Agreeableness was positively significantly correlated with conscientiousness ($r=0.27^{**}$), positively non-significantly correlated with religiosity ($r=0.04$) and positively significantly correlated with spirituality ($r=0.20^*$). Conscientiousness was positively significantly correlated with religiosity ($r=0.23^*$) and positively significantly correlated with spirituality ($r=0.40^{**}$). Religiosity was positively significantly correlated with spirituality ($r=0.37^{**}$).

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Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Paranormal belief	--	0.12	0.15	0.14	-0.04	-0.02	0.35**	0.06
2. Neuroticism		--	-0.38**	0.21*	-0.25**	-0.55**	0.04	-0.24*
3. Extraversion			--	-0.12	0.10	0.33**	0.26*	0.34**
4. Openness				--	0.27**	0.07	0.11	0.15
5. Agreeableness					--	0.27**	0.04	0.20*
6. Conscientiousness						--	0.23*	0.40**
7. Religiosity							--	0.37**
8. Spirituality								--

Table 3.1: Value of Pearson r coefficient (*p<0.05, **p<0.01)

To test for difference between males and females in paranormal belief, t-test was done. The SD calculated was 34.70 and SED was 6.94. The calculated 't' value came out to be 2.95 which was significant at 0.05 and 0.01 level for the df of 98 (N-2). Table 2 shows the calculated values for t-test.

	Mean (females)	Mean (males)	SD	SED	Df	T-value
Paranormal belief	104.78	84.34	34.70	6.94	98	2.95**

Table 3.2: calculated values for t-test (*p<0.05, **p<0.01).

To test for differences between males and females in the personality factors, religiosity and spirituality, t-test was done. There was significant difference between males and females in openness (t=3.34), conscientiousness (t=2.68), agreeableness (t=2.28), religiosity (t=5.26) and spirituality (t=2.83). No significant difference was found between males and females in extraversion (t=0.72) and neuroticism (t=1.69). Table 3.3 shows the calculated values for t-test.

	Mean (females)	Mean (males)	SD	SED	Df	t-value
Openness	27.24	24.3	4.44	0.88	98	3.34**
Conscientiousness	31.3	28.24	5.68	1.14	98	2.68
Extraversion	28.3	27.56	5.14	1.03	98	0.72
Agreeableness	25.5	23.7	3.93	0.79	98	2.28*
Neuroticism	26.26	24.16	6.19	1.24	98	1.69
Religiosity	54.12	26.76	25.99	5.20	98	5.26**
Spirituality	132.86	121.5	20.05	4.01	98	2.83**

Table 3.3: Calculated values for t-test (*p<0.05, **p<0.01).

DISCUSSION

The purpose of the study was to ascertain the relationship between paranormal belief, personality factors, spirituality and religiosity. For the purpose questionnaires to measure the variables were administered on a sample of 100 young adults. Data collected was tabulated and statistics was applied. The statistics consisted of Pearson r correlation and t-test.

Hypothesis 1 was that conscientiousness will negatively correlate with paranormal belief. In this study the Pearson R-value for conscientiousness and paranormal belief was calculated to be -0.02. There was a negative correlation but it was non-significant. Therefore, the hypothesis stands rejected. (refer table 3.1) The reason of non-significance could be the small volume of the sample.

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Hypothesis 2 was that openness to experience will positively correlate with paranormal belief. In this study, the Pearson R-value for openness and paranormal belief was calculated to be 0.14. There was a positive correlation but it was non-significant. Therefore, the hypothesis stands rejected. (refer table 3.1) The reason of non-significance could be the small volume of the sample.

Hypothesis 3 was that neuroticism will positively correlate with paranormal belief. In this study, the Pearson-r value for neuroticism and paranormal belief was calculated to be 0.12. There was a positive correlation but it was non-significant. Therefore, the hypothesis stands rejected. (refer table 3.1) The reason of non-significance could be the small volume of the sample.

Additionally, Pearson-r value for agreeableness and paranormal belief was calculated to be -0.04. Therefore, there was found to be a non-significant negative correlation between the two. Pearson-r value between extraversion and paranormal belief was calculated to be 0.15. Therefore, a non-significant positive correlation was found between the two. (refer table 3.1) Hypothesis 4 was that religiosity will positively correlate with paranormal belief. In this study, the Pearson-r value for religiosity and paranormal belief was calculated to be 0.35 which means a positive significant correlation was found between the two. Therefore, the hypothesis is accepted. (refer table 3.1) 94% of the sample was low or average on religiosity (refer figure 3.4). On the other hand 56% of the sample was average on paranormal belief and 36% was low on paranormal belief (refer figure 3.1). Majority of the sample was low on both the constructs which again supports the result that if religiosity decreases, paranormal belief also decreases (positive correlation).

Hypothesis 5 was that spirituality will positively correlate with paranormal belief. In this study, the Pearson-r value for spirituality and paranormal belief was calculated to be 0.06. There was a positive correlation but it was non-significant. Therefore, the hypothesis stands rejected. (refer table 3.1) 68% of the sample was high on spirituality. On the other hand only 8% is high on paranormal belief. This difference in the belief on both the constructs can explain the non-significance of the relationship between paranormal belief and spirituality. Hypothesis 6 was that males and females will show difference in paranormal belief. To test for this hypothesis, t-testing was done. The calculated mean for males was 84.34 and females was 104.78. The t-value came out to be 2.95 which was significant at 0.05 and 0.01 level. The hypothesis is accepted. Hence, it can be established that males and females show significant difference in their paranormal beliefs with more females being a believer in the paranormal as compared to males. This can be due to the fact that females scored higher on all five domains of personality that could be predictive of paranormal belief with achieving significant higher scores on openness ($t=3.34$), conscientiousness ($t=2.68$) and agreeableness ($t=2.28$) (refer table 3.3).

Females were also proved to being more religious than males. They achieved higher significant scores on religiosity ($t=5.26$) (refer table 3.3). Also, in the sample, only 20 males as compared to females (40 females) were theist (refer figure 3.3). 40% of the sample mentioned that they were atheist which means 30 males and 10 females were atheist thereby decreasing the religiosity level of the males.

Females were also proved to being more spiritual than females. They achieved higher significant scores on spirituality ($t=2.83$) (refer table 3.3).

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Another finding of the research was that religiosity and spirituality were found to be positively significantly correlated with each other ($r=0.37$) (refer table 3.1). The significant relationship could be because both religiosity and spirituality somehow deal with a belief in the higher power and the responses by the sample showed a considerable similarity on the items of both the scales where they were questioned about their belief in the higher power or Almighty. A probable reason could also be that the sample showed marked misperception about the concept of spirituality and religiosity. It was observed that although a certain portion of the sample defined themselves as atheist, yet they achieved above average scores on the scale of religiosity that clearly depicts the misperception of the individuals regarding their religious beliefs (refer figure 3.3).

CONCLUSION

The purpose of the study was to establish the relationship between paranormal belief, personality factors, spirituality and religiosity.

Paranormal belief is simply a belief in the occurrences that cannot be explained by science or logic. It is purely a subjective thing but yet there has not been a concrete criterion to define the paranormal beliefs. There have been many attempts to establish the cause of such beliefs. Various correlates have been found out that seem to affect an individual's belief in the paranormal. The present study hypothesized that paranormal belief will positively correlate with openness to experience and neuroticism and will negatively correlate with conscientiousness. Although positive correlations were found between paranormal belief and openness and neuroticism and negative correlation was found between paranormal belief and conscientiousness, they were not significant enough to establish a relation between the paranormal belief and the three factors of personality.

In certain researches, belief in paranormal phenomena have been found to be greatest among those who are spiritual but reject organized religion (Orenstein, 2002). Finding a meaning and purpose in life was significantly, positively correlated with psychic experiences and belief (Kennedy, Kanthamani & Palmer, 1994). Therefore, it was hypothesized in this study that spirituality will positively correlate with paranormal belief. There was found to be a positive correlation between the two but it was not significant enough to establish the concrete relation.

There was some kind of exploration that suggested a relationship between religiosity and paranormal belief (Wain and Spinella, 2007) which has been confirmed in later studies. Religiosity is found to be positively correlated with paranormal belief (Eder et.al, 2011; Ara, 2016). The result of this study is consistent with earlier studies that religiosity is positively correlated with paranormal belief.

Additionally, the results of this study also help in ascertaining that females and males show differences in their paranormal belief with more females being a believer in the paranormal in comparison to males. They are also more religious and spiritual to their male counterparts as is concluded by the present study.

The most prominent difficulty found in the studies concerning establishment of relationship between paranormal belief and religiosity and spirituality is that in majority of them, religiosity and spirituality were treated as similar variables. Though these constructs share certain common features such as belief in a supreme power and meaning in life, still they are very distinct concepts. An effort was made in this study to treat these two paradigms as

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discrete from each other. The assessment was made separately as there were found reliable and standardized instruments to distinctly measure the two. The results reveal that these two constructs are positively correlated with each other because of the similarity of belief among individuals that both are related to belief in a higher power. It is suggested that more rigorous statistics like regression can be employed to ascertain whether religiosity could be a predictor of spirituality or vice versa. Also, a more thorough research can be conducted where these two variables are treated as different and an attempt could be made to identify and establish the difference between these two.

The limitations of this study were the small volume of the sample (N=100) and lack of any laboratory environment. Future research with a larger volume sample is recommended for more significant results. Additional statistics like multiple regression could be applied in order to better predict the impact of personality factors over paranormal belief.

For an enhanced and more elaborative study, variables like theist and atheist, science and non-science background, age, and economic strata can be included. Including theist and atheist as a grouping method may help in establishing the difference in paranormal belief of theist and atheist people. Sample could also be grouped on the basis of science and non-science background as it can reveal the impact of scientific knowledge over paranormal belief. Because the sample in the present study was from urban area, it is also suggested that a replicative study could be conducted but with a representative sample from the rural area where belief in paranormal is generally found to be high majorly in Indian scenario.

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Conflict of Interest

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