

THE ADAPTATION OF PARANORMAL BELIEFS SCALE IN NIGERIA

BY

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CERTIFICATION

This is to certify that this study was carried out under my supervision by Ajah Grace Amarachi with Matric no: psy/12/0682 in the department of psychology, faculty of the social sciences, Federal University Oye-Ekiti, Ekiti state, Nigeria.


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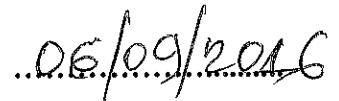
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DEDICATION

This project is dedicated to Almighty God, and also to my loving parents, Dcn Alexander Ajauwa and Mrs Augustina Ajah for been a source of motivation and encouragement to me.

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I appreciate and bless the name of the God who is the most merciful; my heart is full of joy in giving special thanks and praise to Almighty God who has been my provider and shepherd, for making the completion of my university education a reality and for seeing me through, throughout my degree program in the university. I thank him for his love and presence with me in my educational pursuits.

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ABSTRACT

The aim of this study was to adapt the Revised Paranormal Belief Scale (RPBS) using local sample. It is observed that previous researches carried out in Nigeria are done using RPBS (Tobacyk, 1988), without adapting to the Nigerian context. Accordingly, it is important to adapt the RPBS to local context by obtaining its factor structure, reliability and validity. Adopting the survey design, 400 participants were recruited using the convenient sampling method from the population of Federal University Oye-Ekiti staffs and students. Data were collected by means of self-report instruments consisting of the Revised Paranormal Belief Scale (Tobacyk, 1988), Big-5 Personality Scale (Beatrice & Oliver, 2006) and Daily Spiritual Experience Scale (Underwood, 2011). Data were analyzed using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Pearson Correlation. Five structures of Paranormal Belief Scale were derived using EFA as against the seven factor structures obtained by Tobacyk (1988). However, the five structures were reduced to four factors using the CFA. The four factor structures of the Paranormal Belief Scale yielded convergent validity of .11 and discriminant validity shows that the scale does not correlate with the Big-5 Personality Dimensions. The full scale of the four factors (12 items) Paranormal Belief Scale yielded a reliability coefficient of .77. It was recommended that the four structure Paranormal Belief Scale should be used among local sample and be subjected to further validation.

Key words: Adaptation, Paranormal beliefs.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

People have different beliefs they so much hold on to like traditional beliefs, religious beliefs, stereotypical beliefs, cultural beliefs, superstition; these are said to be “paranormal beliefs. Most Africans or Blacks don’t believe that diseases, deaths, sicknesses and any occurrences are often caused by biological factor and genetic factors. They attribute them to psychic afflictions, casting of spells, attacks from witchcrafts, violation of community taboos, offending ancestral spirit; which falls within paranormal beliefs (Adebayo & Ilori, 2013).

The word "paranormal" is a dual word: "para" and "normal". Normal implies the usual or ordinary or simply put the world around us that we can feel, see and relate with physically, thus anything that is above, beyond, or contrary to this is 'para'.

Paranormal beliefs are general phenomenon that cannot be proven scientifically. They are fascinating phenomena. They pertain to phenomena not empirically attested by the scientific establishment, with the addition of arising in a broader community as a non-scientific commonsense endeavor to account for anomalous experience (Irwin, 2009).

Paranormal events are phenomena described in popular culture, folklore and other non-scientific bodies of knowledge, whose existence within these contexts is described to lie beyond normal experience or scientific explanation.

They are interesting facts that are not tested or proven, but are believed for generations. They are hypothesis that are not yet experimented scientifically but are believed to be facts and fill the commonsenses of people in a particular community.

A paranormal phenomenon is different from hypothetical concept. Unlike paranormal phenomena, these hypothetical concepts are based on empirical observations and experimental data gained through the scientific method. The most notable paranormal beliefs include those that pertain to ghosts, extraterrestrial life, unidentified flying objects, psychic abilities or extrasensory perception (Stenger, Victor.1990).

Ezeabasili (1977) (as cited by Abdulrasaq, 2015), noted that the common element in African belief system is that physical and mental illness is the consequence of distortions or disturbance in the harmony between an individual and cosmos, which may mean his family, religion, society, ancestors, peers, or a deity. Africans perceived ill-health to have material, moral and supernatural causes which can only be determined both by physical observation and divination.

Different studies in Nigeria have conducted research using paranormal belief scale developed by tobacyk & Millford in relation with other variables like religiosity, personality, locus of control, but none of these studies have revalidated the paranormal belief scale within the Nigeria contest. These studies only examine the relationship and differences between paranormal beliefs and other variables, which are not meant to be because there are items provided in this scale that may not adequately measure the concept of paranormal beliefs among the Nigeria ethnic groups, for example: item6 (the abominable snowman of Tibet exist) and item13 (the loch ness monster of Scotland exists) of the revised paranormal belief scale showed the lack of depth standardization and generalizability, as these will not be comprehended by the Nigeria population sample. The revised paranormal belief scale was revised from its previous 25items to 26items which provides the measures of degree of belief in seven dimensions. These dimensions are: Traditional religious beliefs (e.g. "There is a devil"), psi (e.g. "A person's thoughts can influence the movement of a physical object"), witchcraft (e.g. "Witches do exist"), superstition (e.g. "Black

cats can bring bad luck”), Spiritualism (e.g. “Your mind and soul can leave your body and travel”), Extraordinary life forms (e.g. “The Loch Ness monster of Scotland exists”) and Precognition (e.g. “Astrology is the way to accurately predict the future”). The scale is based on the seven point rating format ranging from strongly agree to strongly disagree.

1.2 Statement of Problem

It is observed that the revised paranormal beliefs scale developed by Tobacyk and Millford (1983), used by Nigeria researchers (for instance, Sulaiman Olanrewaju Adebayo, Oluyemi Stephen Ilori, 2013) is not applicable to Nigerians, because the scale was developed using a population in Scotland, as such the scale has specific features applicable to Scotland. A scale developed using a specific population cannot be used for another population because there are variations in cultures and traditions. To have a control for cultural biasness the scale have to be adapted using the specific surrounding inquest.

Additionally there have been different criticisms for the scales due to lack of proper standardization, universality, methodology and statistics. (Lawrence 1995a, 1995b). The reason for this research is to know and establish how valid the paranormal beliefs are in Nigeria, that is, if truly the same paranormal beliefs can be applicable all over the world. It is important to revalidate the paranormal belief scale to Nigeria standard to see if there are variations in paranormal beliefs due to different cultures across the globe.

Although the paranormal beliefs scale may show satisfactory, reliability and validity but it cannot be generalized. To adapt this scale using Nigeria population some items has to be changed because of cultural differences which can also lead to differences in our paranormal beliefs. These items include:

Item 6 (The abominable snowman of Tibet exists); it will be changed to “marine spirit do exist”.

Item 13 (The Loch Ness monster of Scotland exists); this will be changed to “ghosts do exist”.

Item 18 (The number “13” is unlucky); this will be changed to “pregnant woman walking around in the afternoon will bring bad luck to the woman and the unborn child.

As seen in the above listed items, the items cannot be generalized to all population. For this reason, there is a need to validate the RPBS using a local sample.

1.3 OBJECTIVES OF THE STUDY

The main aim of this study is to adapt the paranormal belief scale to the Nigeria context.

Specifically, the objectives of this study are:

- i. To obtain reliability coefficient of the revised paranormal beliefs scale among staff and student of Federal university oye-ekiti
- ii. To obtain validity coefficient of the revised paranormal beliefs scale using staff and student of Federal university oye-ekiti
- iii. To confirm or disconfirm the seven factor structure of the RPBS.

1.4 Significance of the Study

The adaptation of the paranormal belief scale using Nigeria context will help modify the scale to make it applicable in Nigeria. This will therefore help or assist other researchers in conducting a valid research on paranormal belief since this scale has been adapted using local sampling in Nigeria. This will help in generating data that are with true facts and not biased data based on assumption. By the application of this scale the researcher will have less error in their researched work since the scale would be adapted using Nigeria population.

It will inspire other researchers to further study paranormal beliefs; thereby examining the relationship between this scale and other variables of interest.

It will add to the existing literature of paranormal belief available all over the world; by adding to the existing body of knowledge in the area of paranormal belief especially within the Nigeria contest.

Chapter two

2.0 LITERATURE REVIEW

This chapter reviews various theories of paranormal beliefs and past studies conducted relating paranormal belief with other variables. The chapter also includes operational definition of the terms used in the study.

2.1 Theoretical framework

A review of literature on paranormal beliefs shows that paranormal beliefs are complex, multidimensional and influenced by human experiences and understandings (Clarke, 1991; Sobal & Emmons, 1982; Rice, 2003; Tobacyk & Milford, 1983 (as cited in Mehmet & Ezgi, 2014)). In order to understand the multidimensional nature of paranormal beliefs, researchers have categorized paranormal beliefs into factors or dimensions over the decades. In this regard, many measures for paranormal beliefs developed encompass not only parapsychological claims but also all manners of superstitious and magical beliefs: beliefs in religion, supernatural, UFOs, astrology, déjà vu, angels and reincarnation (Mehmet & Ezgi, 2014).

Paranormal beliefs pertain to phenomena not empirically attested by the scientific establishment, with the addition of arising in a broader community as a non-scientific commonsense endeavor to account for anomalous experience (Irwin, 2009).

For the purpose of this study some theories which are thought to be interrelated and significant in influencing the outcome of the study. The researcher will take into consideration three theories of paranormal beliefs, which include:

- Conspiracy theory of paranormal,
- Ghost as energy theory, and

- Telepathy theory of paranormal.

2.1.1 **Conspiracy theory of paranormal**

A conspiracy theory is an explanatory or speculative hypothesis suggesting that two or more persons, or an organization have conspired to cause or cover up, through secret planning and deliberate action, an event or situation typically regarded as illegal or harmful.

The term conspiracy theory has a derogatory meaning, denoting explanations that invoke conspiracies without warrant, often producing hypotheses that contradict the prevailing understanding of historical events or simple facts (Ayoto John 1999):

According to the political scientist Michael Barkun, conspiracy theories rely on the view that the universe is governed by design, and embody three principles: nothing happens by accident, nothing is as it seems, and everything is connected. Another common feature is that conspiracy theories evolve to incorporate whatever evidence exists against them, so that they become unfalsifiable and, as Barkun argues, "a matter of faith rather than proof."

People formulate conspiracy theories to explain paranormal beliefs, for example, power relations in social groups and the perceived existence of evil forces (Berlet Chip September 2004).

Katherine k. Young, writes that "every real conspiracy has had at least four characteristic features: groups, not isolated individuals; illegal or sinister aims, not ones that would benefit society as a whole; orchestrated acts, not a series of spontaneous and haphazard ones; and secret planning, not public discussion". Some conspiracy theory are proven to be correct such as the conspiracy involving United States President Richard Nixon and his aides to cover up the Watergate scandal.

The political scientist Michael Barkun, discussing the usage of "conspiracy theory" in contemporary American culture, holds that this term is used for a belief that explains an event as the result of a secret plot by exceptionally powerful and cunning conspirators to achieve a malevolent end. According to Barkun, the appeal of conspiracism is threefold:

- "First, conspiracy theories claim to explain what institutional analysis cannot. They appear to make sense out of a world that is otherwise confusing.
- Second, they do so in an appealingly simple way, by dividing the world sharply between the forces of light, and the forces of darkness. They trace all evil back to a single source, the conspirators and their agents.
- Third, conspiracy theories are often presented as special, secret knowledge unknown or unappreciated by others. For conspiracy theorists, the masses are abrainwashed herd, while the conspiracy theorists in the know can congratulate themselves on penetrating the plotters' deceptions."

Jesse Walker (2013) has developed a historical typology of five basic kinds of conspiracy theories:

- The "Enemy Outside" is based on devilish figures mobilizing outside the community and scheming against it.
- The "Enemy Within" find the conspirators lurking inside the nation, indistinguishable from ordinary citizens.
- The "Enemy Above" involves powerful people manipulating the system for their own gain.
- The "Enemy Below" features the lower classes ready to break through their constraints and overturn the social order.

- The "Benevolent Conspiracies" are angelic forces that work behind the scenes to improve the world and help people.

In a 2013 article in *Scientific American Mind*, psychologist Sander van der Linden argues there is converging scientific evidence that (1) people who believe in one conspiracy are likely to espouse others (even when contradictory); (2) in some cases, conspiracy ideation has been associated with paranoia and schizotypy; (3) conspiracist worldviews tend to breed mistrust of well-established scientific principles, such as the association between smoking and cancer or global warming and CO2 emissions; and (4) conspiracy ideation often leads people to see patterns where none exist.

2.1.2 Ghost As Energy Theory

A ghost is a manifestation of the spirit or soul of a person. The term "ghost" is sometimes used synonymously with any spirit or demon, however in popular usage the term typically refers to a deceased person.

The belief in ghosts as souls of the departed is closely tied to the concept of animism, an ancient belief which attributed souls to everything in nature; souls were seen as the creature the body. Although the human soul was sometimes symbolically or literally depicted in ancient cultures as a bird or other animal, it was widely held that the soul was an exact reproduction of the body in every feature, even down to clothing the person wore.

A widespread belief concerning ghosts is that they are composed of a misty, airy, or subtle material. Anthropologists speculate that this may also stem from early beliefs that ghosts were the person within the person, most noticeable in ancient cultures as a person's breath, which upon exhaling in colder climates appears visibly as a white mist.

This is probably the most accepted theory about what ghosts are, ghost are a collection of energy that somehow found a way to manifest itself within our physical realm. In affect ghost are simply a collection of naturally occurring, ambient energy that possesses the ability to interact with in the linear time and space. From a purely scientific standpoint this seems most fantastic.

The idea is not nearly as remarkable once we recognize that everything including ourselves is actually made up of particles of energy in the form of atoms that appear, at least from our perspective, as solid matter. But there is nothing about us that is solid in the truest senses of the word. The atoms that make up our physical bodies are composed largely of empty space, making our apparent solidity really only an illusion. A ghost then may be nothing more than what we are only on a greatly diminished level. Ghost may be nothing more than people who possess the ability to attract enough energy to become solid enough to be seen

But is such an idea even potentially feasible? Yet even if all of this is true how a ghost might be able to make use of such energy? What mechanism could permit a disembodied personality to create something like plasma, or at a minimum accumulate enough energy to create an electromagnetic signature or produce an image on a picture?

2.1.3 Telepathy Theory of paranormal

A popular belief is that ghost may be able to communicate through telepathy, "The process of telepathy is said to occur when a psychic act by one person results in the same psychic act in another person" Telepathy is from the Ancient Greek tele meaning "distant" and pathos or -patheia meaning "feeling, perception, passion, affliction, experience" (Collins Dictionary).

Telepathy is the purported transmission of information from one person to another without using any of our known sensory channels or physical interaction. The term was coined in 1882 by the

classical scholar Frederic W. H. Myers, (Hamilton Trevor 2009) a founder of the Society for Psychical Research, (Carroll, Robert Todd 2005) and has remained more popular than the earlier expression thought-transference.

There is no scientific evidence that telepathy is a real phenomenon. Many studies seeking to detect, understand, and utilize telepathy have been carried out, but no replicable results from well-controlled experiments exist. (Spencer Rathus 2011).

According to historians such as Roger Luckhurst and Janet Oppenheim the origin of the concept of telepathy in the Western civilization can be tracked to the late 19th century with the formation of the Society for Psychical Research. As the physical sciences made significant advances, scientific concepts were applied to mental phenomena (e.g., animal magnetism), with the hope that this would help understand paranormal phenomena. The modern concept of telepathy emerged in this context (Luckhurst Roger. 2002).

Stuart Cumberland argued that both telepathy and communication with the dead were impossible and that the mind of man cannot be read through telepathy, only by muscle reading (Nicola Bown, Carolyn Burdett and Pamela Thurschwell. 2004).

The notion of telepathy is not dissimilar to two psychological concepts: delusions of thought insertion/removal. This similarity might explain how an individual might come to the conclusion that they were experiencing telepathy. Thought insertion/removal is a symptom of psychosis, particularly of schizophrenia or schizoaffective disorder (Richard Noll 2007). Psychiatric patients who experience this symptom falsely believe that some of their thoughts are not their own and that others (e.g., other people, aliens, demons or fallen angels, or conspiring intelligence agencies) are putting thoughts into their minds (thought insertion). Some patients feel as if thoughts are being taken out of their minds or deleted (thought removal). Along with other

symptoms of psychosis, delusions of thought insertion may be reduced by antipsychotic medication. Psychiatrists and clinical psychologists believe and empirical findings support the idea that people with schizotypy and schizotypal personality disorder are particularly likely to believe in telepathy (Mary Townsend (2013); Andrew Gumley, Matthias Schwannauer. (2006), & Graham, Pickup (2006)).

2.2 Related Empirical Studies

Many researcher countries have conducted studies to adapt, revalidate or develop the paranormal beliefs scale. Mehmet and Ezgi (2014) conducted a study aimed to translate and develop Paranormal Belief Questions measuring students' non-scientific beliefs which threat science education. 17 questions about paranormal beliefs were administered to 114 university students from different departments, after translating and developing Paranormal Belief Questions into Turkish, factor analysis was conducted and paranormal beliefs were limited in two dimensions as classical paranormal beliefs and religious paranormal beliefs as parallel with original form. Theresults of their study enable to differentiate scientific beliefs from non-scientific beliefs of students.

Bouvet R, et al. (2014), conducted a study to validate the French version of the RPBS. They found that the initial model developed by Tobacyk and Milford did not fit the data from the French population. Their result showed that beliefs in some extraordinary life forms as Loch Ness monster are not an important dimension to take into account in a French population.

Luis and Carlos also conducted a study aimed to adapt Tobacyk's (1988) Revised Paranormal Beliefs Scale (RPBS) into Spanish to make cross-cultural comparisons possible. Their data gave optimistic expectations about the use of the scale in different cultural and linguistic settings.

They found minimal problems in understanding the items based on an almost literal translation. They noted that some items should be skewed because they belong to a very different cultural background.

A lot of researches have also been carried out using paranormal beliefs scale and other variables. Gordon, James, Paul, Derek, and Jonathan (2012), found that an analytic cognitive style negatively predict religious and paranormal beliefs when cognitive ability, religious engagement, age, sex, political ideology and education are being controlled. Participant who are willing to engage in analytic reasoning were less likely to endorse supernatural beliefs.

There has been a considerable amount of research carried out in an attempt to understand paranormal beliefs and given widespread skepticism about the existence of the paranormal among psychologists. There has been the cognitive deficits hypothesis which associates paranormal belief with relatively low cognitive abilities, such as low IQ (Smith, Foster, & Stovin, 1998), a poor understanding of probability (Blackmore, 1997), a lack of scientific education (Otis & Alcock, 1982), and also the social marginality hypothesis which has associated paranormal belief with socially marginal groups such as the poor (Wuthnow, 1976), the elderly (Emmons & Sobal, 1981), ethnic minorities (Tobacyk, Miller, Murphy, & Mitchell, 1988) and women (Randall, 1990).

Other research has associated paranormal belief with personality traits (Auton, Pope, & Seeger, 2003; Thalbourne, 1995) and other psychological attributes such as fantasy proneness (Irwin, 1990, 1991), a propensity to find correspondences in distantly related material (Blackmore & Moore, 1994; Brugger et al., 1993), and a need for control (Irwin, 1992; Lawrence, Edwards, Barraclough, Churchy, & Hetherington, 1995).

Andreas and martin (2005), conducted a study to assess the relationship between critical thinking and belief in the paranormal using 180 students from three departments (psychology, arts, computer science). The results show no significant correlations between critical thinking and paranormal belief or experiences. Reasoning ability, however, had a significant effect on paranormal belief scores, but not on paranormal experiences. Participants with lower reasoning ability scored higher on Traditional Paranormal Belief and New Age Philosophy than participants with higher reasoning abilities.

Hannah et al (2011), investigated the relationship between conspiracy theory beliefs, paranormal belief, paranoid ideation, and schizotypy, in a study involving 60 females and 60 males aged 18–50. Sex differences were found in paranormal belief, with females scoring significantly higher than males in spiritualism, precognition, psi, and overall paranormal belief. Partial correlations controlling for sex showed that conspiracy beliefs were significantly and positively correlated with paranormal beliefs, paranoid ideation and schizotypy.

Sulaiman and Oluyemi (2013), carried out a study to determine if there would be significant main and interaction influence of paranormal beliefs and culture on incidence of psychopathology among a non-psychotic population. They used two ethnic groups; Yoruba and Igbo which consist of two hundred and four respondents with 78 adolescent and 126 adults with the age range of 14 and 65 years, 103 male and 101 female, 132 Christians, 66 Muslims and 6 traditional religious adherents, 107 Yoruba and 98 Igbo; all of which attained the minimum educational level of Junior Secondary School Certificate. The results indicated that paranormal beliefs significantly influenced anxiety and depression dimensions of psychopathology, it was also observed that there is a significant difference between the two ethnic groups, Yoruba and Igbo, on paranormal belief and incidence of psychopathology. Findings showed that out of four

dimensions of psychopathology: somatic symptoms, anxiety, insomnia, social dysfunction and severe depression; paranormal beliefs significantly influenced only anxiety and depression. Okebukola (1986) studies (as cited in Sulaiman and Oluyemi, 2013), also showed a close relationship between paranormal beliefs and anxiety but did not significantly relate to other dimension of psychopathological symptoms.

2.3 Operational Definition of Terms

Paranormal belief: beliefs that cannot be explained scientifically that fill the commonsense of people in the community.

Adaptation: edited or revised version of a work aimed at serving a specific need. Modification of a concept to make it applicable in situation different from originally anticipated.

Superstition: belief based on human reason or scientific knowledge, that future events may be influenced by one's behavior in some magical or mystical way.

Witchcraft: the practice of magic, sorcery or the use of supernatural powers to influence or predict events.

Precognition: knowledge of an event that is to occur in the future.

Psi: a form of psychic energy.

Validity: the state of being valid, authentic or genuine.

Reliability: the quality of being reliable, dependable, or trustworthy.

CHAPTER THREE

3.0 METHOD

3.1 Research Design

For the purpose of the study, the researcher used survey design in order to allow the researcher gather data about people's experiences, feelings, thoughts, and beliefs that are hard to observe directly.

3.2 Settings

The study was conducted using Federal University Oye – Ekiti, a University in Ekiti State which is a State in Nigeria. The researcher made use of this population because it was easy for the researcher to gather data from this population and this won't cause researcher fatigue which can influence the research.

3.3 Study Sample

Data were collected from 400 participants comprising of different ethnic groups in Federal University Oye-Ekiti, Oye (phase 1 and 2) and Ikole (phase 1 and 2) both students and staffs participated. The name and address of the participants were not recorded to ensure anonymity.

3.4 Instrument

For the purpose of gathering data for this study, the demographic information was gender (male and female), actual age, marital status (married, single, engaged, separated or divorced, widowed and others), religion affiliation (Christian, Islam and others), ethnic group and educational level. The instrument used was "The Reversed Paranormal Beliefs Scale" developed by Jerome, J, Tobacyk which was constructed using a 25-item self-report questionnaire designed to assess beliefs, based on the results from factor analysis of a 61-item pool administered to 391 college students. Factor analysis revealed 7 independent dimensions composing belief in the paranormal.

These factors were Traditional Religious Belief, Psi Belief, Witchcraft, Superstition, Spiritualism, Extraordinary Life Forms, and Precognition. The Paranormal Scale was constructed by selecting either 3 or 4 marker items to represent each of the 7 dimensions as paranormal subscales. The internal consistencies for the subscales are as follows, global consistency, 0.84, traditional religious belief 0.47, PSI 0.56, witchcraft 0.02, superstition 0.38, spiritualism 0.36, extraordinary life forms 0.36, precognition 0.51.

The RPBS (Tobacyk and Milford 1988) cannot fit the Nigeria population in which the sample was drawn, therefore some items were modified such as: Item 6 (The abominable snowman of Tibet exists); was changed to "marine spirit do exist", Item 13 (The Loch Ness monster of Scotland exists); was changed to "ghosts do exist", and lastly Item 18 (The number "13" is unlucky); was changed to "pregnant woman walking around in the afternoon will bring bad luck to the woman and the unborn child".

Scoring of this scale; Item 23 is reverse scored. Traditional Religious Belief = Mean of Items (1, 8, 15, 22); Psi = Mean of Items (2, 9, 16, 23); Witchcraft = Mean of Items (3, 10, 17, 24); Superstition = Mean of Items (4, 11, 18); Spiritualism = Mean of Items (5, 12, 19, 25) Extraordinary Life Forms = Mean of Items (6, 13, 20); Precognition = Mean of Items (7, 14, 21, 26).

Also, the researcher used another scale to measure the discriminant validity. The scale used was "Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German" by Beatrice Rammstedt, and Oliver P. John. The scale was developed to provide a measure of the Big Five for contexts in which participant time is severely limited. The researchers abbreviated the Big Five Inventory (BFI-44) to a 10-item version, the BFI-10.

Scoring the BFI-10 scales: Extraversion: 1R, 6; Agreeableness: 2, 7R; Conscientiousness: 3R, 8; Neuroticism: 4R, 9; Openness: 5R; 10 (R D item is reversed-scored).

Finally, “The Daily Spiritual Experience Scale” by Lynn G. Underwood was used to measure the convergent validity. The scoring of the DSES has been generally assessed as being a unidimensional measure, although subsets of items can yield valuable information and can be particularly useful in various.

3.5 Procedure

The revised paranormal beliefs scale, big factor inventory (10 items version) and the daily spiritual experience scale questions were drafted out in section by section, RPBS as section A, BFI as section B and DSES as section C into a questionnaire.

400 participants accidentally filled the questionnaire. Firstly they have to agree to participate in the study through written informed consent. They were to tick yes for agreement and no for disagreement, their demographic information was also given, and were instructed to correctly and honestly fill the questionnaire as all their information provided will be confidential and there is no right or wrong answers.

The participants were given time to fill the questionnaire which were collected when they are done with it, while few were allowed to go with the questionnaire. Participants who omitted more than one item from the items questionnaires were removed for others in order not to affect the analysis.

3.6 Statistical analysis

For the purpose of this study, the researcher used SPSS for EFA (exploratory factor analysis), and SPSS AMOS for CFA (confirmatory factor analysis) to analyse the data received from

participants, Pearson (r) Correlation for the validation of the scale and Cronbach's alpha for the reliability coefficient of the scale.

CHAPTER FOUR

RESULTS

Table 1: Descriptive Statistics and Reliability Coefficient of Scales

Variables (N = 450)	A	Mean	Std. Deviation	Skewness	Kurtosis
Traditional Religious Belief	.59	17.55	2.54	-1.51	3.02
Psi	.52	13.15	3.02	-.32	.08
Witchcraft	.71	15.85	3.11	-1.31	2.79
Superstition	.59	7.68	2.67	.13	-.32
Spiritualism	.68	13.79	3.35	-.68	.86
Extraordinary Life Forms	.63	11.13	2.54	-.92	1.22
Precognition	.62	13.67	3.04	-.43	.26
RPBS (Full scale)	.86	92.81	13.64	-.90	2.99
Spirituality	.87	75.37	9.67	-1.06	2.77
Extraversion	-	5.68	1.94	.02	-.24
Agreeableness	-	7.46	1.92	-.43	-.55
Conscientiousness	-	7.12	2.00	-.21	-.66
Neuroticism	-	5.40	1.82	.12	-.23
Openness	-	6.58	1.65	.08	.33

RPBS = Revised Paranormal Belief Scale

^aCronbach alpha coefficient

4.2: Correlation Analyses

The results of correlation analyses between the RPBS and other scales are presented in table 2. The RPBS (full scale) correlated positively with the DSES ($r = -.18, p < .0001$). Additionally all dimensions of the RPBS correlated positively DSES except the superstition subscale [Traditional Religious Belief: $r = .20, p < .0001$; Psi: $r = .10, p = .04$; Witchcraft: $r = .12, p = .02$, Superstition: $r = -.03, p = .53$; Spiritualism: $r = .11, p < .03$, Extraordinary Life Forms: $.18, p < .0001$, Precognition: $.16, p = .001$].

Assessments of the correlation between RPBS (full scale) and Big "5" personality dimensions show that the RPBS is not related to the personality dimensions except the conscientiousness

subscale [Extraversion: $r = .04$, $p = .40$; Agreeableness: $r = -.01$, $p = .87$; Conscientiousness: $r = .12$, $p = .02$, Neuroticism: $r = -.05$, $p = .30$; Openness: $r = .01$, $p = .86$].

Table 2: Correlations among Scales

Variables N= 400	1	2	3	4	5	6	7	8	9	10	11	12	13
1. RPBS(full scale)	-												
2. TRB	.54**	-											
3. Psi	.62**	.15**	-										
4. Witchcraft	.73**	.51**	.24**	-									
5. Superstition	.51**	-.05	.33**	.20**	-								
6. Spiritualism	.83**	.33**	.45**	.53**	.39**	-							
7. ELF	.77**	.53**	.29**	.61**	.24**	.57**	-						
8. Precognition	.68**	.16**	.39**	.31**	.29**	.52**	.43**	-					
9. Extraversion	.04	-.02	-.06	.03	.06	.10*	.01	.06	-				
10. Agreeableness	-.01	.11*	-.02	.05	-.07	-.01	.02	-.11*	-.23**	-			
11. Conscientious..	.12*	.10	.08	.09	-.001	.07	.12*	.09	.00	.14**	-		
12. Neuroticism	-.05	-.08	-.09	-.03	.09	-.01	-.08	-.06	.01	-.19**	-.14**	-	
13. Openness	.01	-.01	.01	.02	-.02	.03	-.03	.03	-.03	.10*	.02	-.01	
14. DSES	.18*	.20**	.10*	.12**	-.03	.11*	.18**	.16**	-.02	.02	.19**	.04	-.07

* $p < 0.05$ (2-tailed)

** $p < 0.001$ (2-tailed)

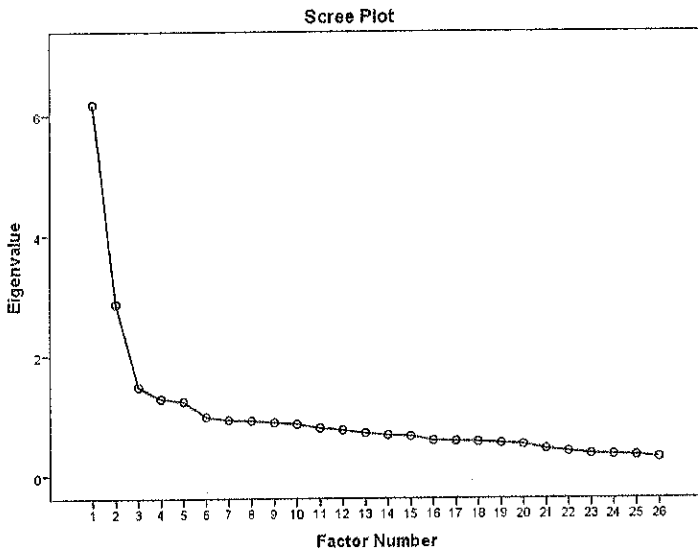
Note: TRB= Traditional Religious Belief; ELF = Extraordinary Life Forms; PB = Paranormal Belief; DSES=Daily Spiritual Experience Scale

Factor structure of the RPBS: Exploratory Factor Analysis (EFA)

The EFA for the RPBS was conducted. To ensure sampling adequacy, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was performed and it yielded a score of 0.85. According to Kaiser (1974), KMO values above .80 are considered great. For the EFA, the principal axis factor method of extraction with oblique rotation was performed on the data.

The result of the extraction and rotation methods yielded five factors for RPBS (based on eigenvalues greater than 1) as against the seven factor structure obtained by Tobacyk(2004). For proper guidance on the suitability of the 5 factors extracted, the Scree test(Cattell, 1966,

Mikloušić, Mlačić&Milas, 2010) is needed for more clarification. The Scree test is presented below:



In order to know the number of factors suitable in EFA of the RPBS using the Scree test, it is suggested that the number of factors above the bend in the Scree plot be retained for further analysis (Cattell, 1966). It is noted in the plot that there is a bend at factor 6 which indicates that five factors are suitable for extraction. Thus, the Scree plot shows agreement with the five factors extracted based on eigenvalues greater than 1.

The factor loadings of the five factor extraction are presented in the table 3:

The result of the three factor extraction is presented in the table below:

Table 3: Pattern Matrix of 5 Factor Extractions of the RPBS

Pattern Matrix		Factor				
Item No	Items	1	2	3	4	5
PB24	There are actual cases of witchcraft	.63				
PB25	It is possible to communicate with the dead	.60				
PB3	Black magic really exists	.57				
PB26	Some people have an unexplained ability to predict the future	.56				
PB10	Witches do exist.	.49				
PB13	Ghosts do exist.	.45				
PB17	Through the use of formulas and incantations, it is possible to cast spells on persons.	.41				
PB6						
PB19						
PB22	There is a heaven and a hell.		-.61			
PB15	I believe in God		-.58			
PB8	There is a devil.		-.43			
PB14	The horoscope accurately tells a person's future.			.62		
PB7	Astrology is a way to accurately predict the future.			.56		
PB21	Some psychics can accurately predict the future.			.54		
PB20						
PB12						
PB4	Black cats can bring bad luck.				.60	
PB18	A pregnant woman walking around in the afternoon will bring bad luck to the woman and the unborn child.				.40	
PB11						
PB2	Some individuals are able to levitate (lift) objects through mental forces.					.50
PB9	Psychokinesis, the movement of objects through psychic powers, does exist.					.48
PB5	Your mind or soul can leave your body and travel (astral projection).					.48
PB16	A person's thoughts can influence the movement of a physical object.					.41
PB23						
PB1						

Extraction Method: Principal Axis Factoring.
 Rotation Method: Oblimin with Kaiser Normalization.
 a. Rotation converged in 19 iterations.

For clarity, only loadings $\geq .40$ are indicated in the table

From table 3.1, it can be seen that items 24, 25, 3, 26, 10, 13 and 17 loaded in factor 1. Items 22, 15 and 8 loaded in factor 2. Factor 3 has loadings on items 14, 17 and 21. Factor 4 has 2 items loadings (4 and 18) while items 2, 9, 5 and 16 loaded in factor 5. It is to be noted that item 6, 19, 20, 12, 11, 23 and 1 were dropped because they have low factor loading of less than .40.

It is observed that factor 1 contains all items in the witchcraft subscale (3, 10, 17 and 24), item 25 from the spiritualism subscale and 1 item from the extraordinary life forms subscale of the original RPBS(Tobacyk, 2004). Factor 2 contains all items in the traditional religious belief subscale except item 1. Similarly, factor 3 contains all items in the precognition subscale except item 7. Factor 4 contains items in the superstition subscale except for item 11. Factor 5 contains 3 out of the 4 items in Psi subscale and 1 item from the spiritualism subscale. Thus, factor 1 is named (metaphysical power), factor 2 (traditional religious belief), factor 3 (precognition), factor 4 (superstition) and factor 5 (Psi).

Confirmatory Factor Analysis (CFA)of the Paranormal Belief Scale

Since the five factor structure of the RPBS derived above is exploratory in nature, there is need to determine the authenticity or correctness of the structure in measuring the construct of paranormal belief. To achieve this, the five factor structure was subjected to Confirmatory Factor Analysis (CFA) using IBM SPSS Amos 23.0.

Five factor of the RPBS

Model 1: CFA Model of the Five Factor RPBS

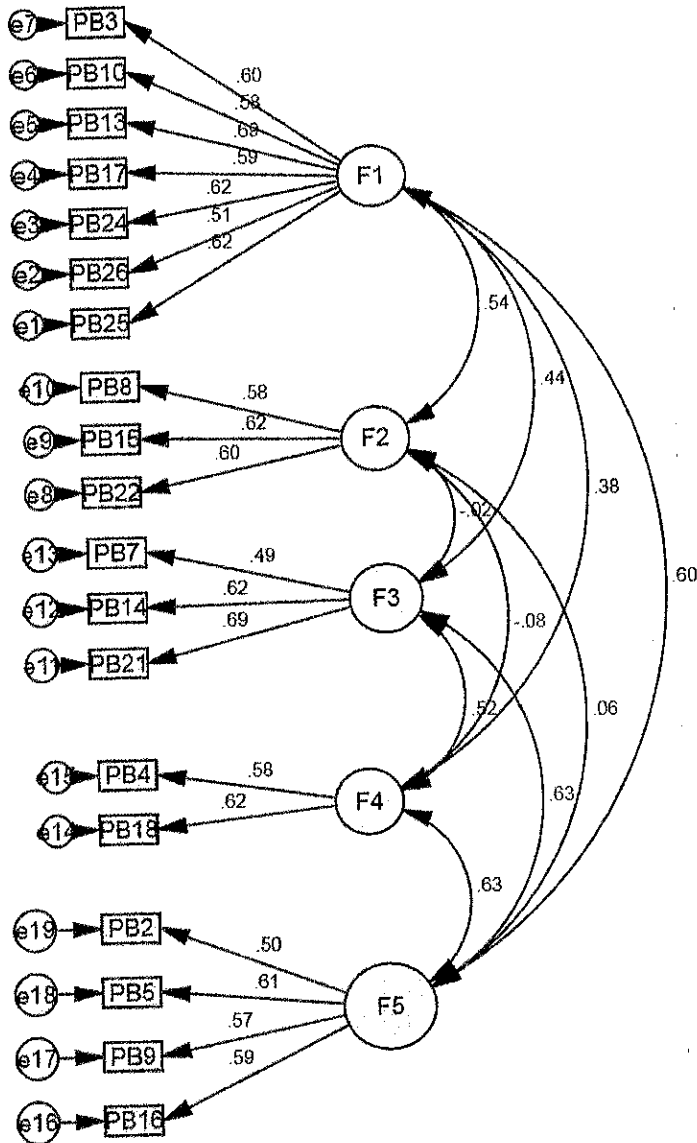


Figure 1.1

Figure 1 above shows the standardized estimates of the five factor model of the RPBS. It can be observed that many of the items had loadings less than .60 which may suggest a fair fit. The result of the fit indices of model 1 is presented below in table 4:

Table 4:Model 1 fit indices

Chi-square	Df	P	CMIN/DF	CFI	GFI	AGFI	SRMR	RMSEA	PCLOSE
460	142	<.0001	3.24	.82	.89	.85	.07	.08	.000

CFI=Comparative Fit Index; GFI=Goodness of Fit Index; AGFI= Adjusted Goodness of Fit Index; SRMR=Standardized Root Mean Square Residual; RMSEA= Root-Mean-Square Error of Approximation; PCLOSE = p of close fit

In assessing the goodness of fit of the above model, the following criteria or threshold must be met as provided by Hu and Bentler 1999.

Table 5: CFA Threshold (Hu and Bentler,1999)

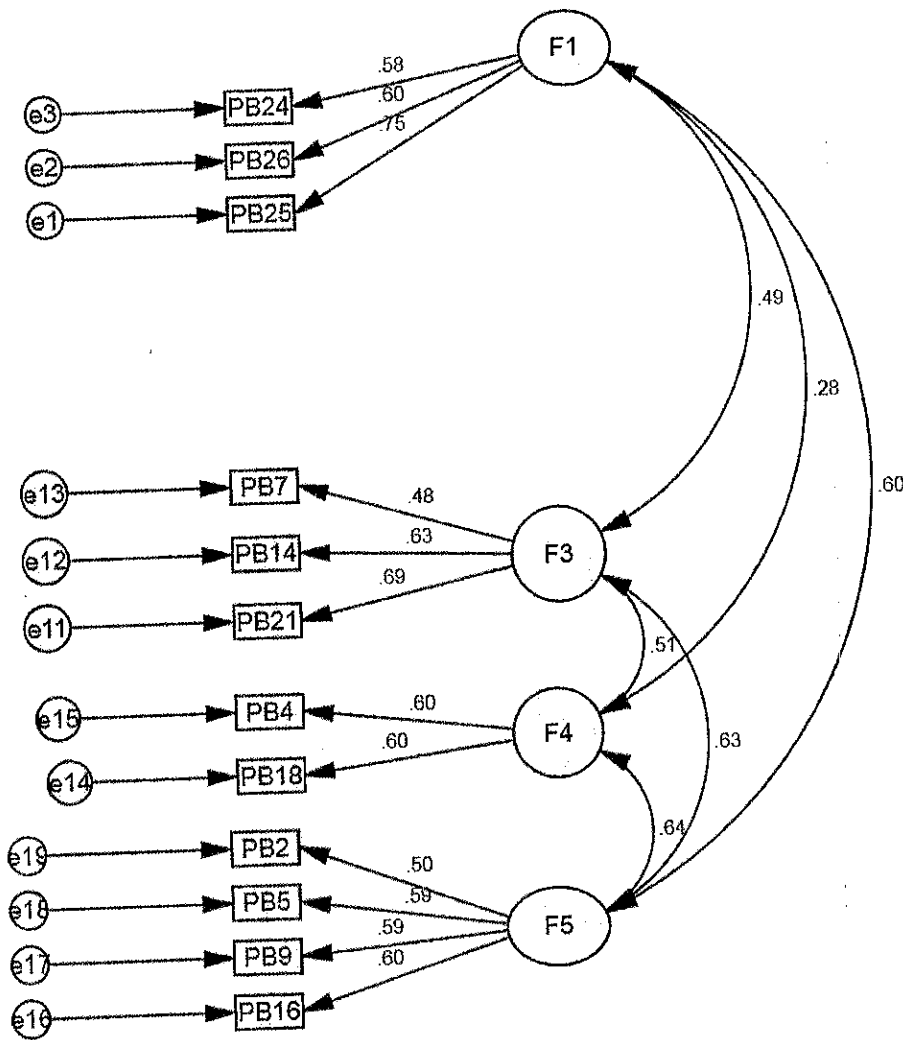
Measure	Threshold
Chi-square/df (cmin/df)	< 3 good; < 5 sometimes permissible
p-value for the model	> .05
CFI	> .95 great; > .90 traditional; > .80 sometimes permissible
GFI	> .95
AGFI	> .80
SRMR	< .09
RMSEA	< .05 good; .05-10 moderate; > .10
PCLOSE	> .05

It is to be noted that in case of larger sample size (with 400 cases or more), the chi-square value is almost always significant for the model, which may make researchers reject appropriate model that ought to be accepted (Kenny, 2015; Gatignon, 2010; Byrne, 2001). Consequently, researchers turn to other fit measures such as the CFI, GFI and RMSEA in evaluating the fitness of a model (Miller, 2005).

Comparing the fit indices in table 4 with the criteria in table 5 indicates a fair fit for the model. The CFI (.82) is low; GFI (.89) is poor, RMSEA (.07) is moderate while the PCLOSE is significant. However, the AGFI (.85) and SRMR (.07) met the acceptable criteria.

Since a good fit was not achieved for the five factor structure RPBS, it was necessary to delete items causing poor fit for the model as evidenced in weak loadings and standardized residual covariances' values extremely greater than .40. The deletion of items 3, 10, 13, 17 from factor 1 and all items in factor 2 (8, 15 and 22) yielded model 2 below:

Model 2: CFA Model of RPBS (after item deletion)



The result of the fit indices of model 2 is presented below in table 4:

Table 6: Model 2 fit indices

	Chi-square	df	P	CMIN/D F	CFI	GFI	AGFI	SRMR	RMSEA	PCLOSE
Model 2	94.71	48	P<.0001	1.97	.95	.96	.94	.05	.05	.51

Comparing the fit indices in table 6 with the criteria in table 4b indicates a good fit for the model. The CFI (.95) is very great, the GFI (.96) substantially met the accepted threshold, large AGFI (.94) well above the threshold of .80, low SRMR (.04) which is considerably smaller than the maximum threshold, good RMSEA (.05) and non-significant PCLOSE (.51). These fit indices general indicate great fit for the four factor RPBS.

Discriminant Validity of the Four Factor RPBS

The correlation of the four factor RPBS (full scale-12 items) with Big "5" personality dimensions shows that the two are not correlated except for the conscientiousness scale (Extraversion: $r = .03$, $p = .55$; Agreeableness: $r = -.04$, $p = .38$; Conscientiousness: $r = .10$, $p = .04$; Neuroticism: $r = -.04$, $p = .39$; Openness: $r = .02$, $p = .70$).

Construct Validity of the Four Factor RPBS

The correlation of the four factor RPBS (full scale-12 items) with the DSES shows that the two are positively correlated but weak ($r = .11$, $p = .03$). The correlation of each factor of the 12 item RPBS also correlated positively with the DSES except for the factor 3 (superstition) and factor 4 (precognition) (Factor 1: $r = .14$, $p = .01$; Precognition: $r = .13$, $p = .01$; Superstition, $r = -.03$, $p = .57$; Psi: $r = .05$, $p = .34$).

Reliability of the Four Factor RPBS

The Cronbach's alpha coefficient for four factor RPBS (full scale) is .77. Factor 1 (metaphysical power), factor 2 (Precognition), factor 3 (Superstition) and factor 4 (Psi) yielded Cronbach's alpha coefficient of .68, .63, .52 and .66 respectively.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Discussion

This research was carried out with the purpose of adapting and revalidating the Paranormal Belief Scale (Tobacyk1988) among staffs and students of Federal university Oye-Ekiti.

In this study, the RPBS (Tobacyk) consisting of seven factors, twenty-six items was not confirmed. Instead a four factor model of PBS with total number of twelve items was obtained.

Some subscales of the RPBS (Tobacyk) didn't fit Nigeria context like "traditional religious beliefs", "Extraordinary life forms"and "witchcraft".

Taking a critical look at items from "traditional religious beliefs" (item 1,8,15 & 22), they didn't measure the context of paranormal beliefs in Nigeria. For instance, item 15 (I believe in God), item 8(There is devil), and item 22 (There is a heaven and a hell), are no longer paranormal beliefs to Nigerians. It might be paranormal to other countries but here in Nigeria the beliefs are so real that it cannot measure the concept "paranormal belief" in Nigeria context.

Nigerians has the belief thatthese items are real and not just paranormal beliefs. The realness of these items is what most Nigerians say daily and talk about,it's almost everywhere in Nigeria. Even though these beliefs cannot be proven scientifically, Nigerians do not doubt it that these beliefs are real.

The three items (item 15, 8& 22) are interrelated, average Nigerians belief that heaven is related to God while hell is where devil lives. Nigerians will pray and belief that God answered their prayers because of their beliefs about the existence of God. God to Nigerians is their provider, protector, guidance, savior, healer, etc. having the idea that it is paranormal to belief in God will be absurd to Nigerians.

Also Items in “Extraordinary life forms” (item 6, 13 & 20) were deleted from the scale because they couldn’t measure paranormal belief in Nigeria context. For example, Item 6 (marine spirit do exist), people belief they have seen marine spirit or have heard about it, which they refer to as “mami-water”. Nigerians even belief that marine spirit live among people, any lady that is fair in complexion and has long hair are referred to as “mami-water”.It is therefore hard for Nigerianswho belief they have seen or heard instances of marine spirit to see the belief as paranormal belief.More so, item 13 (ghosts do exist). Nigerians belief ghosts come to check on their families or haunt people. To Nigerians people that died at early age will still move around the town or go to other planet. Ghosts are said to walk in the night or appear to people to deliver information about the past or future, some of them will possess someone to revenge, to leak secret, deliver message or to help. Ghost is not a paranormal phenomenon in Nigeria context but something that actually exists. The belief is beyond doubt in Nigeria.

Items were deleted from “witchcraft” subscale except item 24 (there are actual cases of witchcraft). The items deleted were item 3 (black magic really exists.), item 10 (witches do exist), item 17 (through the use of formulas and incantation, it is possible to cast spells on persons). Item 10 (witches do exist) has become norms in Nigeria, it is no longer news or something to doubt. Nigerian has the belief that any predicament that happens to them is caused by witches. Nigerian perception is that any old woman living alone or strict is possibly a witch. Item 10 cannot measure paranormal belief here in Nigeria.

It is surprising that item 10 (witches do exist) was deleted while item 24 (there are actual cases of witchcraft) was retained. Even though Nigerians have strong belief that witches exist, they might have never experienced any case of witchcraft but still knew that they exist.

Item 3 and item 17 also cannot measure paranormal beliefs because Nigerians believe in black magic which they refer to as "juju". There are herbalists in Nigeria, who are believed to possess black magic. With this black magic, Nigerians believe they cast spells, cause harm, kill, and do wicked things to people. These herbalists are seen everywhere, people even go to them to provide solutions to their problems. It is therefore difficult for the items (item 3 & 17) to measure paranormal belief in Nigeria since people that possess the black magic and cast spells on people through incantation are seen and heard of everywhere.

Items from "psi" were retained (item 2, 9, 16) except item 23 (mind reading is not possible). Nigerian belief that there are people who will say exactly what is on your mind, like prophet, herbalist, cleric etc. They do not hold this as paranormal belief but something that is happening in Nigeria. Item 2 (some individuals are able to levitate objects through mental forces), item 9 (psychokinesis, is the movement of objects through psychic powers, does exist), item 16 (a person's thoughts can influence the movement of a physical object), all these items can rightfully measure paranormal belief in Nigeria. Item 2, 9, 16 and 5 falls under factor four (psi), these items are items from "psi" of the RBPS (Tobacyk) except item 5 that is under "spiritualism" and item 23 that is deleted. Item 2 (some individuals are able to levitate objects through mental forces), item 9 (psychokinesis, is the movement of objects through psychic powers, does exist), item 16 (a person's thoughts can influence the movement of a physical object), item 5 (your mind or soul can leave your body and travel), were grouped under the same factor because they are related. They are all measuring activities of the mind.

Items from subscale "superstition" (item 4, 11, 18) were retained except item 11 (if you break a mirror, you will have bad luck). Here in Nigeria breaking of mirror has no underlying meaning, it is normal to break mirror, someone will just ask how a mirror is associated with his/her luck.

To other countries, there might be a superstitious belief about breaking a mirror, meanwhile Nigerians break mirror daily and see it as normal behavior.

Also items from “precognition” (item 7, 14, 21, 26) were retained and all fall in the same factor loading (factor two) except item 26 that fall under factor one (metaphysical power). Factor one (item 24, 25, 26) witches and ghost are believed to have spiritual power they can use to predict the future, which can be said to be the reason why item 26 (some people have an unexplained ability to predict the future) fall under the same factor loading with item 24 (there are actual cases of witchcraft) and item 25 (it is possible to communicate with the dead) based on peoples responds.

“Spiritualism” subscale item 12 (during altered states, such as sleep or trances, the spirit can leave the body) and item 19 (reincarnation does occur) were also deleted. “Reincarnation does occur” is not a paranormal belief to Nigerians because they see it as something that has to happen, when someone die especially an elderly person, people belief that any child given birth after the death of person is the dead person. Nigerians hold this belief to be real that they even have names for the children like “Babatunde” (the return of father), “Yetunde” (the return of mother), etc.also item 12 (during altered state, such as sleep or trances, the spirit can leave the body). Nigerians assumes that when sleeping it’s the spirit that goes to the dreamland as the person that is why in Nigeria dreams are addressed crucially.

This study suggests that some of the item in the RPBS (Tobacyk) do not explain the construct“paranormal beliefs” in Nigeria context, the result of this study agreed with Bouvet R, et al (2014). The low internal consistencies regardingboth superstition and extraordinary life formsdimensions highlighted some cultural differences thathave to be acknowledged.

Conclusively using Pearson (r) Correlation, the four factors and twelve items of the modified RPBS of this study showed discriminant validity with the Big "5" personality. The two are not correlated except for the conscientiousness scale (Extraversion: $r = .03$, $p = .55$; Agreeableness: $r = -.04$, $p = .38$; Conscientiousness: $r = .10$, $p = .04$; Neuroticism: $r = -.04$, $p = .39$; Openness: $r = .02$, $p = .70$). And also construct validity with the DSES shows that the two are positively correlated but weak ($r = .11$, $p = .03$). The reliability coefficient of the scale using Cronbach's alpha coefficient is .77. Factor 1 (Metaphysical power) is .68, factor 2 (Precognition) is .63, factor 3 (Superstition) is .52, and factor 4 (Psi) .66.

5.2 Conclusion

This study has shown that the concept of RPBS (Tobacyk) do not fit paranormal beliefs in Nigeria context. Variance in these beliefs might be due to cultural differences, environmental influence and so on. According to this study, it is observed that the RPBS(Tobacyk) will not suit Nigeria context and if this scale is used to measure people's behavior, the findings won't be accurate because it is not suitable for Nigerians. In order to control for the cultural differences Nigeria researcher should therefore adopt the four factor RPBS (12 items) that is developed by this study which best measure the paranormal beliefs of Nigerians.

Also, based on Cronbach alpha it shows that the RPBS (12 items) yielded a good reliability coefficient of .77. The construct validity of this scale also shows a positively correlated but weak correlation with the DSES ($r = .11$, $p = .03$). The discriminant validity shows that the scale does not correlate with Big "5" personality scale except for the conscientiousness scale using Pearson (r) correlation.

5.3 Implication of study

The present study has demonstrated that there is cultural bias in the RPBS developed by Tobacyk, therefore there is need for other researchers to take into consideration the cultural differences of people before administering a test. Nigerian researchers can also make use of the four factor RPBS (12 items) instead of the RPBS by Tobacyk that does not fit in Nigeria context in order to conduct a valid research on paranormal belief and generating data that are with true facts and not bias data based on assumption.

This scale (four factor RPBS) as also added to the existing literature of paranormal belief available all over the world, by adding to the existing body of knowledge in the area of paranormal belief especially within the Nigeria contest.

The successful adaptation of the RPBS into Nigeria context will open new possibilities in the research of the psychological correlates of paranormal beliefs from a cross-cultural perspective.

The present study shows that the RPBS by Tobacyk could not adequately measure the concept paranormal belief in Nigeria, which implies that the RPBS by Tobacyk is not suitable for all culture, it does not account for cultural biasness. It is therefore advisable for researcher to consider the cultural differences of a population before administering any test to the population, because that can serve as extraneous variable in the research and it can influence the result.

5.4 Recommendation

Future studies should further examine the correlation of this scale with other variables of interest such as; paranoia, cognitive style, locus of control, personality, religiosity, etc.

Also, future Nigeria researchers should endeavor to adopt the (12 item) PBS scale that is adapted with other variables of interest.

In addition, researchers should establish further reliability and validity of the scale, especially convergent validity, using other scales that measure paranormal belief.

5.5 Limitation of study

The limitation of this study can be as a result of collecting data using the same scale at the same period of time without attempting to compare data with other methods of investigation, one may not be sure whether measurement of behavior was accurate or marred by the measurement method itself.

It can also be social desirability on the part of the participants or the condition in which the data was collected. The participants might not want to disclose their true opinion about the questions. Finally, the participants were complaining about the complexity of the terms used in the scale, which might make them pick any option even though it doesn't describe what they feel about the item.

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APPENDIX

DEPARTMENT OF PSYCHOLOGY
FACULTY OF THE SOCIAL SCIENCES
FEDERAL UNIVERSITY OYE-EKITI

THE VALIDATION OF PARANORMAL BELIEF IN NIGERIA

I am an undergraduate student of the department of Psychology, Federal University Oye-Ekiti validating the paranormal beliefs scale in Nigeria standard. This study is to know if paranormal beliefs exist in Nigeria.

Kindly note that your identity is not required participating in this survey and the information provided will be taken confidential. Please give your immediate impressions about the questions in this survey. There is no right or wrong answers.

Thank you for your cooperation.

Ajah Grace Amarachi

Matric no: PSY/12/0682

Consent Form

I agree to participate in the project being conducted by an undergraduate Student of Federal University Oye-Ekiti. I understand that I am free to withdraw my participation in this project if need be and without giving any reason. Finally, I agree that the data gathered from this project may be published in a form that does not identify me in any way.

Please express your interest to participate in this survey by ticking either "yes" or "no" below:

I agree to participate: Yes () No ()

Demographic Survey

Please tick and write as appropriate:

GENDER: MALE (), FEMALE ().

AGE: _____

MARITAL STATUS: MARRIED (), SINGLE (), ENGAGED (), SEPARATED
OR DIVORCED (), WIDOWED (), OTHERS: _____

RELIGION: CHRISTIAN (), ISLAM (), OTHERS ().

ETHNIC GROUP: _____

EDUCATIONAL LEVEL: _____

SECTION A

Please tick an option to each item to indicate how much you agree or disagree with that item. There is no right or wrong answers. Thank you.

SA= strongly agree; A= agree; U= undecided; D=disagree; SD= strongly disagree.

N/O	ITEMS	SA	A	U	D	SD
01	The soul continues to exist though the body may die.					
02	Some individuals are able to levitate (lift) objects through mental forces.					
03	Black magic really exists.					
04	Black cats can bring bad luck.					
05	Your mind or soul can leave your body and travel (astral projection).					
06	Marine spirits do exist.					
07	Astrology is a way to accurately predict the future.					
08	There is a devil.					
09	Psychokinesis, the movement of objects through psychic powers, does exist.					
10	Witches do exist.					
11	If you break a mirror, you will have bad luck.					
12	During altered states, such as sleep or trances, the spirit can leave the body.					
13	Ghosts do exist.					
14	The horoscope accurately tells a person's future.					
15	I believe in God					
16	A person's thoughts can influence the movement of a physical object.					
17	Through the use of formulas and incantations, it is possible to cast spells on persons.					
18	A pregnant woman walking around in the afternoon will bring bad luck to the woman and the unborn child.					
19	Reincarnation does occur.					
20	There is life on other planets.					
21	Some psychics can accurately predict the future.					
22	There is a heaven and a hell.					
23	Mind reading is not possible.					
24	There are actual cases of witchcraft.					
25	It is possible to communicate with the dead.					
26	Some people have an unexplained ability to predict the future.					

SECTION B

Please tick an option to each item to indicate how much you agree or disagree with that item. There is no right or wrong answers. Thank you.

I see myself as someone who is...	Disagree Strongly	Disagree a Little	Neither agree nor disagree	Agree a little	Agree Strongly
... is reserved					
... is generally trusting					
... tends to be lazy					
... is relaxed, handles stress well					
... has few artistic interests					
... is outgoing, sociable					
... tend to find fault with others					
... does a thorough job					
... gets nervous easily					
... has an active imagination					

SECTION C

The list that follows includes items you may or may not experience. Please consider how often you directly have this experience, and try to disregard whether you feel you should or should not have these experiences. A number of items use the word 'God.' If this word is not a comfortable one for you, please substitute another word that calls to mind the divine or holy for you.

	MOST TIMES A DAY	EVERY DAY	MOST DAYS	SOME DAYS	ONCE IN A WHILE	NEVER
1. I feel God's presence						
2. I experience a connection all of life						
3. During worship, or at other times when connecting with God, I feel joy, which lifts me out of my daily concerns						
4. I find strength in my religion or spirituality						
5. I find comfort in my religion or spirituality						
6. I feel deep inner peace or harmony						
7. I ask for God's help in the midst of daily activities						
8. I feel guided by God in the midst of daily activities						
9. I feel God's love for me directly						
10. I feel God's love for me through others						
11. I am spiritually touched by the beauty of creation						
12. I feel thankful for my blessings						
13. I feel a selfless caring for others						
14. I accept others even when they do things I think are wrong						
15. I desire to be closer to God or in union with the divine						
	AS CLOSE AS	VERY CLOSE	SOMEWHAT CLOS	NOT AT ALL		

	POSSIB LE		E	CLOS E		
16. In general, how close to you feel to God?						

FREQUENCIES VARIABLES=Sex MS RA ET EL
/ORDER=ANALYSIS.

Frequencies

Statistics

	Sex	Marital status	Religious Affiliation	Ethnic Group	Educational Level
N	Valid 400	400	400	400	400
	Missing 0	0	0	0	0

Frequency Table

Sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	187	46.8	46.8	46.8
Female	213	53.3	53.3	100.0
Total	400	100.0	100.0	

Marital status

	Frequency	Percent	Valid Percent	Cumulative Percent
Married	52	13.0	13.0	13.0
Single	311	77.8	77.8	90.8
Engaged	26	6.5	6.5	97.3
Separated/divorce	3	.8	.8	98.0
Widowed	1	.3	.3	98.3
others	7	1.8	1.8	100.0
Total	400	100.0	100.0	

Religious Affiliation

	Frequency	Percent	Valid Percent	Cumulative Percent
Christianity	350	87.5	87.5	87.5
Islam	50	12.5	12.5	100.0
Total	400	100.0	100.0	

Ethnic Group					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Yoruba	307	76.8	76.8	76.8	
Igbo	49	12.3	12.3	89.0	
Ijaw	8	2.0	2.0	91.0	
Ibibio	6	1.5	1.5	92.5	
Urhobo	7	1.8	1.8	94.3	
Benin	3	.8	.8	95.0	
Hausa	10	2.5	2.5	97.5	
Ukwuani	1	.3	.3	97.8	
Tiv	4	1.0	1.0	98.8	
Efik	1	.3	.3	99.0	
Edo	4	1.0	1.0	100.0	
Total	400	100.0	100.0	100.0	

Educational Level					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Bsc	373	93.3	93.3	93.3	
PHD	6	1.5	1.5	94.8	
OND	1	.3	.3	95.0	
HND	8	2.0	2.0	97.0	
B.ED	5	1.3	1.3	98.3	
NCE	2	.5	.5	98.8	
MSC	5	1.3	1.3	100.0	
Total	400	100.0	100.0	100.0	

DESCRIPTIVES VARIABLES=Age TRB PSI Witchcraft Superstition Spiritualism ELF Precognition PB SP Extraversion Agreeableness Conscientiousness Neuroticism Openness
 /STATISTICS=MEAN STDDEV MIN MAX.
 Descriptives

	Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation.	
Age	397	15	54	22.80	6.094	
Traditional Religious Belief	400	4	20	6.45	2.538	
PSI	400	4	20	10.85	3.016	
Witchcraft	400	4	20	8.15	3.114	
Superstition	400	3	15	10.32	2.670	
Spiritualism	400	4	20	10.21	3.346	
Extraordinary Life Forms	400	3	15	10.21	3.346	
Precognition	400	4	20	6.87	2.536	
Paranormal Belief	400	26	130	10.33	3.042	
Spirituality	400	31	94	63.18	13.642	
Extraversion	400	2	10	75.37	9.672	
Agreeableness	400	2	10	5.68	1.935	
Conscientiousness	400	2	10	7.46	1.916	
Neuroticism	400	2	10	7.12	1.997	
Openness	400	2	10	5.40	1.823	
Valid N (listwise)	397		10	6.58	1.645	

Correlations

Correlations

	Paranormal Belief	Traditional Religious Belief	PSI	Witchcraft	Superstition	Spiritualism
Paranormal Belief	1	.543 ^{**}	.620 ^{**}	.726 ^{**}	.509 ^{**}	.826 ^{**}
	N	400	400	400	400	400
Traditional Religious Belief	Pearson Correlation Sig. (2-tailed)	.543 ^{**}	.149 ^{**}	.507 ^{**}	-.045	.330 ^{**}
	N	400	400	400	400	400
PSI	Pearson Correlation Sig. (2-tailed)	.620 ^{**}	1	.240 ^{**}	.330 ^{**}	.449 ^{**}
	N	400	400	400	400	400
Witchcraft	Pearson Correlation Sig. (2-tailed)	.726 ^{**}	.240 ^{**}	1	.196 ^{**}	.530 ^{**}
	N	400	400	400	400	400
Superstition	Pearson Correlation Sig. (2-tailed)	.509 ^{**}	.330 ^{**}	.196 ^{**}	1	.386 ^{**}
	N	400	400	400	400	400
Spiritualism	Pearson Correlation Sig. (2-tailed)	.826 ^{**}	.449 ^{**}	.530 ^{**}	.386 ^{**}	1
	N	400	400	400	400	400
Extraordinary Life Forms	Pearson Correlation Sig. (2-tailed)	.773 ^{**}	.291 ^{**}	.610 ^{**}	.237 ^{**}	.576 ^{**}
	N	400	400	400	400	400
Precognition	Pearson Correlation	.675 ^{**}	.391 ^{**}	.307 ^{**}	.291 ^{**}	.521 ^{**}

Correlations

	Extraordinary Life Forms	Precognition	Extraversion	Agreeableness	Conscientiousness	Neuroticism
Paranormal Belief	Pearson Correlation	.773	.043	-.008	.115	-.052
	Sig. (2-tailed)	.000	.395	.871	.022	.296
Traditional Religious Belief	Pearson Correlation	.534	.400	.400	.400	.400
	Sig. (2-tailed)	.000	-.019	.114	.097	-.079
Psi	Pearson Correlation	.291	.698	.023	.053	.115
	Sig. (2-tailed)	.000	.400	.400	.400	.400
Witchcraft	Pearson Correlation	.610	-.056	-.019	.076	-.088
	Sig. (2-tailed)	.000	.267	.700	.128	.078
Superstition	Pearson Correlation	.000	.400	.400	.400	.400
	Sig. (2-tailed)	.400	.307	.045	.088	-.027
Spiritualism	Pearson Correlation	.237	.538	.375	.080	.590
	Sig. (2-tailed)	.000	.400	.400	.400	.400
Extraordinary Life Forms	Pearson Correlation	.000	.063	-.068	.001	.093
	Sig. (2-tailed)	.400	.208	.177	.987	.064
Precognition	Pearson Correlation	.576	.400	.400	.400	.400
	Sig. (2-tailed)	.000	.098	-.005	.066	-.009
Precognition	Pearson Correlation	.431	.431	.015	.123	-.082
	Sig. (2-tailed)	.000	.000	.768	.014	.103
Precognition	Pearson Correlation	.431	.400	.400	.400	.400
	Sig. (2-tailed)	.000	.056	-.105	.093	-.057

Correlations

		Openness	Spirituality
Paranormal Belief	Pearson Correlation Sig. (2-tailed) N	.009 .855 400	.177 ^{**} .000 400
Traditional Religious Belief	Pearson Correlation Sig. (2-tailed) N	-.008 ^{**} .871 400	.197 ^{**} .000 400
PSi	Pearson Correlation Sig. (2-tailed) N	.007 ^{**} .893 400	.103 ^{**} .040 400
Witchcraft	Pearson Correlation Sig. (2-tailed) N	.018 ^{**} .716 400	.119 ^{**} .017 400
Superstition	Pearson Correlation Sig. (2-tailed) N	-.024 ^{**} .631 400	-.032 ^{**} .530 400
Spiritualism	Pearson Correlation Sig. (2-tailed) N	.033 ^{**} .515 400	.111 ^{**} .027 400
Extraordinary Life Forms	Pearson Correlation Sig. (2-tailed) N	-.027 ^{**} .585 400	.178 ^{**} .000 400
Preognition	Pearson Correlation N	.031 ^{**}	.164 ^{**}

N | 400 | 400 | 400 | 400 | 400

Correlations

		Openess	Spirituality
Precognition	Sig. (2-tailed) N	.541 400	.001 ^{**} 400
Extraversion	Pearson Correlation	-.027	-.020
	Sig. (2-tailed) N	.590 ^{**} 400	.686 400
Agreeableness	Pearson Correlation	.102	.018
	Sig. (2-tailed) N	.042 ^{**} 400	.719 ^{**} 400
Conscientiousness	Pearson Correlation	.024	.190
	Sig. (2-tailed) N	.631 ^{**} 400	.000 ^{**} 400
Neuroticism	Pearson Correlation	-.011	.037
	Sig. (2-tailed) N	.824 ^{**} 400	.463 400
Openess	Pearson Correlation	1	-.074
	Sig. (2-tailed) N	400	.138 ^{**} 400
Spirituality	Pearson Correlation	-.074	1
	Sig. (2-tailed) N	.138 ^{**} 400	.001 ^{**} 400

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

RELIABILITY
 /VARIABLES=PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13 PB14 PB15 PB16 PB17 PB18 PB19 PB20 PB21 PB22 PB23 PB24 PB25 PB26
 /SCALE(RPBSY) ALL
 /MODEL=ALPHA.
 Reliability

Scale: RPBBS

Case Processing Summary

	N	%
Cases	400	100.0
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.859	26

RELIABILITY
 /VARIABLES=PB1 PB8 PB15 PB22
 /SCALE(TRB) ALL
 /MODEL=ALPHA.
 Reliability

Scale: TRB

Case Processing Summary

	N	%
Cases	400	100.0
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.587	4

RELIABILITY
 /VARIABLES=PB2 PB9 PB16 PB23

/SCALE(Psi) ALL
 /MODEL=ALPHA.
 Reliability

Scale: Psi

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.517	4

RELIABILITY

/VARIABLES=PB3 PB10 PB17 PB24
 /SCALE('Wichcraft') ALL
 /MODEL=ALPHA.

Reliability

Scale: Wichcraft

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.705	4

RELIABILITY

/VARIABLES=PB4 PB11 PB18
 /SCALE('Supersition') ALL
 /MODEL=ALPHA.

Reliability
Scale: Superstition

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.593	3

RELIABILITY

/VARIABLES=PB5 PB12 PB19 PB25
 /SCALE('Spiritualism') ALL
 /MODEL=ALPHA.

Reliability

Scale: Spiritualism

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.667	4

RELIABILITY

/VARIABLES=PB6 PB13 PB20
 /SCALE('ELF') ALL
 /MODEL=ALPHA.

Reliability

Scale: ELF

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.625	3

RELIABILITY

/VARIABLES=PB7 PB14 PB21 PB26
/SCALE('Preognition') ALL
/MODEL=ALPHA.

Reliability

Scale: Preognition

Case Processing Summary

	N	%
Valid	400	100.0
Excluded ^a	0	.0
Total	400	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.615	4

DESCRIPTIVES VARIABLES=TRB PSI Witchcraft Superstition Spiritualism ELF Precoognition PB Extraversion Agreeableness Conscientiousness Neuroticism Openess SP
 /STATISTICS=MEAN STDDEV KURTOSIS SKEWNESS.
 Descriptives

	Descriptive Statistics				Skewness		Kurtosis	
	N Statistic	Mean Statistic	Std. Deviation Statistic	Statistic	Std. Error	Statistic	Std. Error	
Traditional Religious Belief	400	6.45	2.538	1.513	.122	3.021	.243	
Psi	400	10.85	3.016	.326	.122	.084	.243	
Witchcraft	400	8.15	3.114	1.306	.122	2.791	.243	
Superstition	400	10.32	2.670	-.134	.122	-.321	.243	
Spiritualism	400	10.21	3.346	.682	.122	.861	.243	
Extraordinary Life Forms	400	6.87	2.536	.922	.122	1.218	.243	
Precoognition	400	10.33	3.042	.426	.122	.261	.243	
Paranormal Belief	400	63.18	13.642	.901	.122	2.998	.243	
Extraversion	400	5.68	1.935	.015	.122	-.243	.243	
Agreeableness	400	7.46	1.916	-.427	.122	-.554	.243	
Conscientiousness	400	7.12	1.997	-.206	.122	-.660	.243	
Neuroticism	400	5.40	1.823	.121	.122	-.227	.243	
Openess	400	6.58	1.645	.077	.122	.329	.243	
Spirituality	400	75.37	9.672	-1.057	.122	2.773	.243	
Valid N (listwise)	400							

FACTOR

/VARIABLES PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13 PB14 PB15 PB16 PB17 PB18 PB19 PB20 PB21
 PB22 PB23 PB24 PB25 PB26
 /MISSING LISTWISE
 /ANALYSIS PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13 PB14 PB15 PB16 PB17 PB18 PB19 PB20 PB21
 PB23 PB24 PB25 PB26
 /PRINT INITIAL KMO ROTATION
 /FORMAT SORT BLANK(.40)
 /PLOT EIGEN
 /CRITERIA MINEIGEN(1) ITERATE(25)
 /EXTRACTION PAF
 /CRITERIA ITERATE(25) DELTA(0)
 /ROTATION OBLIMIN
 /METHOD=CORRELATION.

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.845
Approx. Chi-Square		3014.470
Bartlett's Test of Sphericity	df	325
	Sig.	.000

Communalities

	Initial
PB1	.412
PB2	.228
PB3	.451
PB4	.335
PB5	.418
PB6	.490
PB7	.268
PB8	.362
PB9	.326
PB10	.448
PB11	.355
PB12	.366
PB13	.503
PB14	.398
PB15	.374
PB16	.347
PB17	.388
PB18	.271
PB19	.345
PB20	.315
PB21	.391
PB22	.357

Communalities	
	Initial
PB23	.167
PB24	.408
PB25	.463
PB26	.344

Extraction Method:
Principal Axis
Factoring.

Factor	Total Variance Explained			Rotation Sums of Squared Loadings ^a
	Initial Eigenvalues			
	Total	% of Variance	Cumulative %	Total
1	6.174	23.747	23.747	4.304
2	2.861	11.005	34.752	2.285
3	1.477	5.679	40.431	3.021
4	1.279	4.919	45.350	1.709
5	1.235	4.749	50.098	3.001
6	.975	3.749	53.847	
7	.922	3.545	57.393	
8	.909	3.498	60.890	
9	.879	3.381	64.272	
10	.852	3.278	67.550	
11	.788	3.030	70.580	
12	.751	2.890	73.470	
13	.701	2.698	76.167	
14	.668	2.570	78.737	
15	.649	2.498	81.235	
16	.578	2.223	83.458	
17	.564	2.171	85.629	
18	.553	2.128	87.757	
19	.535	2.058	89.815	

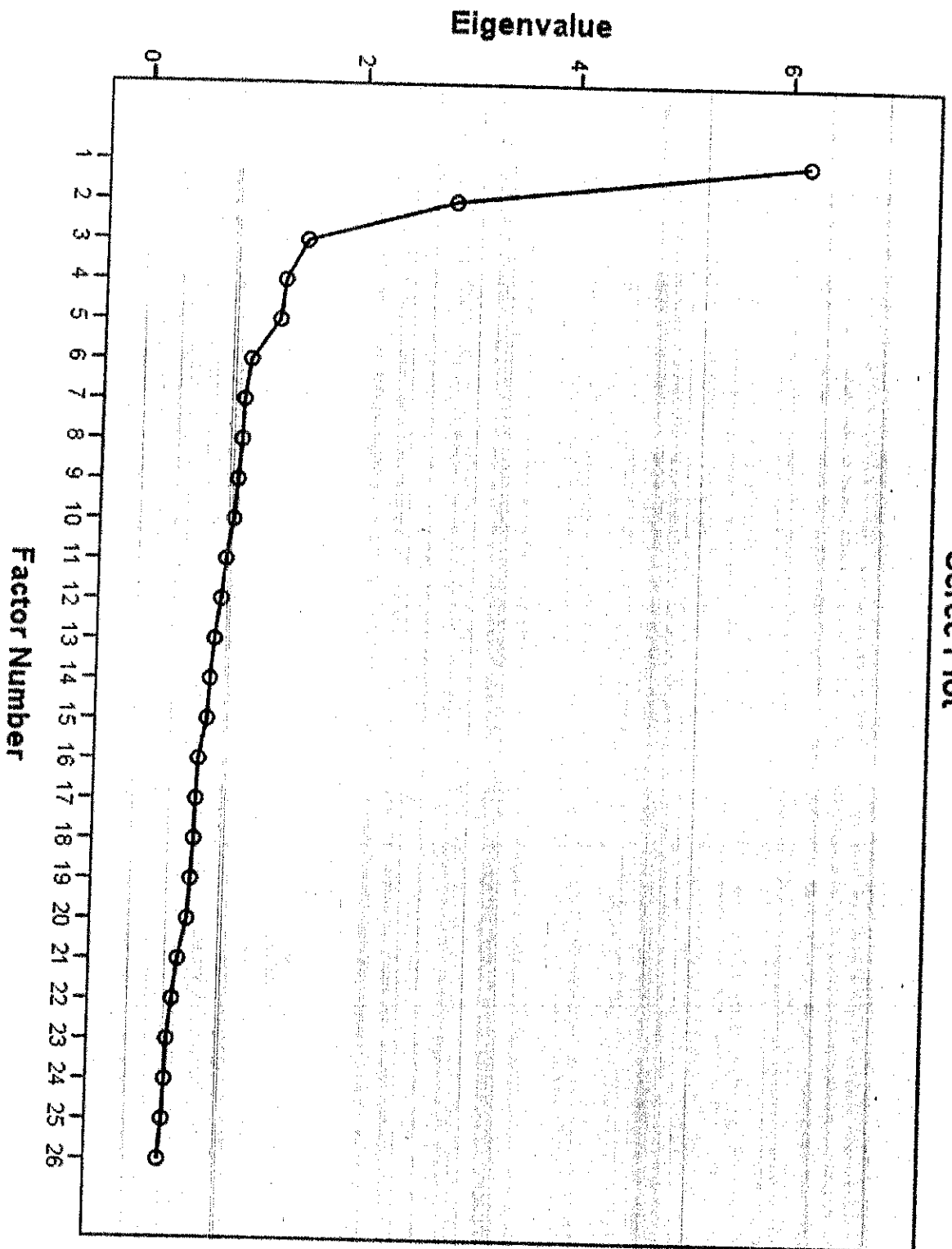
Total Variance Explained	
Factor	Rotation Sums of Squared Loadings ^a
Initial Eigenvalues	

	Total	% of Variance	Cumulative %	Total
20	.511	1.964	91.779	
21	.437	1.681	93.460	
22	.392	1.507	94.967	
23	.350	1.347	96.314	
24	.341	1.311	97.625	
25	.326	1.252	98.877	
26	.292	1.123	100.000	

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Scree Plot



Factor Matrix^a



a. 5 factors
extracted. 8
iterations required.

Pattern Matrix^a

	Factor				
	1	2	3	4	5
PB24	.625				
PB25	.601				
PB3	.565				
PB26	.560				
PB10	.494				
PB13	.445				
PB17	.413				
PB6					
PB19					
PB22		-.609			
PB15		-.582			
PB8		-.428			
PB14			.624		
PB7			.560		
PB21			.542		
PB20					
PB12					
PB4				.597	
PB18				.403	
PB11					
PB2					.498

Pattern Matrix^a

Factor

	1	2	3	4	5
PB9					.482
PB5					.481
PB16					.407
PB23					
PB1					

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.^a

a. Rotation converged in 19 iterations.

Structure Matrix

	Factor				
	1	2	3	4	5
PB25	.650				
PB24	.643				
PB3	.642				
PB13	.618	-.433			
PB6	.569	-.414			
PB10	.551	-.470			
PB26	.551				
PB17	.542				
PB1	.476				
PB19	.451				.444
PB22		-.624		.423	
PB15		-.579			
PB8		-.500			
PB14			.655		
PB21			.606		
PB7			.530		
PB20			.462		
PB12			.461		
PB4				.616	
PB18				.469	
PB11				.462	

Structure Matrix

	Factor				
	1	2	3	4	5
PB5					.586
PB9					.557
PB16					.509
PB2					.508
PB23					

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

Factor Correlation Matrix

Factor	1	2	3	4	5
1	1.000	-.268	.316	.219	.349
2	-.268	1.000	.016	.119	-.065
3	.316	.016	1.000	.177	.447
4	.219	.119	.177	1.000	.179
5	.349	-.065	.447	.179	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.