Nigerian Journal of Applied Behavioural Sciences, 1 (2013), 56-67

INFLUENCE OF LOCUS OF CONTROL, RELIGIOUS AFFILIATION, AND RELIGIOSITY ON PARANORMAL BELIEFS AMONG YOUNG ADULTS

***Adedeji J. Ogunleye**

'Femi R. Oluwajuyitan

&

Akindele M. Adetoye

Ekiti State University

***Correspondence:** Adedeji J. Ogunleye (PhD), Department of Psychology, Ekiti State University, Ado-Ekiti, Ekiti State, Nigeria. E-mail: dr.ajogunleye@gmail.com Phone: +2348036758644.

ABSTRACT

This study investigated the extent to which locus of control, religious affiliation, and religiosity affect paranormal beliefs among young adults. Participants were 261 (163 males; 98 females) young adults selected from a public polytechnic in South-western Nigeria. Their average age was 24.20 (*SD* = 9.48) with a range of 18-34 years. Results of the *t* test generally indicated that locus of control did not influence dimensions and overall paranormal beliefs, except belief in parapsychology and spiritualism. Paranormal beliefs of young adults had linked with religious affiliation. Generally, religiosity had no connection with dimensions and overall paranormal beliefs, except superstition. Results of the *F* test revealed that locus of control, religious affiliation, and religiosity had no significant interaction effects on paranormal beliefs. Finally, the results of the *t* test showed that sex and age category had no significant influence on paranormal beliefs, except parapsychology where age category exerted a significant influence.

Keywords: Paranormal, religiosity, locus of control, young adults

INTRODUCTION

Surveys have found broad public support for all manners of paranormal, supernatural and occult beliefs with more than 90 per cent of Americans professing at least one of such beliefs (Gallup, 1997; McAneny, 1995). There are spiritualist mediums that use sleight of hand and magicians' tricks to extort money from grief-stricken individuals who are desperate to contact their deceased loved ones (Richman, Harvey, Bell & Courtney,

2012). Charismatic Faith healers and psychic surgeons claim the ability to heal the chronically or terminally ill where traditional medicine has failed (Hines, 2003). Seriously ill people may be convinced by these 'healers' to throw away their medications, leading to worsening of symptoms and perhaps, even death. This may have negative effects on our society in the forms of increased death rate, incapacitations due to illnesses unattended to, and stress resulting from apostles- of-paranormal extortions, among others.

Paranormal refers to hypothesized processes that in principle are *physically impossible* or outside the realm of human capabilities as presently conceived by conventional scientists (Thalbourne, 1982). Parapsychology is a dimension of paranormal belief that is often used as an umbrella term to refer to paranormal phenomena such as extrasensory perception (sensation received without using known sense organs), psychokinesis (movement or change of state caused in an object by individual through non-physical means), clairvoyance (extrasensory cognition of events and things of the past or present) and telepathy (extrasensory transfer of emotions and thoughts from one individual to another).

Most people often swallow these flimflams with credulity. It seems plausible to posit that the tendency to attribute to self or others the causes of happenings or events in life, the religion with which an individual has affinity and how religious a person would impact paranormal belief, which may determine the extent to which an individual is guided by such belief. Early studies on paranormal belief rendered a most negative view on believers; emphasizing deficiency in intelligence, education, and personality (Emmon, 1940). However, these early studies tended to focus on simple superstitions compared with recent research focus on more complex and sophisticated phenomena such as extrasensory perception, psychokinesis, and precognition.

Dag (1999) has found locus of control to be associated with paranormal beliefs using an exclusive Turkish sample. Irwin (1993), in an exploratory study that examined the relationship between religious affiliation and paranormal belief, submitted that religious affiliation appears to have no bearing on paranormal belief. However, recent studies have questioned Irwin's (1993) results.

Studies (e.g. Goode, 2000; Rice, 2003; Tharlbourne & Houtkooper, 2002) have reported strong relationship between religiosity and paranormal belief. Nonetheless, findings of these studies have been mixed. For example, Goode (2000) reported a negative relationship between religiosity and paranormal belief, while Tharlbourne and Houtkooper (2002) demonstrated a positive relationship between these variables.

Much of the available researches on paranormal belief have focused on the relationships that exist among locus of control, religiosity, and paranormal belief with little attention being given to religious affiliation as a correlate of paranormal belief. Worse still, there seems to be no existing research that explored the influence of locus of control, religious affiliation

and religiosity on paranormal belief simultaneously. The present study aimed to fill this gap by testing the following hypotheses.

Hypotheses

1. There will be a significant main effect of locus of control on paranormal belief of young adults.
2. There will be a significant main effect of religious affiliation on paranormal belief among young adults.
3. Religiosity will significantly affect paranormal belief of young adults.
4. There will be a significant interaction effect of locus of control and religious affiliation and religiosity on paranormal belief among young adults.
5. There will be a significant difference in the paranormal belief of male and female young adults.
6. There will be a significant difference in the paranormal belief of young and old young adults.

METHODS

Design and Participants

This study is a cross-sectional survey research which utilized factorial design. The participants were 261students (163 males; 98 females) sampled from a public Polytechnic in Southwestern Nigeria. The participants' selection cut across all levels (from Ordinary National Diploma to Higher National Diploma). The participants' age ranges between 18-34 years (M = 24.2; SD = 9.48).

Measures

Locus of control was measured using the index of locus of control was developed by Rotter (1989). It was a 13-item scale rated on Yes or No response format. The measure was designed in such a way that there are two opposing statements from which the respondent was instructed to choose the one that best applied to him/her. Cook and Wall (1990) obtained an overall mean of 8.30 (British Samples) and 5.72 (Nigerian Samples) for the scale. The alpha reliability coefficient for this scale was .62. Scores above the mean 5.72 indicated internal locus of control while scores below the mean indicated external locus of control.

Religiosity was assessed with Religious Affiliation Scale developed by Omoluabi (1995). The author reported a test-retest reliability of .97 for the scale. Regarding the validity of the scale, Erinosho (1996) correlated Religious Affiliation Scale with Life Satisfaction Index and obtained a validity coefficient of .26. Scores above the mean indicated high religiosity while score below the mean was indication that the respondent had low level of religiosity.

Paranormal beliefs were measured using the Revised Paranormal Beliefs Scale designed by Tobacyk and Milford (1988). It was a 26-item scale, which assessed 7 dimensions of paranormal belief (precognition, witchcraft, extraordinary life, traditional religious belief, parapsychology, superstition, and spiritualism).

The scale was rated on a 7-point scale (1 = Strongly disagree; 7 = Strongly agree). Results of 4-week test-retest reliability was .81, .93, .91, .95, .71, .89, .91, and .92 for the precognition, witchcraft, extraordinary life, traditional religious belief, parapsychology, superstition, spiritualism subscales, and the overall scale, respectively (Tobacyk & Milford, 1988). Subscales scores were created for participants in this study by summing their scores on items that made up a subscale and divided it by the number of items. Global paranormal belief score is got by summing participants' score on all 26 items and dividing by 26. Mean scores for subscales and global paranormal beliefs were established and used to interpret scores of participants. Scores above the mean indicated high paranormal beliefs while score below reflected low paranormal belief.

Procedure

The researchers personally administered the questionnaire to the respondents after a good rapport had established with them Most of the respondents were contacted in the lecture rooms and provided moderate information about the research. They were made to understand that participation in the research was voluntary. The questionnaires were distributed after lectures. Out of the 300 questionnaires distributed, 261 were duly completed and, therefore, analyzed.

Data Analysis

Except hypothesis 4, which was evaluated with a 2 x 2 x 2 ANOVA, all the hypotheses were tested using t test.

RESULTS

To test the hypothesis on locus of control and the dimensions of paranormal belief, the participants were divided into two groups (external and internal locus of control) based on their scores on the measure of locus of control. Eight sets of *t* test were conducted (one for each dimension and overall paranormal beliefs). The results are presented in Table 1.

Table 1: **Summary of *t* Test on Locus of Control and Paranormal Beliefs**

Paranormal beliefs	**Locus of control**	***N***	***M***	***SD***	***df***	***t***	***P***
Traditional religious belief	External	40	6.07	1.01	83	.44	> .05
	Internal	45	5.97	1.02			
Parapsychology	External	40	4.57	1.30	83	2.00	< .05
	Internal	45	4.03	1.19			
Witchcraft	External	40	5.24	1.17	83	-0.30	> .05
	Internal	45	5.33	1.40			
Superstition	External	40	3.43	1.69	83	-0.36	> .05
	Internal	45	3.56	1.82			
Spiritualism	External	40	4.43	.99	83	-2.54	< .05
	Internal	45	5.01	1.11			
Extraordinary life	External	40	3.77	1.43	83	-1.19	> .05
	Internal	45	4.13	1.39			
Precognition	External	40	4.42	1.47	83	1.28	> .05
	Internal	45	4.02	1.44			
Overall paranormal beliefs	External	40	31.97	3.45	83	-0.09	> .05
	Internal	45	32.05	4.55			

Contrary to the expectations of hypothesis 1, locus of control did not exert significant influence on young adults' level of paranormal belief, except for parapsychology and spiritualism. Locus of control significantly influenced parapsychology such that young adults who held external locus of control tended to be more affected than those who held internal locus of control [t (83) =2.04, p <.05]. But in the case of spiritualism, young adults who held internal locus of control had a significantly higher level of spiritualism than those who held external locus of control [t (83) = -2.54, p<.05]. These results partially supported hypothesis 1.

The influence of religious affiliation on paranormal beliefs (hypothesis 2) was evaluated with 8 sets of t test (one for each dimension and overall paranormal beliefs). The results are shown in Table 2.

Table 2: **Summary of *t* Test on Religious Affiliation and Paranormal Beliefs**

Paranormal beliefs	**Religious affiliation**	***N***	***M***	***SD***	***df***	***T***	***p***
Traditional religious belief	Christianity	203	6.14	0.96	249	.67	> .05
	Islam	48	6.04	1.01			
Parapsychology	Christianity	203	4.41	1.21	249	.56	> .05
	Islam	48	4.30	1.21			
Witchcraft	Christianity	203	5.36	1.34	249	-1.28	> .05
	Islam	48	5.63	1..20			
Superstition	Christianity	203	3.72	1.65	249	-.29	> .05
	Islam	48	3.79	1.19			
Spiritualism	Christianity	203	4.69	1.14	249	.56	> .05
	Islam	48	4.59	1.29			
Extraordinary life	Christianity	203	3.88	1.47	249	1.56	> .05
	Islam	48	3.53	1.07			
Precognition	Christianity	203	4.49	1.37	249	.96	> .05
	Islam	48	4.27	1.79			
Overall paranormal beliefs	Christianity	203	32.68	3.82	249	.89	> .05
	Islam	48	32.15	3.23			

The results in Table 2 did not confirm hypothesis 2. This implied that Christians and Muslims held similar level of paranormal beliefs.

The participants were categorized into high and low religiosity based on their scores on the measure of religiosity. In order to determine the influence of religiosity on paranormal belief (hypothesis 3), 8 sets of *t* test (one for each dimension and overall paranormal beliefs) were conducted. The results are shown in Table 3.

Table 3: **Summary of *t* Test on Religiosity and Paranormal Beliefs**

Paranormal beliefs	**Religiosity**	***N***	***M***	***SD***	***df***	***T***	***p***
Traditional religious belief	High	47	6.25	.91	88	1.34	> .05
	Low	43	5.98	1.00			
Parapsychology	High	47	4.43	1.29	88	.53	> .05
	Low	43	4.29	1.15			
Witchcraft	High	47	5.37	1.35	88	-.99	> .05
	Low	43	5.64	1.23			
Superstition	High	47	4.21	1.82	88	2.05	< .05
	Low	43	3.48	1.53			
Spiritualism	High	47	4.51	1.08	88	-1.66	> .05
	Low	43	4.89	1.17			
Extraordinary life	High	47	3.68	1.32	88	-.36	> .05
	Low	43	3.79	1.59			
Precognition	High	47	4.48	1.52	88	1.35	> .05
	Low	43	4.08	1.27			
Overall paranormal beliefs	High	47	32.79	3.77	88	.82	> .05
	Low	43	32.16	3.44			

Table 3 reveals that religiosity did not significantly influence paranormal beliefs, except superstition. Young adults who were highly religious seemed to believe more in superstition than those held low level of religiosity [t (88) = 2.05, p < .05]. Hypothesis 3, which stated that religiosity would significantly influence paranormal beliefs of young adults, was, therefore, partially accepted.

Based on the overall score on the measure of paranormal beliefs, hypothesis 4 was evaluated using a 2 x 2 x 2 ANOVA. The results are shown in Table 4.

Table 4: **Summary of 2 x 2 x 2 ANOVA on the Interactions of Locus of Control, Religious Affiliation, and Religiosity on Overall Paranormal Beliefs**

Source	***SS***	***df***	***MS***	***F***	***p***
LOC* RA	1.48	2	.74	1.10	>. 05
LOC* RL	1.31	2	.66	.98	>. 05
RA * RL	1.50	4	.38	.56	>. 05
LOC*RA*RL	.82	3	.27	.41	>. 05
Error	162.92	243	.67		
Total	172.22	259			

Note: LOC = locus of control. RA = religious affiliation. RL = religiosity.

Table 4 reveals that locus of control, religious affiliation, and religiosity did not exert significant interaction on paranormal beliefs among young adults. Thus, hypothesis 4, which expected significant interactions among the variables, was rejected.

The hypothesis on sex differences in paranormal beliefs (hypothesis 5) was test using t test on the overall score on the measure of paranormal beliefs. The results are presented in Table 5.

Table 5: **Summary of *t* Test on Sex Differences in Paranormal Belief**

Sex	***N***	***M***	***SD***	***df***	***t***	***P***
Male	163	32.36	3.73			
Female	98	32.80	3.59	259	-.96	> .05

Table 5 shows that there is no significant difference in the paranormal beliefs of male and female young adults [t (259) = -.96, p >.05]. Thus, hypothesis 5, which stated that there would be a significant difference in the paranormal beliefs of young adult males and females, was rejected.

To test hypothesis 6, the participants were categorized into two age categories (18 – 30 years; above 30 years). In order to determine the influence of age category on paranormal beliefs, 8 sets of t test (one for each dimension and overall paranormal beliefs) were conducted. The results are shown in Table 6.

Table 6: **Summary of t Test on Age Differences in Paranormal Beliefs**

Paranormal beliefs	**Age category**	***N***	***M***	***SD***	***df***	***T***	***p***
Traditional religious belief	18 – 30 years	211	6.12	.98			
	Above 30 years	50	6.09	1.01	259	.22	> .05
Parapsychology	18 – 30 years	211	4.32	1.17			
	Above 30 years	50	4.74	1.33	259	-2.21	< .05
Witchcraft	18 – 30 years	211	5.44	1.29			
	Above 30 years	50	5.29	1.40	259	.74	> .05
Superstition	18 – 30 years	211	3.77	1.58			
	Above 30 years	50	3.53	1.51	259	.94	> .05
Spiritualism	18 – 30 years	211	4.67	1.89			
	Above 30 years	50	4.63	1.16	259	.24	> .05
Extraordinary life	18 – 30 years	211	3.87	1.35			
	Above 30 years	50	3.44	1.53	259	1.96	> .05
Precognition	18 – 30 years	211	4.39	1.44			
	Above 30 years	50	4.58	1.64	259	.80	> .05
Overall paranormal beliefs	18 – 30 years	211	32.61	3.76			
	Above 30 years	50	32.17	3.33	259	.75	> .05

The results in Table 6 indicate that there no significant age differences in paranormal beliefs among young adults, except in the area of parapsychology; where young adults who were above 30 years had higher belief in parapsychology than those who were within the age bracket of 18 to 30 years [t (259) = -2.21, p >.05]. Based on this, hypothesis 6, which stated that there would be a significant age difference in the paranormal beliefs of young adults was partially accepted.

DISCUSSION

This study investigated the extent to which locus of control, religious affiliation, and religiosity influenced paranormal beliefs of young adults. The test of hypothesis 1 revealed that locus of control did not significantly affect paranormal beliefs of young adults. This finding contradicts the research outcome of Dag (1999) who found out that there was a small but significantly positive correlation between the global scores on Paranormal Belief Scale Revised (PBS-R) and internal and external locus of control scale. He found out that participants with external locus of control were more likely to believe more in unsubstantiated claims than internals.

In related studies using homogenous college student sample, previous studies (e.g. Groth-Marnat & Pedgen, 1998) have suggested that a positive link existed between external locus of control and global paranormal beliefs. The discovery of a consistent positive correlation between external locus of control and paranormal beliefs is hinged on the link between holding paranormal beliefs and the feelings of a need to cope with the uncontrollability of life (Edis, 2000; Hughes, 2002). This may explain why externals often view the world as chaotic, uncertain and uncontrollable. Thus, people tend to appeal to paranormal beliefs as a coping mechanism. Results on hypothesis 1 also revealed that locus of control did significantly affect belief in

Parapsychology. This finding corroborates the research findings of Irwin (1986) who found a positive relationship between believe in parapsychology and an external locus of control.

It was also revealed in the present study that participants with internal locus of control believed more in spiritualism than externals. This finding contradicts the research finding of Groth-Marnat and Pedgen (1998) who found out that a greater external locus of control was associated with the spiritualism and precognition subscales of paranormal among 81 undergraduate students.

Contradictions in findings may be attributed to differences in samples, cultural variations and personality differences. Stanke (2004), corroborating the findings of this present study commented that perhaps the lack of a negative correlation between internal locus of control and paranormal belief can be partially explained by the influence of a paranormal society on these individuals, who do not have the need to cope with a seemingly uncontrollable life. By paranormal society, he meant a society in which believe in paranormal events have become prevalent.

Generally, the test of hypothesis 2 revealed that religious affiliation did not significantly influence paranormal beliefs. This finding corroborates the research finding of Thalbourne and Henseley (2001) and Ellis (1988) who did not find a significant relationship between religious affiliation and global paranormal beliefs. Also, in line with the findings of this present research, Irwin (1993) commented that religious affiliation seems to have no bearing on paranormal beliefs. Contradicting the findings of this present study however, is the research outcome of Sheils and Berg (1977) who found a relationship between belief in a broad range of parapsychological phenomena and religious orthodoxy. Dynamisms in this global world in terms of socio-cultural variations may be handy in explaining the variations in findings of these studies.

Similarly, the test of hypothesis 3 revealed that religiosity did not have a significant effect on paranormal beliefs of young adults, although the superstition subscale was found to be significantly influenced by religiosity. This contradicts the research finding of some previous researches conducted in this area which dominantly found a relationship between high religiosity and strong paranormal beliefs (e.g. Tharlbourne & Houtkooper, 2002; Rice, 2003).

For example, in a German sample, Tharlbourne and Houtkooper (2002) reported a positive correlation between the Australian Sheep-goat scale and religiosity. The unusual title of the Australian Sheep- Goat scale comes from Schmeidler (1945) who, using a biblical metaphor, coined the term ‘sheep’ to refer to those who believe in the possibility of Extra-sensory Perception (ESP) and ‘goats’ to refer to disbelievers. Contradictions between the findings of these researches can be attributed to samples used, cultural differences and the measures selected. While Tharlbourne and Houtkooper (2002) made use of a German sample, the present study was carried out on Nigerian samples. The

findings of present study supported the findings of some previous researches (e.g. Hillstrom & Stachan, 2000; Beck & Miller, 2001). For example, Beck and Miller (2001) did not find a correlation between religiosity and paranormal belief.

The results of the test of hypothesis 4 revealed that locus of control, religious affiliation and religiosity did not significantly interactively affect paranormal belief of young adults. The acceptance of these phenomena shows the world's belief in mechanical and scientific laws may not be reducible to materialism. There seems to be a dearth of literature on the interaction effect of locus of control, religiosity and religious affiliation on paranormal belief, the findings of this study may however, serve as an eye opener in this line of research and also serve as an impetus for further research.

In the case of hypothesis 5, no significant difference existed in the paranormal beliefs of male and female young adults. This contradicts the research outcome of Darwin, Neave, and Holmes (2011) and Wiseman and Watt (2004) who found that females scored significantly higher than males on global paranormal beliefs. In agreement with the findings of most researches on sex as a correlate of paranormal beliefs (e.g. Dag, 1999; Richman, Harvey, Bell & Courtney 2012), however, this study reported a higher mean for female young adults on global paranormal beliefs; though the difference remains insignificant.

Finally, the test of hypothesis 6 revealed that there was no significant difference in the general paranormal beliefs of young adults, irrespective of age category. However, young adults who were above 30 years had higher belief in parapsychology than those who were within the age bracket of 18 to 30 years. The finding of this research may be accounted for by the adventurous nature of younger adults, who are often driven to achieve feats that other age groups consider unachievable. The general insignificant difference reported in this study contradicts the finding of Francis and Kay (1995) who reported that most paranormal beliefs appear to be stronger in young adults than in elderly people. As reported in the present study, Preece and Baxter (2000) found no significant difference in paranormal belief of young American samples.

CONCLUSION

Based on the findings of this study, it can be said that locus of control does not significantly influence paranormal beliefs of young adults in Nigeria. However, it can be concluded that young adults who are external in their locus of control orientation showed greater belief in Parapsychology than individuals with an internal locus of control orientation, who showed greater belief in superstition.

Also, religious affiliation did not significantly influence paranormal beliefs of young adults. It was also revealed that there was no significant effect of religiosity on global paranormal beliefs. Also, there is no significant interaction effect of locus of control and religious affiliation on paranormal beliefs of young adults.

Results of present study also revealed that locus of control and religiosity did not significantly interactively affect paranormal beliefs of young adults. Furthermore, there was no significant interaction effect of religious affiliation and religiosity on paranormal beliefs of young adults. It was also found out that there is no significant interaction effect of locus of control, religious affiliation and religiosity on paranormal beliefs of young adults. There is no significant difference in the paranormal beliefs of male and female young adults. Also young and old young adults do not significantly differ in their global paranormal beliefs but differ in their belief in extraordinary life form; with young adults showing greater belief than older young adults.

Although, one may be troubled by an experience for which one has no explanation and thus, appeal to paranormal belief as a coping mechanism; nonetheless, the public should also be aware of the dangers associated with extreme belief in unsubstantiated claims. For example, if a chronically ill person relies on paranormal solution as a cure, they could neglect the treatment they need to truly get better and such may have a debilitating effect on a society at large.

REFERENCES

Beck, R., & Miller, J. P. (2001). Erosion of belief and disbelief: Effects of religiosity and negative effect on beliefs in the paranormal and supernatural. *The Journal of Social Psychology, 141,* 277-287.

Dag, I. (1999). The relationship among paranormal beliefs, locus of control and psychopathology in a Turkish sample. *Personality and Individual Differences, 26,* 723-737.

Darwin, H., Neave, N., & Holmes, J. (2011). Belief in conspiracy theory: The role of paranormal belief, paranoid ideation and schizotypy. *Personality and Individual Differences, 50(8),* 1289-1293.

Edis, T. (2000). The rationality of an illusion. *Humanist, 60,* 28-33.

Ellis, I. (1988). Religiosity and superstition: Are they related or separate phenomena? *Journal of Human Behaviour, 25(2),* 12-13.

Emmons, C. E. (1940). Paranormal beliefs: Testing the marginality hypothesis. *Sociological Focus, 14,* 49-56.

Francis, L. J., & Kay, W. K. (1995). *Teenage religion and values.* Leominster: Gracewing.

Gallup, G. H. (1997). *The Gallup Poll: Opinion, 1996.* Wilmington, D: Scholarly Resources.

Goode, E. (2000). Two paranormal or two and a half? An empirical exploration. *Skeptical Inquirer, 24,* 29-35.

Groth-Marnat, G., & Pedgen, J. A. (1998). Personality correlates of paranormal belief: Locus of control and sensation seeking. *Social behaviour and personality, 26(3),* 291-296.

Hergovich, A., Schott, R., & Arehdasy, M. (2005). Paranormal belief and religiosity. *Journal of Parapsychology, 25,* 293-303.

Hillstrom, E. L., & Strachan, M. (2000). Strong commitment to traditional protestant religious beliefs is negatively related to beliefs in para

normal phenomena. *Psychological Reports, 86,* 183-189.

Hines, T. (2003). *Pseudoscience and the Paranormal* (2nd edn.). Amherst, New York: Prometheus Books.

Hughes, C. (2002). Medicine and magic. *Behavioural Medicine Journal, 10,* 132-133.

Irwin, H. J. (1986). The relationship between locus of control and belief in the paranormal. *Parapsychology Journal of South Africa, 7,* 1-23.

Irwin, H. J. (1993). Belief in the Paranormal: A review of the empirical literature. *Journal of the American Society for Psychical Research, 87,* 1-39.

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

McAneny, L. (1995). "It was a very bad year: Belief in hell and the devil on the rise". *Gallup Poll Monthly, 304 (January*), 14-47.

Omoluabi, P. F. (1995). *Religious Affiliation Scale: development and standardization*. Unpublished Monograph, Department of Psychology, University of Lagos.

Preece, F. W. and Baxter, J. H. (2000). Skepticism and gullibility: The superstitious and pseudo-scientific beliefs of secondary school students. *International Journal of Science Education, 22,* 1147-1156.

Rice, L. (2003). Believe it or not: Religious and other paranormal beliefs in the United States. *Journal for the Scientific Study of Religion, 42,* 95-106.

Richman, H. I., Harvey, M., Bell, J., & Courtney, W. (2012). Paranormal beliefs: Then and now. *North American Journal of Psychology, 14(1),* 197-206.

Rotter, J. B. (1954). *Generalized expectancies for internal versus external locus of control*. New York: Oxford University Press.

Schmeidler, G. R. (1945). Separating the sheep from goats. *Journal of the American Society for Psychical Research, 39,* 47-49.

Sheils, O., & Berg, P. (1977). A research note on sociological variables related to paranormal beliefs. *Wisconsin Sociologist, 14,* 24-31.

Tharlbourne M.A. (1982). Paranormal belief and trait anxiety. *Psychological Reports, 51,* 861-862.

Tharlbourne, M. A., & Houtkooper, J. (2002). Religiosity/spirituality and belief in the paranormal. A German replication. *Journal of the Society for Psychical Research, 66,* 113-115.

Tharlbourne, M. A., & Henseley, J. H. (2001). Religiosity and belief in the paranormal. *Journal of the Society for Psychical Research, 65,* 47-51..

Tobacyk, J. J. (1983). Reduction in paranormal belief among participants in a college course. *Skeptical Inquirer,* 8, 57-61.

Tobacyk, J. J., & Milford, G. (1988). *A Revised Paranormal Belief Scale.* Unpublished manuscript, Louisiana Technology University, Ruston.

Wiseman, R., & Watt, C. (2004). Measuring superstitious belief: Why luck matters. *Personality and Individual Differences, 37,* 1533-1541.